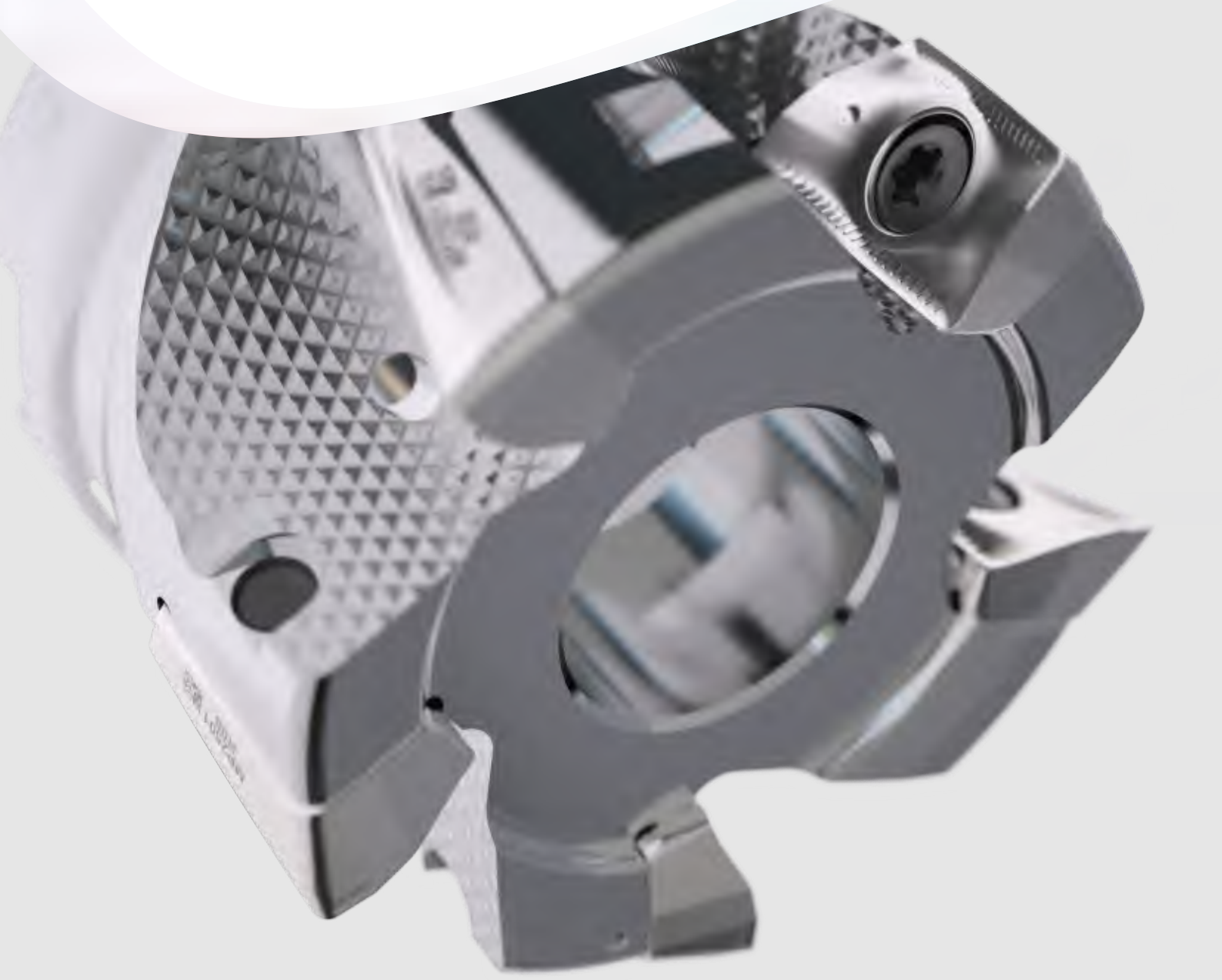
Seco

Catalog & technical guide 2024.1

Milling



Seco

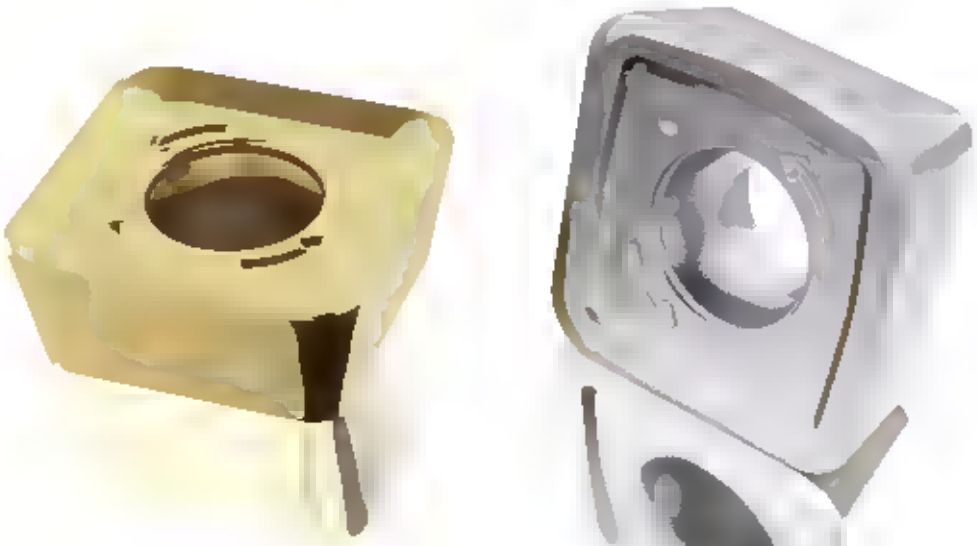
At Seco, we make tools, tech, and solutions for the most advanced manufacturing challenges on Earth. From our founding in Fagersta Sweden, to today's global company, our business has always been made to measure, and built on trust.

Combining cutting-edge, precision tools with lasting, personal partnerships, we're a true people company helping our partners discover the future of the manufacturing industry.

We're proud to make for makers, invent for inventors, and partner with pioneers. Driving the future forward with our focus on innovation. In short - if the right tool for the job exists, we'll deliver it. If it doesn't, we'll create it.

We're proud to put sustainability at the heart of everything we do, challenging perceptions of our industry, changing the process of manufacturing, and playing our own small part in shaping a brighter looking future.

Made for Makers



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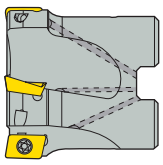
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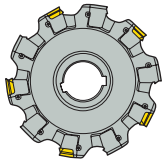
Mounting type

Type – Arbor (Shell end)



Ex.: R220.69-0050-12-5AN

Type – Arbor hole



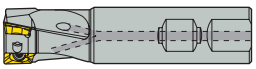
Ex.: 335.25-160.15.40-7N

Type 0 – Cylindrical



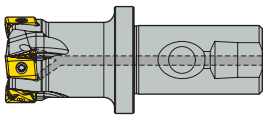
Ex.: R217.69-1616.**0**-10-2A

Type 3 – Weldon Tool chucks acc. to ISO 5414 DIN 1835



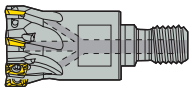
Ex.: R217.69-2525.**3**-12-3AN

Type 3S – Seco/Weldon® Tool chucks acc. to ISO 5414 DIN 1835



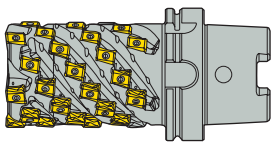
Ex.: R217.69-2532.**3S**-12-4AN

Type RE – Combimaster



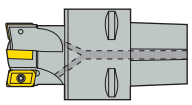
Ex.: R217.69-1225.**RE**-12-3AN

Type HSK



Ex.: R217.94-**HSK**100A-080-104-12.5SA

Type Cx – Seco-Capto™



Ex.: **C5**-R217.69-054-10-5A

Insert clamping system

Clamping by umbrella screw-S



The inserts are clamped by an inclined screw which holds the insert in position in its seat.

Clamping by wedge -W or -M



The inserts are held in position by a wedge and a screw which clamps the insert onto the seat. (Example shows milling cutter with cassettes).

Clamoing by center lock screw -S



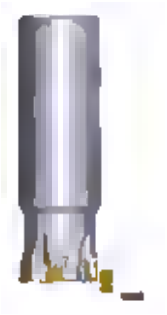
The inserts are secured through a centre hole by means of a screw which clamps the insert firmly against the bottom and side of its seat.

Clamping by spring action



The inserts are retained by a clamping/spring action into a fixed insert seat

Square T4

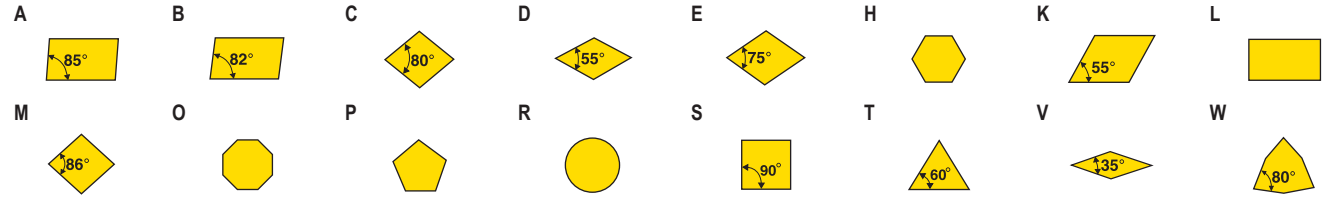


The inserts are secured through a centre hole by means of a screw which clamps the insert firmly against the bottom and side of its seat.

Code key inserts

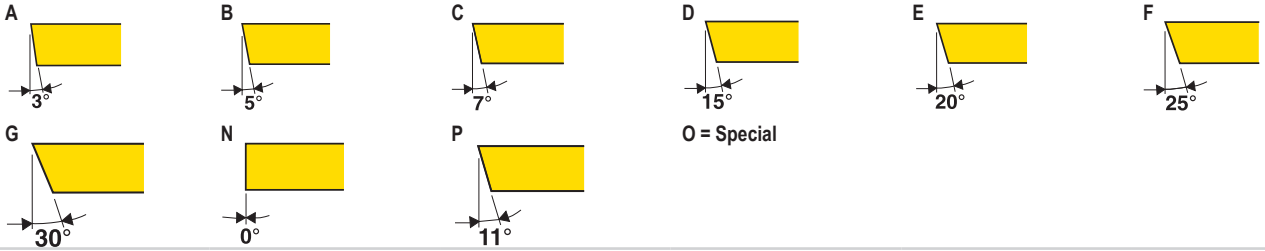
S	E	M	X	12	04	AF	T	N	-	ME12
1	2	3	4	5	6	7	8	9		10

1. Insert shape



X=Special shapes Z=Special shapes

2. Insert side clearance angle



Code key inserts

3. Tolerances

Tolerance class	Tolerances: +/- mm/In				For IC, dimension in mm/In											
	S mm	IC mm	S inch	IC inch	3,175*	3,969	4,064	4,760	6,350	9,525	12,700	15,875	19,050	20,000	25,400	31,750	38,100
					0.125			0.187	0.250	0.375	0.500	0.625	0.750		1.000	1.250	1.500
A	0,025	0,025	0.0010	0.0010	•			•	•	•	•	•	•	•	•	•	•
C	0,025	0,025	0.0010	0.0010	•	•	•	•	•	•	•	•	•	•	•	•	•
E	0,025	0,025	0.0010	0.0010	•			•	•	•	•	•	•	•	•	•	•
F	0,025	0,013	0.0010	0.0005	•			•	•	•	•	•	•	•	•	•	•
G	0,050*	0,025	0.0020	0.0010	•			•	•								
	0,130	0,025	0.0051	0.0010						•	•	•	•	•	•	•	•
H	0,025	0,013	0.0010	0.0005	•			•	•	•	•	•	•	•	•	•	•
J	0,025	0,050	0.0010	0.0020	•			•	•	•							
	0,025	0,080	0.0010	0.0031							•						
	0,025	0,100	0.0010	0.0039								•	•	•			
	0,025	0,130	0.0010	0.0051											•		
	0,025	0,150	0.0010	0.0059												•	•
K	0,025	0,050	0.0010	0.0020	•			•	•	•							
	0,025	0,080	0.0010	0.0031							•						
	0,025	0,100	0.0010	0.0039								•	•	•			
	0,025	0,130	0.0010	0.0051											•		
	0,025	0,150	0.0010	0.0059												•	•
M	0,050*	0,050	0.0020	0.0020	•			•	•								
	0,130	0,050	0.0051	0.0020						•							
	0,130	0,080	0.0051	0.0031							•						
	0,130	0,100	0.0051	0.0039								•	•	•			
	0,130	0,130	0.0051	0.0051											•		
	0,130	0,150	0.0051	0.0059												•	•
U	0,050*	0,080	0.0020	0.0031	•			•	•								
	0,130	0,080	0.0051	0.0031						•							
	0,130	0,130	0.0051	0.0051							•						
	0,130	0,180	0.0051	0.0071								•	•	•			
	0,130	0,250	0.0051	0.0098											•	•	•

* Not ISO

4. Type

A B G M N R

T U W

X=Special shapes

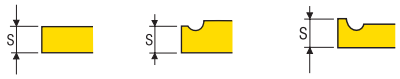
Z=Special shapes

5. Cutting edge length

A, B, K C, D, E, M, V H, O, P L R S T W

Code key inserts

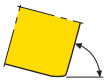
6. Thickness



01 = 1,59 mm	01 = 0.0626 Inch	T3 = 3,97 mm	T3 = 0.1563 Inch	07 = 7,94 mm	07 = 0.3126 Inch
T1 = 1,98 mm	T1 = 0.0780 Inch	04 = 4,76 mm	04 = 0.1874 Inch	08 = 8,00 mm	08 = 0.3150 Inch
02 = 2,38 mm	02 = 0.0937 Inch	05 = 5,56 mm	05 = 0.2189 Inch	09 = 9,52 mm	09 = 0.3748 Inch
03 = 3,18 mm	03 = 0.1252 Inch	06 = 6,35 mm	06 = 0.2500 Inch		

7. Corner configuration

1st letter



A = 45°
D = 60°
E = 75°
F = 85°
P = 90°
Z = Special

2nd letter



A = 45°
B = 5°
C = 7°
D = 15°
E = 20°
F = 25°
G = 30°
N = 0°
P = 11°
Z = Special

nose radius



M0 = round inserts
005 = 0,05 mm
01 = 0,1 mm
02 = 0,2 mm
04 = 0,4 mm
08 = 0,8 mm
12 = 1,2 mm
etc.

M0 = round inserts
005 = 0.0020 Inch
01 = 0.0039 Inch
02 = 0.0079 Inch
04 = 0.0157 Inch
08 = 0.0315 Inch
12 = 0.0472 Inch
etc.

8. Cutting edge condition

F



E



T

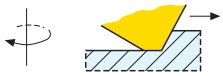


S

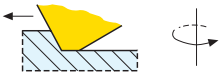


9. Direction of cutting

R



L



N

Neutral (R- and L- rotated)

10. Internal designations

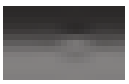
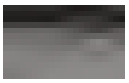
Machining conditions
E=Easy
ME=Medium Easy
M=Medium
MD=Medium Difficult
D=Difficult

Insert grades

Uncoated Grades

	**H15**	Hard, wear resistant grade for milling in aluminium.
	**H25**	Tough micro-grain carbide grade for milling in superalloys and aluminium.

CVD Coated Grades

	**MP2501**	CVD-coated grade based on Duratomic™ coating, First choice in steel for maximizing manufacturing output under most varying productivity. Alternative choice stainless steel applications under stable condition. Ti(C, N)-Al_2O_3
	**MK1500**	CVD-coated grade based on Duratomic™ coating. Basic grade for milling cast iron and nodular cast iron, with or without coolant. Ti (C, N) – Al_2O_3
	**MP1501**	CVD-coated grade based on Duratomic™ coating. Grade for high performance and productivity in steel material under stable conditions and for milliing hardened steel. Excellent grade for grey and nodular cast iron. Ti (C, N) – Al_2O_3
	**MS2500**	Optimization grade for superalloy materials, also suitable for rough milling in tool steel. Ti (C, N) – Al_2O_3
	**MM4500**	Extremly tough grade for duplex stainless steel. Can also be used for a wide range of materials when cutting conditions are unstable. Ti(C, N)-Al_2O_3
	**MP3501**	CVD-coated grade based on DuratomicTM coating. Basic choice for unstable conditions in steel and cast iron material, alternative choice when machining stainless steels. Ti (C, N) – Al_2O_3

PVD Coated Grades

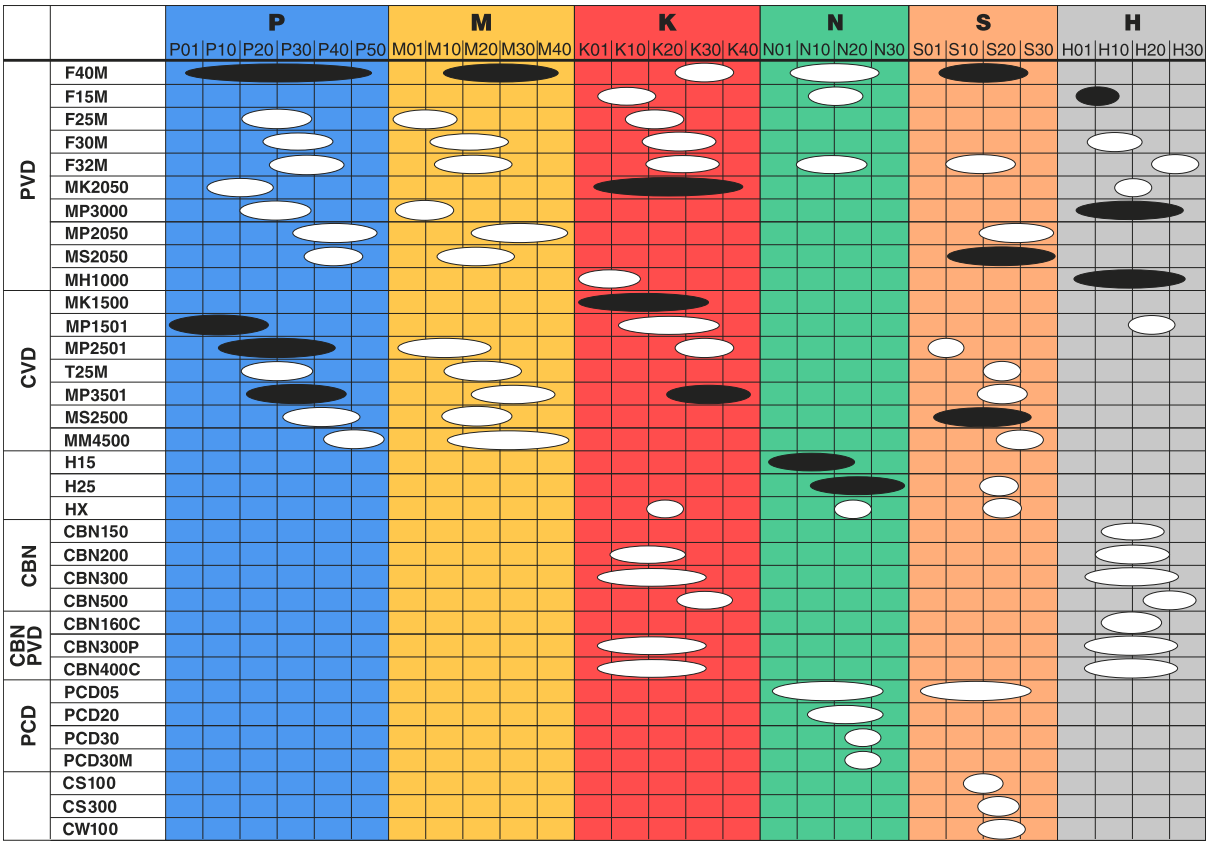
	**F40M**	PVD-coated grade for fine to medium rough milling. First choice for milling with small feeds and/or low cutting speeds. Excellent for milling when there is a risk of vibrations and when coolant is used. Recommended for machining superalloys. (Ti, Al) N – TiN
	**MK2050**	PVD-coated grade for cast iron, Improved edge integrity. First choice in all cast iron materials. Excellent for milling with and without coolant. (Ti,Si)N/(Ti,Al)N
	**MH1000**	Extremely hard grade for milling hard steel but also favourable in finishing operations in cast iron. (Ti;Al)N
	**MS2050**	PVD-coated grade first choice for machining titanium alloys. Can also be used as a complementary grade for milling stainless steels when increased toughness is needed. (Ti;Al) N – NbN
	**MP3000**	Highly wear resistant optimized grade for milling in steel. (Ti;Al)N
	**F15M**	Hard and wear resistant grade for milling in aluminium and non-ferrous alloys. Excellent grade, in combination with protected cutting edges, for high speed machining in hardened steel. (Ti, Al) N – TiN
	**F30M**	Basic grade for Minimaster inserts and thread milling inserts. Also suitable for milling stainless steel, hardened steel and superalloys. (Ti, Al) N – TiN

PVD Coated Grades		
	**MP2050**	PVD-coated grade for tough machining conditions and high temperatures in martensitic and austenitic stainless steels, dry and wet machining possible. Alternative in super alloys in unstable conditions. (Ti,Si)N/(Ti,Al)N
	**F32M**	Universal grade for R335.14 replaceable head offering an excellent combination of strength and toughness. The F32M shows an exceptionally broad application range and is applicable in all type of material with this type of tool. (Ti, Al) N – TiN

Insert grades

Cemented carbide is an alloy of tungsten carbide (WC) and cobalt (Co). Cubic carbides like tantalum carbide (TaC), titanium carbide (TiC) and niobium carbide (NbC) can also be added. Tungsten carbide is the main component and gives the hardness. Cobalt is the binder phase and gives the toughness. Cubic carbides are added in order to affect properties like hot hardness, deformation resistance and chemical wear resistance.

Most modern grades are coated with either CVD (Chemical Vapour Deposition) or PVD (Physical Vapour Deposition) technique.
The coating improves the wear resistance of the grade.
CVD-coated grades are suitable for wear resistance in demanding applications with high feed rates and intermediate to high cutting speed.
PVD-coated grades are recommended for applications with low feed rate where high edge toughness is required. PVD-coated grades are suitable for applications with low to intermediate cutting speed.

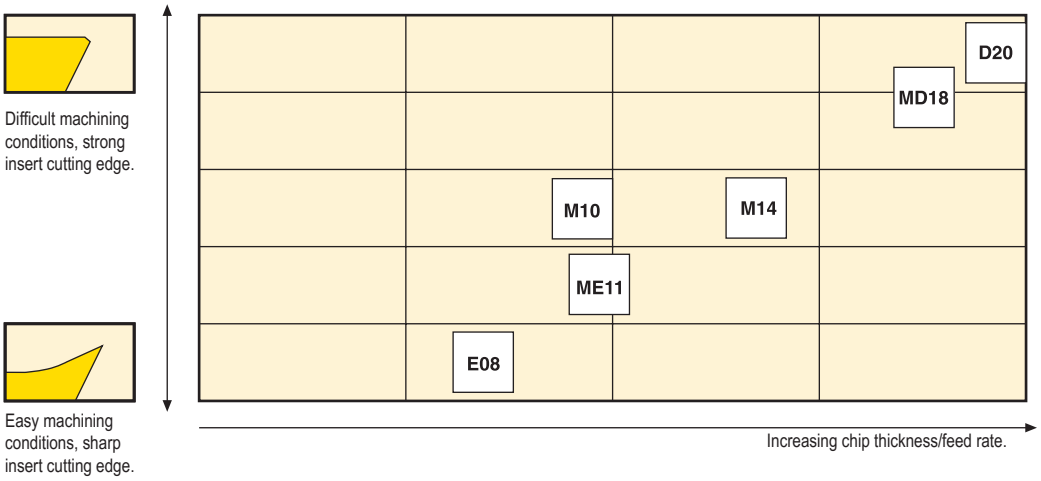


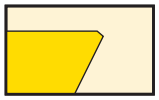
HX, H15 and H25 = uncoated
CBN300P = PVD coating
CS100/CS300/CW100 = ceramic

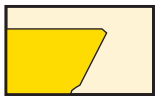
The black oval circle areas in the chart indicate an inserts main ISO application groups.
The white oval circle area in the chart indicate an inserts other complementary ISO application groups.

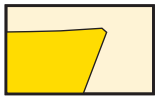
For TGP45 use ISO application area for MP2501
For CP500 and CP600 use ISO application area respectively for F30M and F40M

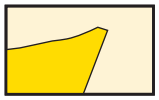
Insert geometries - Designation system

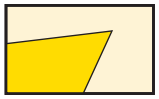


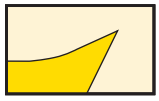

..AFTN-D20 Negative and very protected cutting edge


..AFTN-MD18 Negative and protected cutting edge


..AFTN-M14 Positive and protected cutting edge


..AFTN-ME11 Very positive and protected cutting edge


..AFN-M10 Positive and sharp cutting edge


..AFN-E08 Very positive and very sharp cutting edge

ISO attribute

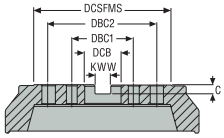
ISO attribute	Explanation
APMXE	Depth of cut maximum in feed direction end
APMXS	Depth of cut maximum in feed direction side
AZ	Plunge depth maximum
BD	Body diameter
BHTA	Body half taper angle
BS	Wiper edge length
C	Keyway depth
CBTHN	Connection body thickness
CCER	Curved cutting edge radius
CDX	Cutting depth maximum
CF	Spot chamfer
CHW	Corner chamfer width
Cmax	Helical interpolation hole diameter maximum
Cmin	Helical interpolation hole diameter minimum
CPNDIA	Connection pin diameter
CTMS	Connection text machine side
CW	Cutting width
CWN	Cutting width minimum
CWX	Cutting width maximum
DC	Cutting diameter
DCB	Connection bore diameter
DCB1	Connection bore diameter 1
DCSFMS	Contact surface diameter machine side
DCSFWS	Contact surface diameter work piece side
DCX	Cutting diameter maximum
DMM	Shank diameter
FDESU	Feed direction suitability end
FDP	Feed direction primary
FDSSU	Feed direction suitability side
GAMF	Rake angle radial
GAMO	Rake angle orthogonal
GAMP	Rake angle axial
HC	Thread height actual
IC	Inscribed circle diameter
INSD	Insert diameter
INSL	Insert length
KAPRE	Tool cutting edge angle in feed direction end
KAPRS	Tool cutting edge angle in feed direction side
KCH	Corner chamfer angle
KWW	Keyway width
L	Cutting edge length
LB	Body length
LE	Cutting edge effective length
LF	Functional length
LS	Shank length
LUX	Usable length maximum
OAL	Overall length
PDX	Profile distance ex
PNA	Profile included angle
RE	Corner radius
RP	Programming radius
RMPX	Ramping angle maximum
RPMX	Rotational speed maximum
S	Insert thickness
S1	Insert thickness alt 1
UTCN	Uncut thickness
TDZ	Thread diameter size
THUB	Hub thickness
TTL	True tip length
W1	Insert width
ZEFP	Peripheral effective cutting edge count
ZNP	Peripheral mounted insert count
SA	sphere angle
TACH	Cutting half taper angle
DC1	Cutting diameter 1
LPR	Protruding length
FHA	Flute helix angle
PL	Point length
SIG	Point angle
BEC	Back end chamfer angle
DN	Neck diameter
RA	Relief angle

Code keys metric and inch

R	217	.	69	-	25	32	.	3S	-	12	-	4	AN
1	2		3		4	5		6		7		8	9

R	217	.	69	-	01.25	.	3S	-	12	-	4	AN
1	2		3		5		6		7		8	9

1.	2.	3
Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4. (Not applicable for inch designation)	**5.**	**6.**
Shank diameter	Cutter diameter	Shank type 0 = Cylindrical 3 = Weldon 3S = Seco Weldon RE = Combimaster
7.	**8.**	**9.**
Insert size	Effective No. of teeth (ZEFP)	A = With through coolant supply AD = Anti vibration material with through coolant supply T = Close pitch version for contouring operations C = With adjustable cassettes N = Coated



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter	Insert	Recommended a_p		Material suitability					Corner radius (mm)					
				P	M	K	N	S						
Double Turbo	ZOMX16	6	15	■	◩	■	□	◩	0,8/1,6	□	■	–	–	◩
Turbo	XO..06	3	5	■	■	■	■	■	0,2/0,4/0,8/1,6	■	□	■	■	◩
	XO..10	5	9	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1	■	◩	■	■	◩
	XO..12	6	11	■	■	■	■	■	0,2/0,4/0,8/1,2/1,6/ 2,0/2,4/3,1/4,0/ 5,0/6,3	◩	■	■	■	◩
	XOMX16	8	15	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1 4,0/5,0/6,3	□	■	■	■	◩
	XO..18	9	17	■	◩	■	■	◩	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	□	■	■	■	◩
ABEX26	ABEX26	13	20	■	◩	■	-	-	1,6	□	■	■	□	□
Square T4	LO..08	3	7	■	◩	■	□	□	0,4/0,8/1,2/1,6	■	◩	◩	-	□
	LO..12	6	10	■	■	■	■	■	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	■	◩	◩	-	□
Square 6	XN..04..R	2	3	■	◩	■	-	□	0,4/0,8	■	□	◩	-	◩
	XN..08..R	4	7	■	◩	■	-	□	0,4/0,8/1,2/1,6	□	■	□	-	◩

1st choice ■
Alternative choice ◩
Possible choice □

High speed machine with low power/torque
Strong stable machine with rigid connecion
Not recommended -

Unstable condition suitability
Ramping ability
Plunging ability

Selection – Metric

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (mm) available with effective number of teeth																							See page
			10	12	14	16	18	20	22	25	32	40	44	50	52 54	63	66	80	84	100	125	160	200	250	315	
Double Turbo	4										2	3		4		5		6		8	10	12	14			23
											3	4		5		6		8		10	12	14	16			
Turbo 06	2		2	2	3	3	4	4																		31, 32
				3		4		5		7	8	10														
Turbo 10	2					2	2	2		3	3	4	4	5	5	5	5	8								38
								3		4	5	6		7		8		10		12						
Turbo 12	2							2		2	3	4	4	5	5	6	6	7	7	8	8	10	10	12	16	46
										3	4	5		7		8		10		12	14					
Turbo 16	2									2	2	3		4	5	5	6	6		8	8	10	10	11	12	16	56
											3	4		5/6		6/7		8/9	8	10	12	13				
Turbo 18	2										2	3		4	4	4/5	5	5/6	6	7	8	7/8	7/9	10	12	16	66
											3	4		5		6		8		9	11	12				
ABEX	2															5		5			7	8	10	12	14	82
																6										
Square T4 08	4					2	2	2	3	3	3	4		5	5	6										89
								3		4	5	6		7		9										
Square T4 12	4									2	3	3/4	4	5	5	6	6	7		9	12					98
												5		6		8		10		12						
Square 6 04	6									4	5	5		6		7										98-104
								3		5	6	7		8/9		9										
Square 6 08	6											3	3	4	4	6	7	5/7	7	6/8	7/11	12	8	10		105-114
												4	4	5	5	7		9		11	14	16	12	10		

x — Fixed pocket (x indicates number of teeth)

x — With cassette (x indicates number of teeth)

Slotting and contouring

Optimized for contouring

Selection – Inch

Cutter	Insert	Recommended a_p		Material suitability					Corner radius (inch)					
				P	M	K	N	S						
Double Turbo	ZOMX16	0.236	0.590	■	◩	■	□	◩	.031/.063	□	■	–	–	◩
Turbo	XO..06	0.118	0.197	■	■	■	■	■	.008/.016 .031/.063	■	□	■	■	◩
	XO..10	0.197	0.354	■	■	■	■	■	016/.031 .047/.063 .079/.094 .122	■	◩	■	■	◩
	XO..12	0.236	0.433	■	■	■	■	■	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	■	■	■	◩
	XOMX16	0.315	0.590	■	■	■	■	■	.016/.031 .047/.063 .079/.095 .122/.157 .197/.248	◩	■	■	■	◩
	XO..18	0.354	0.669	■	◩	■	■	◩	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	□	■	■	■	◩
Square T4	LO..08	0.118	0.276	■	◩	■	□	□	.016/.031 .047/.063	■	◩	◩	-	□
	LO..12	0.276	0.393	■	■	■	■	■	.079/.031/.047 .063/.094	■	◩	◩	-	□
Square 6	XN..04..R	0.079	0.118	■	◩	■	-	□	.016/.031	■	□	◩	-	◩
	XN..08..R	0.157	0.276	■	◩	■	-	□	.016/.031 .047/.063	□	■	□	-	◩

1st choice ■
Alternative choice ◩
Possible choice □

High speed machine with low power/torque
Strong stable machine with rigid connecion
Not recommended -

Unstable condition suitability
Ramping ability
Plunging ability

Selection – Inch

Cutter	No. of cutting edges	Applica-tion	Cutter diameter available (inch)/number of teeth															See page
			0.375	0.50	0.625	0.75	0.875	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00	
Double Turbo	4								2	3	4	5	6	8	10				23
									3	4	5	6	8	10	12				
Turbo 06	2		2	2	3	4	5	6											31, 32
				3	4	5		7	8	10									
Turbo 10	2			1	2	2	3	3		4	5								38
						3		4	5	6	7		10						
Turbo 12	2					2	2	2	3/4	4	4/5	4	4/7	5/8					48, 49
								3	4	5	7	6	10	12					
Turbo 16	2							2	2	3	4	5	6	8	9	12			48, 49
									3	4	5/6	6	8	10					
Turbo 18	2							2	2	3	3/4	5	4/6	5	8	9			66
									3	4	5	6	8	7/9	11	12			
Square T4 08	4				2			3	4	4	5								82
						3		4											
Square T4 12	4							2	3	4	5	6	8	10	12	14			89
												8							
Square 6 04	6								5	6									98
						3		5			9								
Square 6 08	6									3	4/5	4	5	6	7	12			98
											5	6/7	7/9	8/11	11				

x — Fixed pocket (x indicates number of teeth)

x — With cassette (x indicates number of teeth)

Slotting and contouring

Optimized for contouring

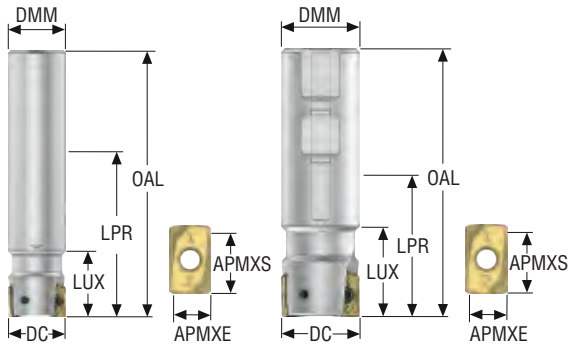


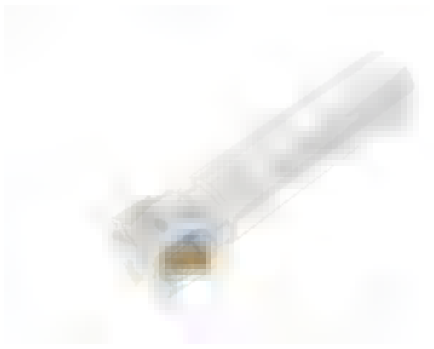
DOUBLE TURBO 16

Using the most positive helix cutting angle geometry on the market today means less power consumption, smoother cutting and longer tool life. Together with the impressive 90-degree angle accuracy and the double-sided inserts, this generates a good surface finish and reduces costs.

- Reduced downtime boosts your material removal rate with a depth of cut capability up to 15 mm (0.59”)
- Cutter range metric, Ø 32-200 mm (Imperial Ø 1.250-5.000 inch)
- Reduced cost because of double-sided inserts with 4 cutting edges
- Insert type ZOMX16

Double Turbo 16 – R217.64-ZO16 – Metric

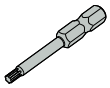




- For insert selection and cutting data recommendations, see page(s) 28-29
- For complete insert programme, see page(s) 853
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.64-3232.0-ZO16-2A	03290227	Cylindrical	32,0	2	15,0	5,0	32,0	37,0	94,0	150,0	0,35	49,0	62,0	11400	0,9	ZOMX16..
R217.64-3232.0-ZO16-3A	10107618	Cylindrical	32,0	3	15,0	5,0	32,0	37,0	94,0	150,0	0,35	49,0	62,0	11400	0,8	ZOMX16..
R217.64-3240.0-ZO16-3A	03290228	Cylindrical	40,0	3	15,0	5,0	32,0	94,0	94,0	150,0	0,25	65,0	78,0	11400	0,9	ZOMX16..
R217.64-3240.0-ZO16-4A	03290229	Cylindrical	40,0	4	15,0	5,0	32,0	94,0	94,0	150,0	0,25	65,0	78,0	11400	0,8	ZOMX16..
R217.64-3232.3-ZO16-2A	03290222	Weldon	32,0	2	15,0	5,0	32,0	37,0	50,0	110,0	0,35	49,0	62,0	11400	0,6	ZOMX16..
R217.64-3232.3-ZO16-3A	10107617	Weldon	32,0	3	15,0	5,0	32,0	37,0	50,0	110,0	0,35	49,0	62,0	11400	0,6	ZOMX16..
R217.64-3240.3-ZO16-3A	03290223	Weldon	40,0	3	15,0	5,0	32,0	50,0	50,0	110,0	0,25	65,0	78,0	10000	0,7	ZOMX16..
R217.64-3240.3-ZO16-4A	03290224	Weldon	40,0	4	15,0	5,0	32,0	50,0	50,0	110,0	0,25	65,0	78,0	10000	0,7	ZOMX16..

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.64-3232-3240	1/4HEX-T15PX50	C04011B-T15P

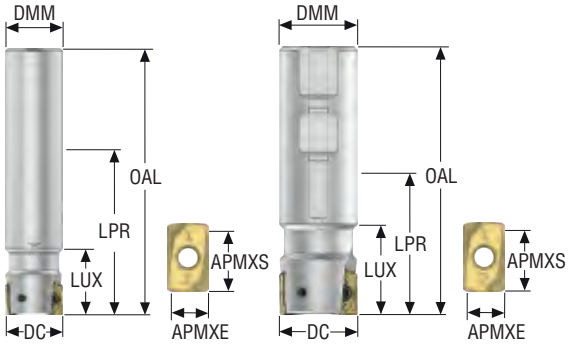
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Double Turbo 16 – R217.64-ZO16 – Inch

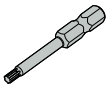




- For insert selection and cutting data recommendations, see page(s) 28-29
- For complete insert programme, see page(s) 853
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.64-01.25-0-ZO16-2A	03290230	Cylindrical	1.250	2	0.591	0.197	1.250	1.378	3.701	7.677	0,35	1.890	2.402	11400	2.430	ZOMX16..
R217.64-01.50-0-ZO16-3A	03290231	Cylindrical	1.500	3	0.591	0.197	1.250	3.701	3.701	7.677	0,25	2.402	2.913	10000	2.650	ZOMX16..
R217.64-01.25-3-ZO16-2A	03290225	Weldon	1.250	2	0.591	0.197	1.250	1.457	1.969	4.331	0,25	1.890	2.402	11400	1.320	ZOMX16..
R217.64-01.25-3-ZO16-3A	10107620	Weldon	1.250	3	0.591	0.197	1.250	1.457	1.969	4.331	0,25	1.890	2.402	11400	1.320	ZOMX16..
R217.64-01.50-3-ZO16-3A	03290226	Weldon	1.500	3	0.591	0.197	1.250	1.969	1.969	4.331	0,25	2.402	2.913	10000	1.320	ZOMX16..
R217.64-01.50-3-ZO16-4A	10107621	Weldon	1.500	4	0.591	0.197	1.250	1.969	1.969	4.331	0,25	2.402	2.913	10000	1.320	ZOMX16..

Spare Parts, included in delivery

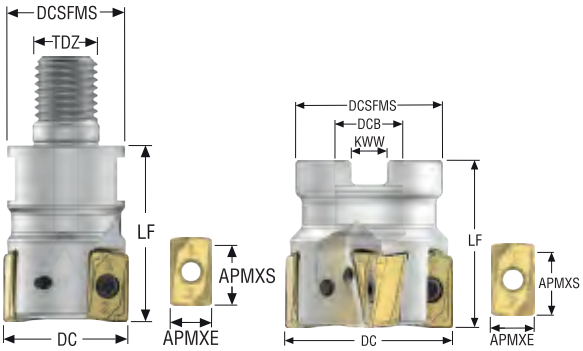
For cutter	Insert key	Insert screw
		
R217.64-..	1/4HEX-T15PX50	C04011B-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Double Turbo 16 – R217/220.64-ZO16 – Metric



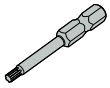
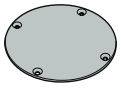


- For insert selection and cutting data recommendations, see page(s) 28-29
- For complete insert programme, see page(s) 853
- For ISO attribute explanation, see page 16
- KAPRS 90°

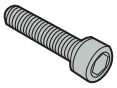
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		mm	mm		kg	
R217.64-1632.RE-ZO16-3A	10107619	Combimaster	32,0	3	15,0	5,0	–	M16	30,0	45,0	0,35	49,0	62,0	11400	0,2	ZOMX16..
R217.64-2040.RE-ZO16-3A	03290233	Combimaster	40,0	3	15,0	5,0	–	M20	36,5	45,0	0,25	65,0	78,0	10000	0,3	ZOMX16..
R217.64-2040.RE-ZO16-4A	03290234	Combimaster	40,0	4	15,0	5,0	–	M20	36,5	45,0	0,25	65,0	78,0	10000	0,3	ZOMX16..
R220.64-0040-ZO16-3A	03290237	Arbor	40,0	3	15,0	5,0	16,0	–	35,0	40,0	0,25	0,0	0,0	9800	0,3	ZOMX16..
R220.64-0040-ZO16-4A	03290238	Arbor	40,0	4	15,0	5,0	16,0	–	35,0	40,0	0,25	65,0	78,0	10000	0,3	ZOMX16..
R220.64-0050-ZO16-4A	03290239	Arbor	50,0	4	15,0	5,0	22,0	–	47,0	40,0	0,2	85,0	98,0	9000	0,4	ZOMX16..
R220.64-0050-ZO16-5A	03290240	Arbor	50,0	5	15,0	5,0	22,0	–	47,0	40,0	0,2	85,0	98,0	9000	0,3	ZOMX16..
R220.64-0063-ZO16-5A	03290241	Arbor	63,0	5	15,0	5,0	22,0	–	47,0	40,0	0,2	111,0	124,0	8200	0,6	ZOMX16..
R220.64-0063-ZO16-5A-27	10000039	Arbor	63,0	5	15,0	5,0	27,0	–	56,0	40,0	0,15	111,0	124,0	8200	0,5	ZOMX16..
R220.64-0063-ZO16-6A	03290242	Arbor	63,0	6	15,0	5,0	22,0	–	47,0	40,0	0,2	111,0	124,0	8200	0,5	ZOMX16..
R220.64-0063-ZO16-6A-27	10000040	Arbor	63,0	6	15,0	5,0	27,0	–	56,0	40,0	0,15	111,0	124,0	8200	0,6	ZOMX16..
R220.64-0080-ZO16-6A	03290243	Arbor	80,0	6	15,0	5,0	27,0	–	62,0	50,0	0,1	145,0	158,0	7200	0,9	ZOMX16..
R220.64-0080-ZO16-8A	03290244	Arbor	80,0	8	15,0	5,0	27,0	–	62,0	50,0	0,1	145,0	158,0	7200	1,0	ZOMX16..
R220.64-0100-ZO16-8A	03290245	Arbor	100,0	8	15,0	5,0	32,0	–	77,0	50,0	0,0	–	–	6500	1,6	ZOMX16..
R220.64-0100-ZO16-10A	03290246	Arbor	100,0	10	15,0	5,0	32,0	–	77,0	50,0	0,0	–	–	6500	1,5	ZOMX16..
R220.64-0125-ZO16-10A	03290247	Arbor	125,0	10	15,0	5,0	40,0	–	90,0	63,0	0,0	–	–	5800	3,0	ZOMX16..
R220.64-0125-ZO16-12A	03290248	Arbor	125,0	12	15,0	5,0	40,0	–	90,0	63,0	0,0	–	–	5800	2,9	ZOMX16..
R220.64-8160-ZO16-12A	03307754	Arbor	160,0	12	15,0	5,0	40,0	–	90,0	63,0	0,0	–	–	5100	5,1	ZOMX16..
R220.64-8160-ZO16-14A	03307755	Arbor	160,0	14	15,0	5,0	40,0	–	90,0	63,0	0,0	–	–	5100	9,6	ZOMX16..
R220.64-8200-ZO16-14A	03307756	Arbor	200,0	14	15,0	5,0	60,0	–	130,0	63,0	0,0	–	–	4500	6,7	ZOMX16..
R220.64-8200-ZO16-16A	03307757	Arbor	200,0	16	15,0	5,0	60,0	–	130,0	63,0	0,0	–	–	4500	6,8	ZOMX16..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

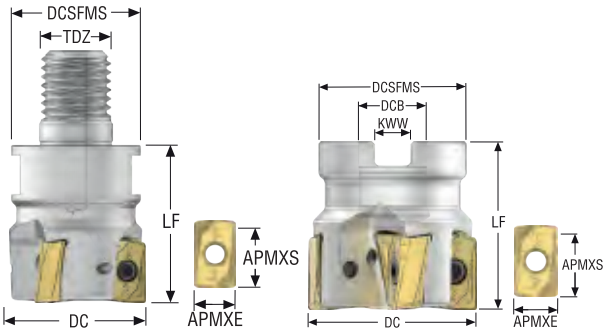
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.64-1632-2040	–	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0040	220.17-690	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0050-0063	220.17-692	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0063-27	MLC6S12X30	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-0080-0125	–	1/4HEX-T15PX50	C04011B-T15P	–	–
R220.64-8160	–	1/4HEX-T15PX90	C04011B-T15P	SC-160-90	MF6S4X8
R220.64-8200	–	1/4HEX-T15PX90	C04011B-T15P	SC-200-90	MF6S4X8

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220.64-1632-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.64-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35
R220.64-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Double Turbo 16 – R217/220.64-ZO16 – inch



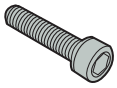
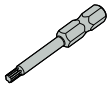


- For insert selection and cutting data recommendations, see page(s) 28-29
- For complete insert programme, see page(s) 853
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.64-01.25-16RE-ZO16-2A	03290235	Combimaster	1.250	2	0.591	0.197	–	M16	1.181	1.772	0.35	1.890	2.402	11400	0.660	ZOMX16..
R217.64-01.50-20RE-ZO16-3A	03290236	Combimaster	1.500	3	0.591	0.197	–	M20	1.437	1.772	0.25	2.402	2.913	10000	0.660	ZOMX16..
R220.64-02.00-ZO16-4A	03290250	Arbor	2.000	4	0.591	0.197	0.750	–	1.850	1.575	0.2	3.386	3.898	9000	0.880	ZOMX16..
R220.64-02.00-ZO16-5A	03290251	Arbor	2.000	5	0.591	0.197	0.750	–	1.850	1.575	0.2	3.386	3.898	9000	0.880	ZOMX16..
R220.64-02.50-ZO16-5A	03290252	Arbor	2.500	5	0.591	0.197	0.750	–	1.850	1.575	0.15	4.409	4.921	8200	1.320	ZOMX16..
R220.64-02.50-ZO16-6A	03290253	Arbor	2.500	6	0.591	0.197	0.750	–	1.850	1.575	0.15	4.409	4.921	8200	1.100	ZOMX16..
R220.64-03.00-ZO16-6A	03290254	Arbor	3.000	6	0.591	0.197	1.000	–	2.441	1.969	0.1	5.394	5.906	7200	2.200	ZOMX16..
R220.64-03.00-ZO16-8A	03290255	Arbor	3.000	8	0.591	0.197	1.000	–	2.441	1.969	0.1	5.394	5.906	7200	1.980	ZOMX16..
R220.64-04.00-ZO16-8A	03290256	Arbor	4.000	8	0.591	0.197	1.500	–	3.031	1.969	0.0	–	–	6500	3.530	ZOMX16..
R220.64-04.00-ZO16-10A	03290257	Arbor	4.000	10	0.591	0.197	1.500	–	3.031	1.969	0.0	–	–	6500	3.530	ZOMX16..
R220.64-05.00-ZO16-10A	03290258	Arbor	5.000	10	0.591	0.197	1.500	–	3.543	2.480	0.0	–	–	5800	5.730	ZOMX16..
R220.64-05.00-ZO16-12A	03290259	Arbor	5.000	12	0.591	0.197	1.500	–	3.543	2.480	0.0	–	–	5800	7.500	ZOMX16..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.64-..	–	1/4HEX-T15PX50	C04011B-T15P
R220.64-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011B-T15P
R220.64-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011B-T15P
R220.64-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04011B-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.64-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

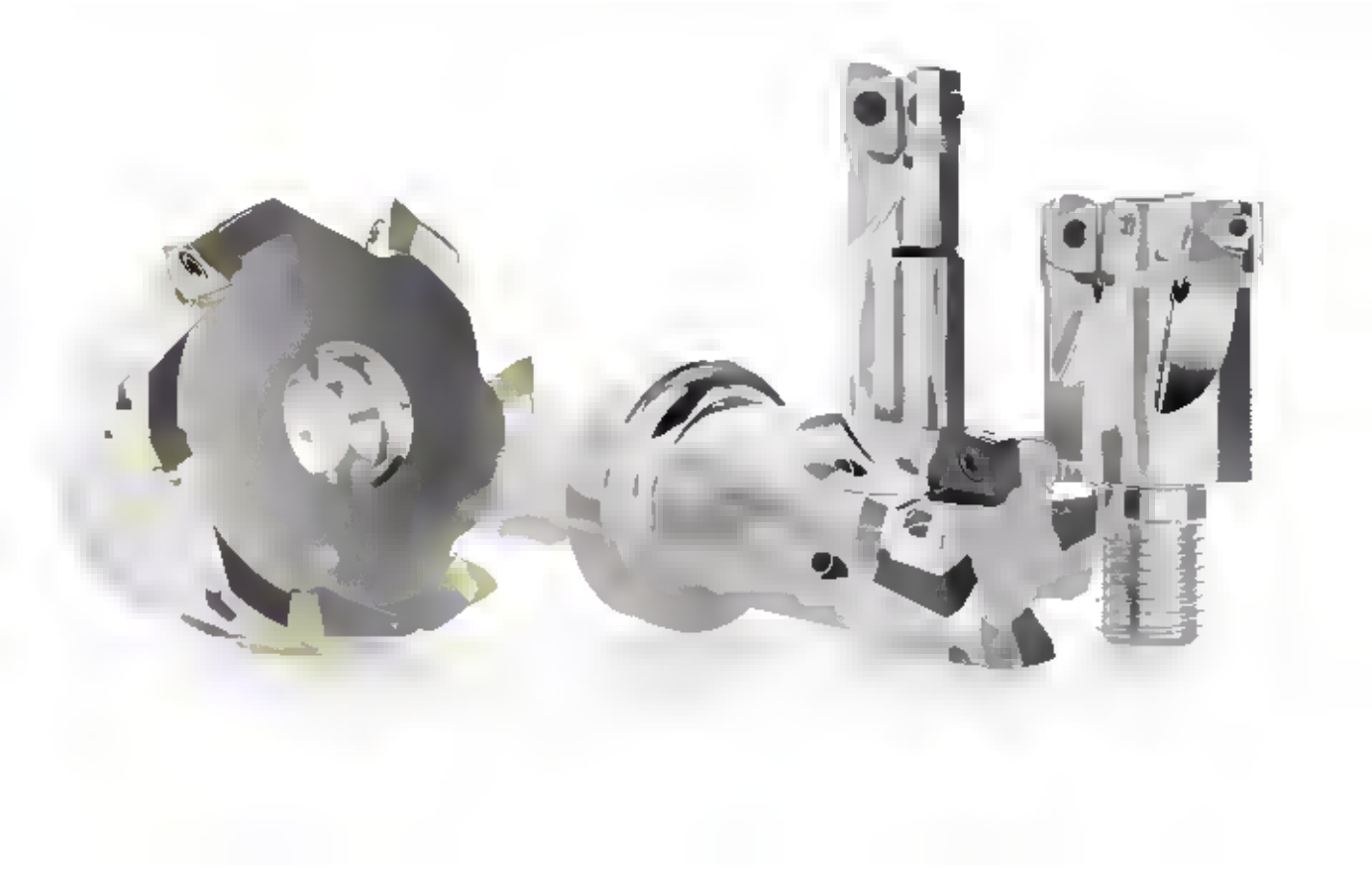
R217/220.64-16 – Insert selection – Metric / *Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P2	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P3	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P4	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P5	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P6	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P7	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P8	ZOMX160708TR-M12 MP2501	7,0 *0.28*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P11	ZOMX160708TR-M12 MS2500	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P12	ZOMX160708TR-M12 MS2500	6,0 *0.24*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
M1	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
M2	ZOMX160708TR-ME10 F40M	7,0 *0.28*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
M3	ZOMX160708TR-ME10 F40M	6,0 *0.24*	0,10 *0.0040*	0,11 *0.0044*	0,18 *0.0070*
M4	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
M5	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
K1	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K2	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K3	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K4	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K5	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
K6	ZOMX160708TR-M12 MK2050	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K7	ZOMX160708TR-M12 MP3000	7,0 *0.28*	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
S1	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
S2	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
S3	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
S11	ZOMX160708TR-ME10 MS2050	5,0 *0.20*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
S12	ZOMX160708TR-ME10 MS2050	5,0 *0.20*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
S13	ZOMX160708TR-ME10 MS2050	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
H5	ZOMX160708TR-M12 MP3000	6,0 *0.24*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
H8	ZOMX160708TR-M12 MP3000	5,0 *0.20*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
H11	ZOMX160708TR-M12 MP1501	6,0 *0.24*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
H12	ZOMX160708TR-M12 MP1501	5,0 *0.20*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.64-16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			F40M			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265 *870*	355 *1175*	420 *1375*	255 *840*	345 *1125*	405 *1325*	205 *670*	275 *900*	325 *1075*	390 *1275*	490 *1600*	550 *1800*	380 *1250*	480 *1575*	540 *1775*	295 *970*	395 *1300*	465 *1525*	340 *1125*	430 *1400*	485 *1600*
P2	260 *850*	340 *1125*	410 *1350*	250 *820*	330 *1075*	395 *1300*	200 *660*	265 *870*	315 *1025*	380 *1250*	470 *1550*	540 *1775*	370 *1225*	460 *1500*	530 *1750*	290 *950*	380 *1250*	455 *1500*	330 *1075*	410 *1350*	475 *1550*
P3	230 *750*	300 *980*	355 *1175*	220 *720*	290 *950*	340 *1125*	175 *570*	230 *750*	270 *890*	335 *1100*	410 *1350*	465 *1525*	325 *1075*	400 *1300*	455 *1500*	250 *820*	330 *1075*	390 *1275*	290 *950*	360 *1175*	410 *1350*
P4	200 *660*	270 *890*	315 *1025*	195 *640*	260 *850*	305 *1000*	155 *510*	205 *670*	245 *800*	295 *970*	365 *1200*	415 *1350*	285 *940*	360 *1175*	410 *1350*	220 *720*	295 *970*	350 *1150*	255 *840*	325 *1075*	365 *1200*
P5	190 *620*	255 *840*	305 *1000*	185 *610*	245 *800*	290 *950*	145 *475*	195 *640*	235 *770*	280 *920*	350 *1150*	395 *1300*	275 *900*	345 *1125*	390 *1275*	210 *690*	285 *940*	335 *1100*	245 *800*	310 *1025*	350 *1150*
P6	215 *710*	285 *940*	340 *1125*	205 *670*	275 *900*	325 *1075*	165 *540*	220 *720*	260 *850*	315 *1025*	395 *1300*	445 *1450*	310 *1025*	385 *1275*	440 *1450*	240 *790*	320 *1050*	375 *1225*	275 *900*	345 *1125*	395 *1300*
P7	205 *670*	270 *890*	320 *1050*	195 *640*	260 *850*	310 *1025*	155 *510*	210 *690*	245 *800*	295 *970*	370 *1225*	420 *1375*	290 *950*	365 *1200*	415 *1350*	225 *740*	300 *980*	355 *1175*	260 *850*	325 *1075*	370 *1225*
P8	190 *620*	250 *820*	295 *970*	185 *610*	240 *790*	285 *940*	145 *475*	195 *640*	230 *750*	280 *920*	345 *1125*	390 *1275*	275 *900*	340 *1125*	385 *1275*	210 *690*	280 *920*	330 *1075*	245 *800*	305 *1000*	345 *1125*
P11	195 *640*	265 *870*	310 *1025*	190 *620*	255 *840*	300 *980*	150 *490*	205 *670*	240 *790*	290 *950*	360 *1175*	410 *1350*	285 *940*	355 *1175*	400 *1300*	220 *720*	290 *950*	345 *1125*	250 *820*	315 *1025*	360 *1175*
P12	130 *425*	170 *560*	205 *670*	125 *410*	165 *540*	195 *640*	100 *330*	130 *425*	155 *510*	190 *620*	230 *750*	260 *850*	185 *610*	230 *750*	255 *840*	145 *475*	190 *620*	225 *740*	170 *560*	205 *670*	230 *750*
M1	— —	— —	— —	185 *610*	245 *800*	295 *970*	160 *520*	210 *690*	255 *840*	— —	— —	— —	190 *620*	250 *820*	300 *980*	205 *670*	270 *890*	325 *1075*	175 *570*	235 *770*	280 *920*
M2	— —	— —	— —	155 *510*	205 *670*	245 *800*	135 *445*	175 *570*	210 *690*	— —	— —	— —	155 *510*	210 *690*	245 *800*	170 *560*	225 *740*	270 *890*	145 *475*	195 *640*	230 *750*
M3	— —	— —	— —	125 *410*	165 *540*	200 *660*	110 *360*	145 *475*	170 *560*	— —	— —	— —	125 *410*	170 *560*	205 *670*	140 *460*	185 *610*	220 *720*	120 *395*	155 *510*	190 *620*
M4	— —	— —	— —	100 *330*	130 *425*	155 *510*	85 *280*	110 *360*	130 *425*	— —	— —	— —	100 *330*	130 *425*	155 *510*	110 *360*	145 *475*	170 *560*	95 *310*	125 *410*	145 *475*
M5	— —	— —	— —	80 *260*	110 *360*	130 *425*	70 *230*	95 *310*	110 *360*	— —	— —	— —	85 *280*	110 *360*	130 *425*	90 *295*	120 *395*	140 *460*	80 *260*	105 *345*	120 *395*
K1	280 *920*	370 *1225*	440 *1450*	200 *660*	260 *850*	310 *1025*	160 *520*	210 *690*	250 *820*	385 *1275*	475 *1550*	540 *1775*	375 *1225*	465 *1525*	530 *1750*	230 *750*	300 *980*	360 *1175*	335 *1100*	415 *1350*	480 *1575*
K2	250 *820*	330 *1075*	390 *1275*	175 *570*	235 *770*	275 *900*	140 *460*	185 *610*	220 *720*	340 *1125*	425 *1400*	480 *1575*	330 *1075*	415 *1350*	470 *1550*	200 *660*	270 *890*	320 *1050*	295 *970*	370 *1225*	425 *1400*
K3	210 *690*	280 *920*	330 *1075*	150 *490*	200 *660*	235 *770*	120 *395*	160 *520*	185 *610*	285 *940*	360 *1175*	405 *1325*	280 *920*	350 *1150*	400 *1300*	170 *560*	230 *750*	270 *890*	250 *820*	315 *1025*	360 *1175*
K4	200 *660*	265 *870*	315 *1025*	140 *460*	190 *620*	225 *740*	115 *375*	150 *490*	180 *590*	275 *900*	340 *1125*	390 *1275*	270 *890*	335 *1100*	380 *1250*	165 *540*	215 *710*	255 *840*	240 *790*	300 *980*	340 *1125*
K5	125 *410*	165 *540*	190 *620*	85 *280*	115 *375*	135 *445*	70 *230*	95 *310*	110 *360*	170 *560*	210 *690*	235 *770*	165 *540*	205 *670*	230 *750*	100 *330*	135 *445*	155 *510*	150 *490*	185 *610*	210 *690*
K6	175 *570*	235 *770*	280 *920*	125 *410*	165 *540*	195 *640*	100 *330*	135 *445*	155 *510*	240 *790*	300 *980*	340 *1125*	235 *770*	295 *970*	335 *1100*	145 *475*	190 *620*	225 *740*	210 *690*	265 *870*	300 *980*
K7	160 *520*	210 *690*	245 *800*	110 *360*	150 *490*	175 *570*	90 *295*	120 *395*	140 *460*	215 *710*	270 *890*	300 *980*	215 *710*	265 *870*	295 *970*	130 *425*	170 *560*	200 *660*	190 *620*	240 *790*	265 *870*
S1	— —	— —	— —	46 *150*	60 *195*	70 *230*	40 *130*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	85 *280*	44 *145*	60 *195*	70 *230*
S2	— —	— —	— —	37 *120*	49 *160*	60 *195*	32 *105*	42 *140*	50 *165*	— —	— —	— —	— —	— —	— —	43 *140*	55 *180*	65 *215*	35 *115*	46 *150*	55 *180*
S3	— —	— —	— —	33 *110*	43 *140*	50 *165*	28 *90*	37 *120*	43 *140*	— —	— —	— —	— —	— —	— —	38 *125*	50 *165*	60 *195*	31 *100*	41 *135*	48 *155*
S11	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	85 *280*	— —	— —	— —	— —	— —	— —	75 *245*	95 *310*	115 *375*	60 *195*	80 *260*	95 *310*
S12	— —	— —	— —	— —	— —	— —	38 *125*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	50 *165*	65 *215*	80 *260*	42 *140*	55 *180*	65 *215*
S13	— —	— —	— —	— —	— —	— —	22 *70*	29 *95*	35 *115*	— —	— —	— —	— —	— —	— —	30 *100*	39 *130*	47 *155*	25 *80*	32 *105*	38 *125*
H5	— —	— —	— —	39 *130*	50 *165*	60 *195*	33 *110*	44 *145*	50 *165*	49 *160*	65 *215*	75 *245*	— —	— —	— —	43 *140*	55 *180*	65 *215*	38 *125*	50 *165*	60 *195*
H8	— —	— —	— —	42 *140*	55 *180*	65 *215*	36 *120*	47 *155*	55 *180*	55 *180*	70 *230*	80 *260*	— —	— —	— —	47 *155*	60 *195*	70 *230*	42 *140*	55 *180*	65 *215*
H11	— —	— —	— —	49 *160*	65 *215*	75 *245*	42 *140*	55 *180*	65 *215*	65 *215*	85 *280*	100 *330*	— —	— —	— —	55 *180*	75 *245*	85 *280*	49 *160*	65 *215*	75 *245*
H12	— —	— —	— —	80 *260*	105 *345*	125 *410*	65 *215*	85 *280*	100 *330*	95 *310*	125 *410*	145 *475*	— —	— —	— —	95 *310*	120 *395*	145 *475*	75 *245*	95 *310*	115 *375*

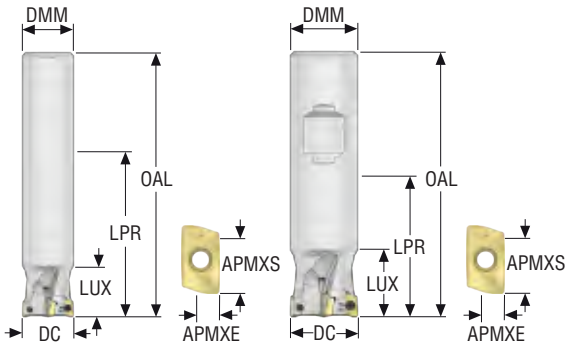


TURBO CUTTERS

The Turbo family takes square shoulder milling to the max. Suitable for most roughing, semi-finishing and finishing operations, these highly versatile cutters offer long tool life and high precision via optimized properties that reduce heat generation and cutting forces.

- Turbo 06 Insert size 06, cutter range metric, Ø 10-40 mm (Imperial Ø 0.375-1.500 inch)
- Turbo 10 Insert size 10, cutter range metric, Ø 16-100mm (Imperial Ø 0.500-3.000 inch)
- Turbo 12 Insert size 12, cutter range metric, Ø 20-250 mm (Imperial Ø 0.750-4.000 inch)
- Turbo 16 Insert size 16, cutter range metric, Ø 25-250 mm (Imperial Ø 1.000-6.000 inch)
- Turbo 18 Insert size 18, cutter range metric, Ø 32-250 mm (Imperial Ø 1.000-6.000 inch)

Turbo 06 – R217.69-06 – Metric



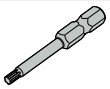


- For insert selection and cutting data recommendations, see page(s) 36-37
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-0810.0-06-2AN	02690707	Cylindrical	10,0	2	5,0	3,0	8,0	64,0	64,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X06..
R217.69-0810.0-06-2N	02690736	Cylindrical	10,0	2	5,0	3,0	8,0	64,0	64,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X06..
R217.69-1010.0-06-2AD	00035456	Cylindrical	10,0	2	5,0	3,0	10,0	17,0	17,0	55,0	10,0	14,5	19,0	60000	0,1	XO.X06..
R217.69-1010.0-06-2AN	02690714	Cylindrical	10,0	2	5,0	3,0	10,0	17,0	17,0	55,0	10,0	14,5	19,0	60000	0,1	XO.X06..
R217.69-1010.0-06-2N	02690737	Cylindrical	10,0	2	5,0	3,0	10,0	18,0	62,0	100,0	10,0	14,5	19,0	60000	0,1	XO.X06..
R217.69-1012.0-06-2AN	02690712	Cylindrical	12,0	2	5,0	3,0	10,0	80,0	80,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X06..
R217.69-1012.0-06-2N	02690738	Cylindrical	12,0	2	5,0	3,0	10,0	80,0	80,0	120,0	6,5	18,5	23,0	54400	0,1	XO.X06..
R217.69-1212.0-06-2AN	02690715	Cylindrical	12,0	2	5,0	3,0	12,0	18,0	35,0	80,0	6,5	18,5	23,0	54400	0,1	XO.X06..
R217.69-1212.0-06-2N	02690739	Cylindrical	12,0	2	5,0	3,0	12,0	18,0	75,0	120,0	6,5	18,5	23,0	54400	0,2	XO.X06..
R217.69-1212.0-06-3AD	00035457	Cylindrical	12,0	3	5,0	3,0	12,0	18,0	35,0	80,0	6,5	18,5	23,0	54400	0,2	XO.X06..
R217.69-1212.0-06-3AN	02690724	Cylindrical	12,0	3	5,0	3,0	12,0	18,0	18,0	60,0	6,5	18,5	23,0	54400	0,1	XO.X06..
R217.69-1214.0-06-3AN	02690708	Cylindrical	14,0	3	5,0	3,0	12,0	95,0	95,0	140,0	5,0	22,5	27,0	51200	0,2	XO.X06..
R217.69-1416.0-06-3AN	02690713	Cylindrical	16,0	3	5,0	3,0	14,0	115,0	115,0	160,0	4,0	26,5	31,0	48000	0,2	XO.X06..
R217.69-1616.0-06-3AN	02690717	Cylindrical	16,0	3	5,0	3,0	16,0	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,2	XO.X06..
R217.69-1616.0-06-4AD	00035458	Cylindrical	16,0	4	5,0	3,0	16,0	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,3	XO.X06..
R217.69-1616.0-06-4AN	02690718	Cylindrical	16,0	4	5,0	3,0	16,0	20,0	42,0	90,0	4,0	26,5	31,0	48000	0,2	XO.X06..
R217.69-1618.0-06-4AN	02690710	Cylindrical	18,0	4	5,0	3,0	16,0	132,0	132,0	180,0	3,0	30,5	35,0	45600	0,3	XO.X06..
R217.69-1820.0-06-4AN	02690711	Cylindrical	20,0	4	5,0	3,0	18,0	150,0	150,0	200,0	2,5	34,5	39,0	44000	0,4	XO.X06..
R217.69-2020.0-06-4AN	02690703	Cylindrical	20,0	4	5,0	3,0	20,0	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,3	XO.X06..
R217.69-2020.0-06-5AD	00035459	Cylindrical	20,0	5	5,0	3,0	20,0	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,6	XO.X06..
R217.69-2020.0-06-5AN	02690720	Cylindrical	20,0	5	5,0	3,0	20,0	20,0	55,0	105,0	2,5	34,5	39,0	44000	0,3	XO.X06..
R217.69-2025.0-06-7AN	02690721	Cylindrical	25,0	7	5,0	3,0	20,0	65,0	65,0	115,0	2,5	44,5	49,0	37600	0,3	XO.X06..
R217.69-2532.0-06-8AN	02690723	Cylindrical	32,0	8	5,0	3,0	25,0	74,0	74,0	130,0	1,5	58,5	63,0	33600	0,5	XO.X06..
R217.69-3240.0-06-10AN	02690725	Cylindrical	40,0	10	5,0	3,0	32,0	80,0	80,0	140,0	1,0	74,5	79,0	28000	0,9	XO.X06..
R217.69-1616.3-06-3AN	02690646	Weldon	16,0	3	5,0	3,0	16,0	20,0	22,0	70,0	4,0	26,5	31,0	48000	0,2	XO.X06..
R217.69-1616.3-06-4AN	02690647	Weldon	16,0	4	5,0	3,0	16,0	20,0	42,0	70,0	4,0	26,5	31,0	48000	0,2	XO.X06..
R217.69-2020.3-06-4AN	02690648	Weldon	20,0	4	5,0	3,0	20,0	20,0	30,0	80,0	2,5	34,5	39,0	44000	0,2	XO.X06..
R217.69-2020.3-06-5AN	02690649	Weldon	20,0	5	5,0	3,0	20,0	20,0	35,0	85,0	2,5	34,5	39,0	44000	0,3	XO.X06..
R217.69-2025.3-06-7AN	02690650	Weldon	25,0	7	5,0	3,0	20,0	40,0	40,0	90,0	2,5	44,5	49,0	37600	0,3	XO.X06..

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

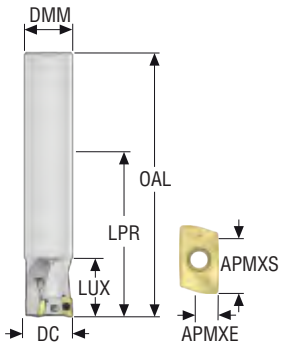
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T06PX50	C01804-T06P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	0.5NM	T00-06P05

Torque and fixed keys, see page 872

Turbo 06 – R217.69-06 – Inch





- For insert selection and cutting data recommendations, see page(s) 36-37
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.375-0-06-2AN	02694880	Cylindrical	0.375	2	0.197	0.118	0.375	0.669	0.669	2.165	10,0	0.531	0.709	60000	0.220	XO.X06..
R217.69-00.375-0-06-2LAN	02694883	Cylindrical	0.375	2	0.197	0.118	0.313	2.362	2.362	3.937	10,0	0.531	0.709	60000	0.220	XO.X06..
R217.69-00.50-0-06-2AN	02694884	Cylindrical	0.500	2	0.197	0.118	0.500	0.709	1.378	3.150	6,5	0.768	0.945	54000	0.220	XO.X06..
R217.69-00.50-0-06-2LAN	02694886	Cylindrical	0.500	2	0.197	0.118	0.375	2.362	2.362	3.937	6,5	0.768	0.945	54000	0.220	XO.X06..
R217.69-00.50-0-06-3AN	02694887	Cylindrical	0.500	3	0.197	0.118	0.500	0.709	0.709	2.362	6,0	0.768	0.945	54000	0.220	XO.X06..
R217.69-00.625-0-06-3AN	02694889	Cylindrical	0.625	3	0.197	0.118	0.625	0.787	1.654	3.543	4,0	1.024	1.201	48000	0.440	XO.X06..
R217.69-00.625-0-06-3LAN	02694890	Cylindrical	0.625	3	0.197	0.118	0.500	3.150	3.150	4.921	4,0	1.024	1.201	48000	0.440	XO.X06..
R217.69-00.625-0-06-4AN	02694891	Cylindrical	0.625	4	0.197	0.118	0.625	0.787	1.654	3.543	4,0	1.024	1.201	48000	0.440	XO.X06..
R217.69-00.75-0-06-4AN	02694892	Cylindrical	0.750	4	0.197	0.118	0.750	0.787	1.969	3.937	2,0	1.280	1.457	44000	0.660	XO.X06..
R217.69-00.75-0-06-4LAN	02694898	Cylindrical	0.750	4	0.197	0.118	0.625	4.016	4.016	5.906	2,0	1.280	1.457	44000	0.660	XO.X06..
R217.69-00.75-0-06-5AN	02694896	Cylindrical	0.750	5	0.197	0.118	0.750	0.787	1.969	3.937	2,5	1.280	1.457	44000	0.660	XO.X06..
R217.69-00.875-0-06-5LAN	02694899	Cylindrical	0.875	5	0.197	0.118	0.750	3.937	3.937	5.906	2,0	1.535	1.713	44000	0.880	XO.X06..
R217.69-01.00-0-06-6LAN	02694903	Cylindrical	1.000	6	0.197	0.118	0.750	5.906	5.906	7.874	1,0	1.772	1.949	37600	0.880	XO.X06..
R217.69-01.00-0-06-7AN	02694904	Cylindrical	1.000	7	0.197	0.118	1.000	0.787	2.559	4.528	1,5	1.772	1.949	37600	0.880	XO.X06..
R217.69-01.25-0-06-8AN	02694907	Cylindrical	1.250	8	0.197	0.118	1.000	2.913	2.913	5.118	1,0	2.283	2.461	33600	1.100	XO.X06..

Modification of the cutter body needed for radii > 0.031 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T06PX50	C01804-T06P

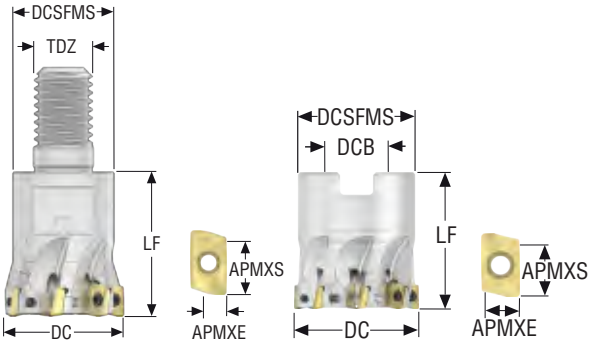
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	4.4IN.LBS	T00-06P05

Torque and fixed keys, see page 872

Turbo 06 – R217/220.69-06 – Metric



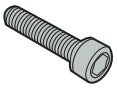
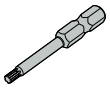


- For insert selection and cutting data recommendations, see page(s) 36-37
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		mm	mm		kg	
R217.69-0816.RE-06-4AN	02690643	Combimaster	16,0	4	5,0	3,0	–	M8	13,5	23,0	7,5	26,5	31,0	48000	0,1	XO.X06..
R217.69-1020.RE-06-5AN	02690641	Combimaster	20,0	5	5,0	3,0	–	M10	18,0	28,0	4,5	34,5	39,0	44000	0,1	XO.X06..
R217.69-1225.RE-06-7AN	02690642	Combimaster	25,0	7	5,0	3,0	–	M12	21,0	30,0	2,5	44,5	49,0	37600	0,2	XO.X06..
R217.69-1632.RE-06-8AN	02690638	Combimaster	32,0	8	5,0	3,0	–	M16	28,0	35,0	1,5	58,5	63,0	33600	0,3	XO.X06..
R217.69-1640.RE-06-10AN	02690639	Combimaster	40,0	10	5,0	3,0	–	M16	28,0	40,0	1,0	74,5	79,0	28000	0,3	XO.X06..
R220.69-0032-06-8AN	02690741	Arbor	32,0	8	5,0	3,0	16,0	–	30,0	35,0	1,5	58,5	63,0	33600	0,2	XO.X06..
R220.69-0040-06-10AN	02690742	Arbor	40,0	10	5,0	3,0	16,0	–	35,0	35,0	1,0	74,5	79,0	18600	0,3	XO.X06..

Modification of the cutter body needed for radii > 0,8 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

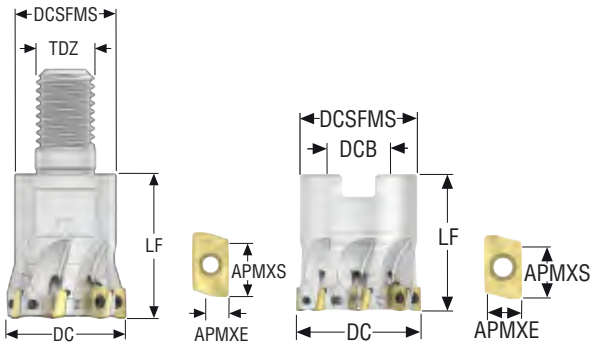
For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	1/4HEX-T06PX50	C01804-T06P
R220.69-..	TCEI0825	1/4HEX-T06PX50	C01804-T06P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	0.5NM	T00-06P05

Torque and fixed keys, see page 872

Turbo 06 – R217/220.69-06 – Inch



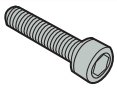
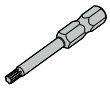


- For insert selection and cutting data recommendations, see page(s) 36-37
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-06-7AN	02695013	Combimaster	1.000	7	0.197	0.118	–	M12	0.906	1.378	1.5	1.772	1.949	37600	0.440	XO.X06..
R220.69-01.50-06-10AN	02694915	Arbor	1.500	10	0.197	0.118	0.500	–	1.378	1.378	1.0	2.776	2.953	28000	0.660	XO.X06..

Modification of the cutter body needed for radii > 0.031 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	1/4HEX-T06PX50	C01804-T06P
R220.69-..	UC6S1/4UNFX1	1/4HEX-T06PX50	C01804-T06P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	4.4IN.LBS	T00-06P05

Torque and fixed keys, see page 872

R217/220.69-06 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
P2	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
P3	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*
P4	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*
P5	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
P6	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
P7	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
P8	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*
P11	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
P12	XOMX060204R-M05 MP3000	2,0 *0.080*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*
M1	XOMX060204R-M05 F40M	2,5 *0.10*	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
M2	XOMX060204R-M05 F40M	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M3	XOMX060204R-M05 F40M	2,0 *0.080*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
M4	XOMX060204R-M05 MS2050	1,5 *0.060*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*
M5	XOMX060204R-M05 MS2050	1,5 *0.060*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*
K1	XOMX060204R-M05 MP3000	2,5 *0.10*	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
K2	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
K3	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
K4	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
K5	XOMX060204R-M05 MP3000	2,5 *0.10*	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
K6	XOMX060204R-M05 MP3000	2,5 *0.10*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
K7	XOMX060204R-M05 MP3000	2,5 *0.10*	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
N1	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
N2	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
N3	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
N11	XOEX060204FR-E03 H15	2,5 *0.10*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S1	XOMX060204R-M05 F40M	1,5 *0.060*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*
S2	XOMX060204R-M05 F40M	1,5 *0.060*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*
S3	XOMX060204R-M05 F40M	1,5 *0.060*	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0030*
S11	XOMX060204R-M05 MS2050	1,7 *0.065*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
S12	XOMX060204R-M05 MS2050	1,7 *0.065*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
S13	XOMX060208R-M05 MS2050	1,5 *0.060*	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
H5	XOMX060204R-M05 MP3000	2,0 *0.080*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*
H8	XOMX060204R-M05 MP3000	1,7 *0.065*	0,034 *0.0013*	0,038 *0.0015*	0,060 *0.0024*
H11	XOMX060204R-M05 MP3000	2,0 *0.080*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*
H12	XOMX060204R-M05 MP3000	1,7 *0.065*	0,034 *0.0013*	0,038 *0.0015*	0,060 *0.0024*

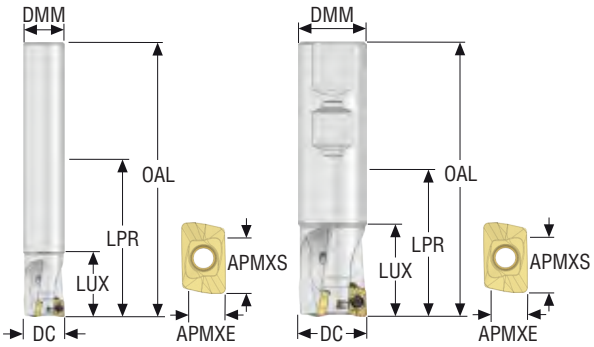
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F30M			MP3000			MS2050			F40M			MM4500			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	285 *940*	375 *1225*	440 *1450*	340 *1125*	450 *1475*	520 *1700*	300 *980*	395 *1300*	460 *1500*	275 *900*	360 *1175*	420 *1375*	220 *720*	290 *950*	340 *1125*	— —	— —	— —
P2	280 *920*	360 *1175*	425 *1400*	330 *1075*	430 *1400*	510 *1675*	290 *950*	380 *1250*	450 *1475*	265 *870*	345 *1125*	405 *1325*	215 *710*	280 *920*	330 *1075*	— —	— —	— —
P3	240 *790*	315 *1025*	375 *1225*	285 *940*	375 *1225*	445 *1450*	250 *820*	330 *1075*	390 *1275*	230 *750*	300 *980*	355 *1175*	185 *610*	245 *800*	290 *950*	— —	— —	— —
P4	215 *710*	280 *920*	330 *1075*	255 *840*	330 *1075*	395 *1300*	225 *740*	290 *950*	345 *1125*	205 *670*	265 *870*	315 *1025*	165 *540*	215 *710*	255 *840*	— —	— —	— —
P5	205 *670*	270 *890*	315 *1025*	245 *800*	320 *1050*	375 *1225*	215 *710*	280 *920*	330 *1075*	195 *640*	255 *840*	300 *980*	160 *520*	210 *690*	245 *800*	— —	— —	— —
P6	230 *750*	305 *1000*	355 *1175*	275 *900*	360 *1175*	420 *1375*	240 *790*	315 *1025*	370 *1225*	220 *720*	290 *950*	335 *1100*	180 *590*	235 *770*	275 *900*	— —	— —	— —
P7	215 *710*	285 *940*	335 *1100*	260 *850*	340 *1125*	395 *1300*	230 *750*	300 *980*	350 *1150*	205 *670*	270 *890*	320 *1050*	170 *560*	220 *720*	260 *850*	— —	— —	— —
P8	200 *660*	265 *870*	315 *1025*	240 *790*	315 *1025*	375 *1225*	210 *690*	280 *920*	330 *1075*	190 *620*	255 *840*	300 *980*	155 *510*	205 *670*	245 *800*	— —	— —	— —
P11	210 *690*	275 *900*	325 *1075*	250 *820*	330 *1075*	385 *1275*	220 *720*	290 *950*	340 *1125*	200 *660*	265 *870*	310 *1025*	165 *540*	215 *710*	250 *820*	— —	— —	— —
P12	135 *445*	175 *570*	205 *670*	160 *520*	210 *690*	245 *800*	140 *460*	185 *610*	215 *710*	130 *425*	170 *560*	195 *640*	105 *345*	135 *445*	160 *520*	— —	— —	— —
M1	225 *740*	290 *950*	345 *1125*	250 *820*	320 *1050*	380 *1250*	235 *770*	305 *1000*	360 *1175*	215 *710*	280 *920*	330 *1075*	185 *610*	240 *790*	285 *940*	— —	— —	— —
M2	185 *610*	245 *800*	285 *940*	205 *670*	270 *890*	315 *1025*	195 *640*	255 *840*	295 *970*	175 *570*	230 *750*	270 *890*	150 *490*	200 *660*	235 *770*	— —	— —	— —
M3	145 *475*	195 *640*	225 *740*	160 *520*	215 *710*	250 *820*	155 *510*	205 *670*	235 *770*	140 *460*	185 *610*	215 *710*	120 *395*	160 *520*	185 *610*	— —	— —	— —
M4	115 *375*	150 *490*	175 *570*	125 *410*	165 *540*	195 *640*	120 *395*	155 *510*	185 *610*	110 *360*	145 *475*	165 *540*	95 *310*	125 *410*	145 *475*	— —	— —	— —
M5	95 *310*	125 *410*	145 *475*	105 *345*	140 *460*	160 *520*	100 *330*	130 *425*	150 *490*	90 *295*	120 *395*	140 *460*	80 *260*	105 *345*	120 *395*	— —	— —	— —
K1	220 *720*	285 *940*	340 *1125*	265 *870*	340 *1125*	405 *1325*	— —	— —	— —	210 *690*	275 *900*	325 *1075*	— —	— —	— —	— —	— —	— —
K2	195 *640*	255 *840*	300 *980*	230 *750*	305 *1000*	355 *1175*	— —	— —	— —	185 *610*	245 *800*	285 *940*	— —	— —	— —	— —	— —	— —
K3	165 *540*	215 *710*	255 *840*	195 *640*	260 *850*	300 *980*	— —	— —	— —	155 *510*	205 *670*	240 *790*	— —	— —	— —	— —	— —	— —
K4	155 *510*	205 *670*	240 *790*	185 *610*	245 *800*	285 *940*	— —	— —	— —	150 *490*	195 *640*	230 *750*	— —	— —	— —	— —	— —	— —
K5	95 *310*	125 *410*	145 *475*	115 *375*	150 *490*	175 *570*	— —	— —	— —	90 *295*	120 *395*	140 *460*	— —	— —	— —	— —	— —	— —
K6	140 *460*	180 *590*	215 *710*	165 *540*	215 *710*	255 *840*	— —	— —	— —	130 *425*	175 *570*	205 *670*	— —	— —	— —	— —	— —	— —
K7	120 *395*	160 *520*	190 *620*	145 *475*	190 *620*	225 *740*	— —	— —	— —	115 *375*	150 *490*	180 *590*	— —	— —	— —	— —	— —	— —
N1	1650 *5425*	2150 *7050*	2550 *8375*	— —	— —	— —	— —	— —	— —	1575 *5175*	2050 *6725*	2425 *7950*	— —	— —	— —	1650 *5425*	2175 *7125*	2575 *8450*
N2	660 *2175*	870 *2850*	1025 *3375*	— —	— —	— —	— —	— —	— —	630 *2075*	830 *2725*	980 *3225*	— —	— —	— —	670 *2200*	880 *2875*	1050 *3450*
N3	445 *1450*	580 *1900*	690 *2275*	— —	— —	— —	— —	— —	— —	420 *1375*	550 *1800*	650 *2125*	— —	— —	— —	445 *1450*	590 *1925*	690 *2275*
N11	510 *1675*	660 *2175*	780 *2550*	— —	— —	— —	— —	— —	— —	480 *1575*	630 *2075*	750 *2450*	— —	— —	— —	510 *1675*	670 *2200*	790 *2600*
S1	— —	— —	— —	— —	— —	— —	55 *180*	75 *245*	85 *280*	50 *165*	65 *215*	80 *260*	29 *95*	38 *125*	44 *145*	— —	— —	— —
S2	— —	— —	— —	— —	— —	— —	45 *150*	60 *195*	70 *230*	41 *135*	55 *180*	60 *195*	23 *75*	30 *100*	35 *115*	— —	— —	— —
S3	— —	— —	— —	— —	— —	— —	39 *130*	50 *165*	60 *195*	36 *120*	47 *155*	55 *180*	20 *65*	26 *85*	31 *100*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	80 *260*	100 *330*	120 *395*	70 *230*	95 *310*	110 *360*	40 *130*	55 *180*	60 *195*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	80 *260*	49 *160*	65 *215*	75 *245*	37 *120*	48 *155*	55 *180*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	31 *100*	41 *135*	48 *155*	29 *95*	37 *120*	44 *145*	22 *70*	28 *90*	33 *110*	— —	— —	— —
H5	45 *150*	60 *195*	70 *230*	50 *165*	65 *215*	75 *245*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	47 *155*	60 *195*	70 *230*	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	55 *180*	75 *245*	85 *280*	65 *215*	85 *280*	95 *310*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	85 *280*	110 *360*	130 *425*	100 *330*	130 *425*	155 *510*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —

Turbo 10 – R217.69-10 – Metric



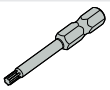


- For insert selection and cutting data recommendations, see page(s) 43-45
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-1416.0-10-2A	02772250	Cylindrical	16,0	2	9,0	6,0	14,0	112,0	112,0	160,0	7,5	21,0	30,5	29400	0,2	XO.X10..
R217.69-1616.0-10-2A	02769179	Cylindrical	16,0	2	9,0	6,0	16,0	30,0	87,0	135,0	7,5	21,0	30,5	29400	0,2	XO.X10..
R217.69-1618.0-10-2A	02772252	Cylindrical	18,0	2	9,0	6,0	16,0	112,0	112,0	160,0	6,0	25,0	34,5	27800	0,3	XO.X10..
R217.69-1820.0-10-2A	02769205	Cylindrical	20,0	2	9,0	6,0	18,0	150,0	150,0	200,0	4,5	29,0	38,5	26300	0,4	XO.X10..
R217.69-2020.0-10-2A	02769206	Cylindrical	20,0	2	9,0	6,0	20,0	35,0	100,0	150,0	4,5	29,0	38,5	26300	0,4	XO.X10..
R217.69-2020.0-10-3A	02769209	Cylindrical	20,0	3	9,0	6,0	20,0	35,0	100,0	150,0	4,5	29,0	38,5	26300	0,4	XO.X10..
R217.69-2225.0-10-3A	02772253	Cylindrical	25,0	3	9,0	6,0	22,0	150,0	150,0	200,0	3,0	39,0	48,5	23500	0,6	XO.X10..
R217.69-2525.0-10-3A	02769218	Cylindrical	25,0	3	9,0	6,0	25,0	40,0	114,0	170,0	3,0	39,0	48,5	23500	0,6	XO.X10..
R217.69-2525.0-10-4A	02769224	Cylindrical	25,0	4	9,0	6,0	25,0	40,0	114,0	170,0	3,0	39,0	48,5	23500	0,6	XO.X10..
R217.69-3232.0-10-3A	02769230	Cylindrical	32,0	3	9,0	6,0	32,0	40,0	135,0	195,0	2,0	53,0	62,5	20800	1,2	XO.X10..
R217.69-3232.0-10-5A	02769231	Cylindrical	32,0	5	9,0	6,0	32,0	40,0	135,0	195,0	2,0	53,0	62,5	20800	1,2	XO.X10..
R217.69-1616.3-10-2A	02769180	Weldon	16,0	2	9,0	6,0	16,0	24,0	30,0	78,0	7,5	21,0	30,5	29400	0,2	XO.X10..
R217.69-2018.3-10-2A	02772254	Weldon	18,0	2	9,0	6,0	20,0	29,0	30,0	85,0	6,0	25,0	34,5	27800	0,2	XO.X10..
R217.69-2020.3-10-2A	02769210	Weldon	20,0	2	9,0	6,0	20,0	29,0	40,0	90,0	4,5	29,0	38,5	26300	0,2	XO.X10..
R217.69-2020.3-10-3A	02769212	Weldon	20,0	3	9,0	6,0	20,0	29,0	40,0	90,0	4,5	29,0	38,5	26300	0,2	XO.X10..
R217.69-2525.3-10-3A	02769225	Weldon	25,0	3	9,0	6,0	25,0	34,0	45,0	101,0	3,0	39,0	48,5	23500	0,4	XO.X10..
R217.69-2525.3-10-4A	02769227	Weldon	25,0	4	9,0	6,0	25,0	34,0	45,0	101,0	3,0	39,0	48,5	23500	0,3	XO.X10..
R217.69-3232.3-10-3A	02769232	Weldon	32,0	3	9,0	6,0	32,0	35,0	45,0	110,0	2,0	53,0	62,5	20800	0,7	XO.X10..
R217.69-3232.3-10-5A	02769233	Weldon	32,0	5	9,0	6,0	32,0	35,0	45,0	110,0	2,0	53,0	62,5	20800	0,6	XO.X10..

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

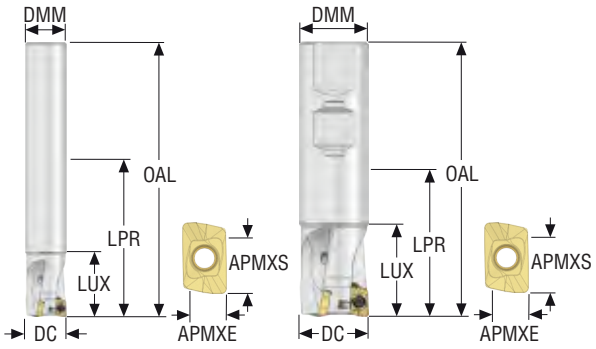
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	0.9NM	T00-07P09

Torque and fixed keys, see page 872

Turbo 10 – R217.69-10 – inch



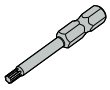


- For insert selection and cutting data recommendations, see page(s) 43-45
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.62-0-10-2A	02772633	Cylindrical	0.625	2	0.354	0.236	0.625	1.083	3.425	5.315	7,5	0.807	1.181	29400	0.660	XO.X10..
R217.69-00.75-0-10-2A	02772636	Cylindrical	0.750	2	0.354	0.236	0.750	1.181	3.937	5.906	5,0	1.063	1.437	26300	0.880	XO.X10..
R217.69-00.87-0-10-3A	02772719	Cylindrical	0.875	3	0.354	0.236	0.750	3.937	3.937	5.906	5,0	1.299	1.673	26300	0.880	XO.X10..
R217.69-01.00-0-10-3A	02772707	Cylindrical	1.000	3	0.354	0.236	1.000	1.280	4.488	6.693	3,0	1.555	1.929	23500	1.540	XO.X10..
R217.69-01.00-0-10-4A	02772710	Cylindrical	1.000	4	0.354	0.236	1.000	1.280	4.488	6.693	3,0	1.555	1.929	23500	1.320	XO.X10..
R217.69-01.25-0-10-5A	02772728	Cylindrical	1.250	5	0.354	0.236	1.250	1.240	5.315	7.677	2,0	2.067	2.441	20800	2.650	XO.X10..
R217.69-01.50-0-10-4A	02773425	Cylindrical	1.500	4	0.354	0.236	1.250	5.315	5.315	7.677	1,5	2.559	2.933	18600	2.650	XO.X10..
R217.69-00.50-3-10-1A	03058730	Weldon	0.500	1	0.354	0.236	0.625	1.083	1.378	3.252	3,0	1.516	1.890	33100	0.440	XO.X10..
R217.69-00.62-3-10-2A	02772634	Weldon	0.625	2	0.354	0.236	0.625	1.083	1.362	3.252	7,5	0.827	1.201	29400	0.440	XO.X10..
R217.69-00.75-3-10-2A	02772637	Weldon	0.750	2	0.354	0.236	0.750	1.189	1.374	3.390	5,0	1.063	1.437	26300	0.440	XO.X10..
R217.69-00.750-3-10-3A	02903111	Weldon	0.750	3	0.354	0.236	0.750	1.189	1.575	3.390	4,5	1.083	1.457	26300	0.440	XO.X10..
R217.69-00.87-3-10-3A	02772720	Weldon	0.875	3	0.354	0.236	0.750	1.421	1.421	3.390	5,0	1.319	1.693	25000	0.440	XO.X10..
R217.69-01.00-3-10-3A	02772711	Weldon	1.000	3	0.354	0.236	1.000	1.280	1.575	3.780	3,0	1.575	1.949	23500	0.660	XO.X10..
R217.69-01.00-3-10-4A	02772713	Weldon	1.000	4	0.354	0.236	1.000	1.280	1.575	3.780	3,0	1.575	1.949	23500	0.880	XO.X10..
R217.69-01.25-3-10-5A	02772731	Weldon	1.250	5	0.354	0.236	1.250	1.240	1.736	4.000	2,0	2.067	2.441	20800	1.320	XO.X10..
R217.69-01.50-3-10-4A	02773428	Weldon	1.500	4	0.354	0.236	1.250	1.736	1.736	4.000	1,5	2.579	2.953	18600	1.320	XO.X10..

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

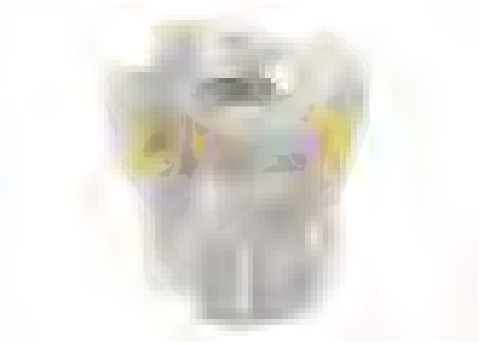
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T07PX50	C02506-T07P

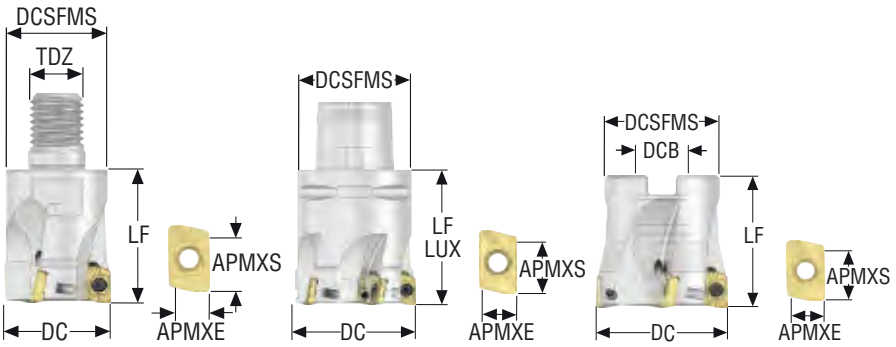
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

Turbo 10 – R217/220.69-10 – Metric



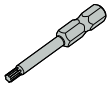


- For insert selection and cutting data recommendations, see page(s) 43-45
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LUX	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.69-0816.RE-10-2A	02769181	Combimaster	16,0	2	9,0	6,0	–	M8	14,0	–	23,0	7,5	21,0	30,5	29400	0,1	XO.X10..
R217.69-1020.RE-10-2A	02769213	Combimaster	20,0	2	9,0	6,0	–	M10	19,0	–	28,0	4,5	29,0	38,5	26300	0,1	XO.X10..
R217.69-1020.RE-10-3A	02769214	Combimaster	20,0	3	9,0	6,0	–	M10	19,0	–	28,0	4,5	29,0	38,5	26300	0,1	XO.X10..
R217.69-1225.RE-10-3A	02769228	Combimaster	25,0	3	9,0	6,0	–	M12	23,0	–	30,0	3,0	39,0	48,5	23500	0,2	XO.X10..
R217.69-1225.RE-10-4A	02769229	Combimaster	25,0	4	9,0	6,0	–	M12	23,0	–	30,0	3,0	39,0	48,5	23500	0,1	XO.X10..
R217.69-1632.RE-10-3A	02769234	Combimaster	32,0	3	9,0	6,0	–	M16	30,0	–	40,0	2,0	53,0	62,5	20800	0,3	XO.X10..
R217.69-1632.RE-10-5A	02769235	Combimaster	32,0	5	9,0	6,0	–	M16	30,0	–	40,0	2,0	53,0	62,5	20800	0,3	XO.X10..
R217.69-2040.RE-10-4A	02769295	Combimaster	40,0	4	9,0	6,0	–	M20	36,5	–	40,0	1,5	69,0	78,5	18600	0,4	XO.X10..
R217.69-2040.RE-10-6A	02769296	Combimaster	40,0	6	9,0	6,0	–	M20	36,5	–	40,0	1,5	69,0	78,5	18600	0,4	XO.X10..
C4-R217.69-044-10-4A	02824179	Seco-Capto	44,0	4	9,0	6,0	–	–	40,0	60,0	60,0	1,3	77,0	86,5	28000	0,6	XO.X10..
C5-R217.69-054-10-5A	02824181	Seco-Capto	54,0	5	9,0	6,0	–	–	50,0	60,0	60,0	1,2	97,0	106,5	14200	1,0	XO.X10..
R220.69-0032-10-4A	02840940	Arbor	32,0	4	9,0	6,0	16,0	–	30,0	–	35,0	2,0	53,0	62,5	20800	0,2	XO.X10..
R220.69-0032-10-5A	02841295	Arbor	32,0	5	9,0	6,0	16,0	–	30,0	–	35,0	2,0	53,0	62,5	20800	0,3	XO.X10..
R220.69-0040-10-4A	02769302	Arbor	40,0	4	9,0	6,0	16,0	–	35,0	–	40,0	1,5	69,0	78,5	18600	0,3	XO.X10..
R220.69-0040-10-6A	02769304	Arbor	40,0	6	9,0	6,0	16,0	–	35,0	–	40,0	1,5	69,0	78,5	18600	0,3	XO.X10..
R220.69-0044-10-4A	02969079	Arbor	44,0	4	9,0	6,0	16,0	–	35,0	–	40,0	1,3	77,0	86,5	18600	0,3	XO.X10..
R220.69-0050-10-5A	02769710	Arbor	50,0	5	9,0	6,0	22,0	–	47,0	–	40,0	1,2	89,0	98,5	16600	0,4	XO.X10..
R220.69-0050-10-7A	02769713	Arbor	50,0	7	9,0	6,0	22,0	–	47,0	–	40,0	1,2	89,0	98,5	16600	0,5	XO.X10..
R220.69-0052-10-5A	02969080	Arbor	52,0	5	9,0	6,0	22,0	–	47,0	–	40,0	1,2	93,0	102,5	16400	0,5	XO.X10..
R220.69-0063-10-5A	02770205	Arbor	63,0	5	9,0	6,0	27,0	–	52,0	–	40,0	0,9	115,0	124,5	14800	0,7	XO.X10..
R220.69-0063-10-8A	02770206	Arbor	63,0	8	9,0	6,0	27,0	–	52,0	–	40,0	0,9	115,0	124,5	14800	0,6	XO.X10..
R220.69-0066-10-5A	02969081	Arbor	66,0	5	9,0	6,0	27,0	–	52,0	–	40,0	0,9	121,0	130,5	14800	0,7	XO.X10..
R220.69-0080-10-8A	02770207	Arbor	80,0	8	9,0	6,0	27,0	–	62,0	–	50,0	0,5	149,0	158,5	13200	1,1	XO.X10..
R220.69-0080-10-10A	02770208	Arbor	80,0	10	9,0	6,0	27,0	–	62,0	–	50,0	0,5	149,0	158,5	13200	1,0	XO.X10..
R220.69-0100-10-12A	02770209	Arbor	100,0	12	9,0	6,0	32,0	–	77,0	–	50,0	0,5	189,0	198,5	11800	1,8	XO.X10..

Modification of the cutter body needed for radii > 2,4 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx/R217.69/R220.69-0080-0100	–	1/4HEX-T07PX50	C02506-T07P
R220.69-0032	220.17-690	1/4HEX-T07PX50	C02506-T07P
R220.69-0040-0044	MC6S8X30	1/4HEX-T07PX50	C02506-T07P
R220.69-0050-0052	220.17-692	1/4HEX-T07PX50	C02506-T07P
R220.69-0063-0066	220.17-693	1/4HEX-T07PX50	C02506-T07P

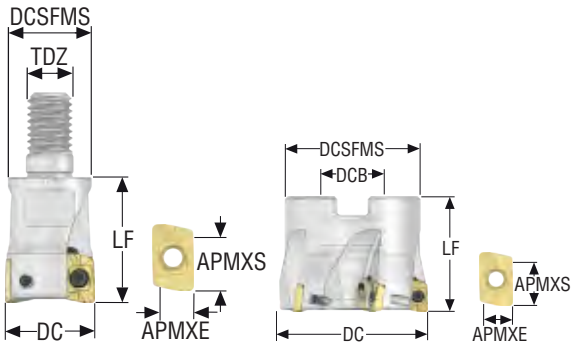
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
Cx-R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	0.9NM	T00-07P09

Torque and fixed keys, see page 872

Turbo 10 – R217/220.69-10 – Inch



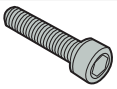
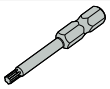


- For insert selection and cutting data recommendations, see page(s) 43-45
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-00.62-08RE-10-2A	02772627	Combimaster	0.625	2	0.354	0.236	–	M8	0.531	0.906	7.5	0.807	1.181	29400	0.220	XO.X10
R217.69-00.75-10RE-10-2A	02772635	Combimaster	0.750	2	0.354	0.236	–	M10	0.728	1.378	5.0	1.063	1.437	26300	0.440	XO.X10
R217.69-01.00-12RE-10-3A	02772703	Combimaster	1.000	3	0.354	0.236	–	M12	0.906	1.575	2.5	1.555	1.929	23500	0.440	XO.X10
R217.69-01.00-12RE-10-4A	02772705	Combimaster	1.000	4	0.354	0.236	–	M12	0.906	1.575	2.5	1.555	1.929	23500	0.440	XO.X10
R217.69-01.25-16RE-10-5A	02772725	Combimaster	1.250	5	0.354	0.236	–	M16	1.181	1.575	1.5	2.067	2.441	20800	0.440	XO.X10
R217.69-01.50-20RE-10-6A	03170244	Combimaster	1.500	6	0.354	0.236	–	M20	1.457	1.575	1.5	2.559	2.933	18600	0.880	XO.X10
R220.69-01.50-10-4A	02773432	Arbor	1.500	4	0.354	0.236	0.750	–	1.378	1.575	1.5	2.559	2.933	18600	0.440	XO.X10
R220.69-01.50-10-6A	02773433	Arbor	1.500	6	0.354	0.236	0.750	–	1.378	1.575	1.5	2.559	2.933	18600	0.660	XO.X10
R220.69-02.00-10-5A	02773434	Arbor	2.000	5	0.354	0.236	0.750	–	1.850	1.575	1.0	3.563	3.937	16600	1.100	XO.X10
R220.69-02.00-10-7A	02773435	Arbor	2.000	7	0.354	0.236	0.750	–	1.850	1.575	1.0	3.563	3.937	16600	1.100	XO.X10
R220.69-03.00-10-10A	02773438	Arbor	3.000	10	0.354	0.236	1.000	–	2.441	1.969	0.5	5.551	5.925	13200	2.430	XO.X10

Modification of the cutter body needed for radii > 0.094 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	1/4HEX-T07PX50	C02506-T07P
R220.69-01.50 - 02.00	UC6S3/8UNFX1	1/4HEX-T07PX50	C02506-T07P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T07PX50	C02506-T07P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

R217/220.69-10 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX10T308TR-ME07 F40M	4,5 *0.18*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
P2	XOMX10T308TR-ME07 F40M	4,5 *0.18*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
P3	XOMX10T308TR-ME07 MP2501	4,5 *0.18*	0,095 *0.0038*	0,11 *0.0044*	0,16 *0.0065*
P4	XOMX10T308TR-ME07 MP2501	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P5	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P6	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P7	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P8	XOMX10T308TR-M09 MP2501	4,5 *0.18*	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P11	XOMX10T308TR-M09 MP3501	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P12	XOMX10T308TR-M09 MS2500	3,5 *0.14*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
M1	XOEX10T308R-M06 F40M	4,5 *0.18*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
M2	XOEX10T308R-M06 F40M	4,5 *0.18*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M3	XOEX10T308R-M06 F40M	3,5 *0.14*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M4	XOEX10T308R-M06 MS2050	2,5 *0.10*	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
M5	XOEX10T304R-M06 MS2050	2,5 *0.10*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
K1	XOMX10T308TR-M09 MK1500	4,5 *0.18*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K2	XOMX10T308TR-M09 MK1500	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K3	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K4	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K5	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K6	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K7	XOMX10T308TR-M09 MK2050	4,5 *0.18*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
N1	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
N2	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
N3	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
N11	XOEX10T308FR-E05 H15	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,15 *0.0060*
S1	XOEX10T308R-M06 F40M	2,5 *0.10*	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
S2	XOEX10T308R-M06 F40M	2,5 *0.10*	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
S3	XOEX10T308R-M06 F40M	2,5 *0.10*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
S11	XOEX10T308R-M06 MS2050	3,0 *0.12*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
S12	XOEX10T308R-M06 MS2050	3,0 *0.12*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
S13	XOEX10T308R-M06 MS2050	2,5 *0.10*	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
H5	XOMX10T308TR-M09 MP3000	3,5 *0.14*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
H8	XOMX10T308TR-M09 MP3000	3,0 *0.12*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
H11	XOMX10T308TR-M09 MP1501	3,5 *0.14*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
H12	XOMX10T308TR-M09 MP1501	3,0 *0.12*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-10 – Cutting data v_c = (m/min)/*(sf/min)*

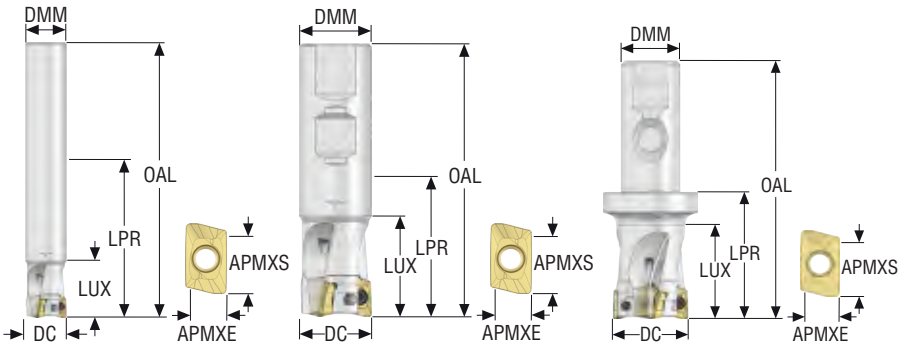
SMG	MK2050			MP3000			MS2050			F40M			MP2050			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	285 *940*	380 *1250*	445 *1450*	275 *900*	365 *1200*	425 *1400*	280 *920*	365 *1200*	435 *1425*	255 *840*	335 *1100*	395 *1300*	330 *1075*	430 *1400*	510 *1675*	— —	— —	— —
P2	280 *920*	370 *1225*	435 *1425*	270 *890*	355 *1175*	415 *1350*	270 *890*	355 *1175*	425 *1400*	250 *820*	325 *1075*	385 *1275*	320 *1050*	420 *1375*	500 *1650*	— —	— —	— —
P3	245 *800*	325 *1075*	380 *1250*	235 *770*	310 *1025*	365 *1200*	240 *790*	310 *1025*	365 *1200*	215 *710*	280 *920*	330 *1075*	280 *920*	365 *1200*	430 *1400*	— —	— —	— —
P4	215 *710*	285 *940*	335 *1100*	210 *690*	275 *900*	325 *1075*	210 *690*	275 *900*	325 *1075*	190 *620*	250 *820*	295 *970*	245 *800*	320 *1050*	385 *1275*	— —	— —	— —
P5	205 *670*	275 *900*	320 *1050*	200 *660*	260 *850*	310 *1025*	200 *660*	265 *870*	310 *1025*	180 *590*	240 *790*	285 *940*	235 *770*	310 *1025*	365 *1200*	— —	— —	— —
P6	230 *750*	305 *1000*	360 *1175*	225 *740*	295 *970*	345 *1125*	225 *740*	295 *970*	350 *1150*	205 *670*	270 *890*	315 *1025*	265 *870*	350 *1150*	410 *1350*	— —	— —	— —
P7	220 *720*	290 *950*	340 *1125*	210 *690*	280 *920*	325 *1075*	210 *690*	280 *920*	330 *1075*	195 *640*	255 *840*	300 *980*	250 *820*	330 *1075*	390 *1275*	— —	— —	— —
P8	205 *670*	275 *900*	320 *1050*	200 *660*	260 *850*	310 *1025*	200 *660*	260 *850*	305 *1000*	180 *590*	235 *770*	280 *920*	235 *770*	310 *1025*	360 *1175*	— —	— —	— —
P11	210 *690*	280 *920*	330 *1075*	205 *670*	270 *890*	315 *1025*	205 *670*	270 *890*	320 *1050*	185 *610*	250 *820*	290 *950*	240 *790*	320 *1050*	375 *1225*	— —	— —	— —
P12	140 *460*	180 *590*	215 *710*	135 *445*	175 *570*	210 *690*	135 *445*	175 *570*	205 *670*	120 *395*	160 *520*	185 *610*	155 *510*	205 *670*	240 *790*	— —	— —	— —
M1	— —	— —	— —	200 *660*	265 *870*	310 *1025*	220 *720*	285 *940*	340 *1125*	200 *660*	260 *850*	310 *1025*	230 *750*	300 *980*	355 *1175*	— —	— —	— —
M2	— —	— —	— —	165 *540*	220 *720*	260 *850*	180 *590*	240 *790*	280 *920*	165 *540*	215 *710*	255 *840*	190 *620*	250 *820*	295 *970*	— —	— —	— —
M3	— —	— —	— —	135 *445*	180 *590*	210 *690*	145 *475*	190 *620*	220 *720*	130 *425*	175 *570*	200 *660*	150 *490*	200 *660*	230 *750*	— —	— —	— —
M4	— —	— —	— —	105 *345*	140 *460*	160 *520*	115 *375*	150 *490*	175 *570*	105 *345*	135 *445*	155 *510*	120 *395*	155 *510*	180 *590*	— —	— —	— —
M5	— —	— —	— —	90 *295*	115 *375*	135 *445*	95 *310*	125 *410*	145 *475*	85 *280*	110 *360*	130 *425*	100 *330*	130 *425*	150 *490*	— —	— —	— —
K1	300 *980*	400 *1300*	465 *1525*	210 *690*	280 *920*	330 *1075*	— —	— —	— —	195 *640*	255 *840*	305 *1000*	— —	— —	— —	— —	— —	— —
K2	265 *870*	355 *1175*	415 *1350*	190 *620*	250 *820*	295 *970*	— —	— —	— —	175 *570*	230 *750*	270 *890*	— —	— —	— —	— —	— —	— —
K3	225 *740*	300 *980*	350 *1150*	160 *520*	210 *690*	250 *820*	— —	— —	— —	145 *475*	195 *640*	225 *740*	— —	— —	— —	— —	— —	— —
K4	215 *710*	285 *940*	335 *1100*	150 *490*	200 *660*	235 *770*	— —	— —	— —	140 *460*	185 *610*	215 *710*	— —	— —	— —	— —	— —	— —
K5	130 *425*	175 *570*	205 *670*	95 *310*	120 *395*	145 *475*	— —	— —	— —	85 *280*	110 *360*	130 *425*	— —	— —	— —	— —	— —	— —
K6	190 *620*	250 *820*	295 *970*	135 *445*	175 *570*	210 *690*	— —	— —	— —	125 *410*	160 *520*	190 *620*	— —	— —	— —	— —	— —	— —
K7	170 *560*	220 *720*	260 *850*	120 *395*	155 *510*	185 *610*	— —	— —	— —	110 *360*	140 *460*	170 *560*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1450 *4750*	1925 *6325*	2275 *7475*	— —	— —	— —	1525 *5000*	2000 *6550*	2350 *7700*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	590 *1925*	770 *2525*	920 *3025*	— —	— —	— —	610 *2000*	800 *2625*	950 *3125*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	390 *1275*	520 *1700*	610 *2000*	— —	— —	— —	410 *1350*	540 *1775*	630 *2075*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	445 *1450*	590 *1925*	700 *2300*	— —	— —	— —	470 *1550*	610 *2000*	720 *2350*
S1	— —	— —	— —	50 *165*	65 *215*	75 *245*	55 *180*	70 *230*	80 *260*	49 *160*	65 *215*	75 *245*	60 *195*	75 *245*	90 *295*	— —	— —	— —
S2	— —	— —	— —	40 *130*	50 *165*	60 *195*	43 *140*	55 *180*	65 *215*	39 *130*	50 *165*	60 *195*	47 *155*	60 *195*	70 *230*	— —	— —	— —
S3	— —	— —	— —	35 *115*	46 *150*	55 *180*	37 *120*	49 *160*	55 *180*	34 *110*	44 *145*	50 *165*	41 *135*	55 *180*	60 *195*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	75 *245*	95 *310*	110 *360*	65 *215*	90 *295*	100 *330*	80 *260*	105 *345*	125 *410*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	50 *165*	65 *215*	75 *245*	46 *150*	60 *195*	70 *230*	55 *180*	75 *245*	85 *280*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	30 *100*	39 *130*	45 *150*	27 *90*	35 *115*	41 *135*	33 *110*	43 *140*	50 *165*	— —	— —	— —
H5	— —	— —	— —	42 *140*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	44 *145*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	— —	— —	60 *195*	80 *260*	90 *295*	— —	— —	— —
H12	— —	— —	— —	85 *280*	110 *360*	130 *425*	— —	— —	— —	— —	— —	— —	100 *330*	130 *425*	150 *490*	— —	— —	— —

R217/220.69-10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	420	510	580	410	510	570	315	420	490	370	455	510	180	235	275
	—	—	—	*1375*	*1675*	*1900*	*1350*	*1675*	*1875*	*1025*	*1375*	*1600*	*1225*	*1500*	*1675*	*590*	*770*	*900*
P2	—	—	—	410	500	560	400	495	550	310	410	480	360	445	495	175	230	270
	—	—	—	*1350*	*1650*	*1825*	*1300*	*1625*	*1800*	*1025*	*1350*	*1575*	*1175*	*1450*	*1625*	*570*	*750*	*890*
P3	—	—	—	360	440	490	355	430	485	270	360	425	315	390	435	155	200	240
	—	—	—	*1175*	*1450*	*1600*	*1175*	*1400*	*1600*	*890*	*1175*	*1400*	*1025*	*1275*	*1425*	*510*	*660*	*790*
P4	—	—	—	315	385	430	310	380	425	240	315	370	280	340	385	135	180	210
	—	—	—	*1025*	*1275*	*1400*	*1025*	*1250*	*1400*	*790*	*1025*	*1225*	*920*	*1125*	*1275*	*445*	*590*	*690*
P5	—	—	—	300	370	415	295	365	410	230	300	355	265	325	365	130	170	200
	—	—	—	*980*	*1225*	*1350*	*970*	*1200*	*1350*	*750*	*980*	*1175*	*870*	*1075*	*1200*	*425*	*560*	*660*
P6	—	—	—	340	415	465	335	410	460	255	340	400	300	365	410	145	190	225
	—	—	—	*1125*	*1350*	*1525*	*1100*	*1350*	*1500*	*840*	*1125*	*1300*	*980*	*1200*	*1350*	*475*	*620*	*740*
P7	—	—	—	320	390	435	315	385	430	240	320	375	280	345	390	135	180	210
	—	—	—	*1050*	*1275*	*1425*	*1025*	*1275*	*1400*	*790*	*1050*	*1225*	*920*	*1125*	*1275*	*445*	*590*	*690*
P8	—	—	—	300	370	415	295	365	410	230	300	355	265	325	365	130	170	200
	—	—	—	*980*	*1225*	*1350*	*970*	*1200*	*1350*	*750*	*980*	*1175*	*870*	*1075*	*1200*	*425*	*560*	*660*
P11	—	—	—	310	380	425	305	375	420	235	310	365	275	335	380	130	175	205
	—	—	—	*1025*	*1250*	*1400*	*1000*	*1225*	*1375*	*770*	*1025*	*1200*	*900*	*1100*	*1250*	*425*	*570*	*670*
P12	—	—	—	200	240	265	195	235	260	155	200	240	180	210	235	85	115	135
	—	—	—	*660*	*790*	*870*	*640*	*770*	*850*	*510*	*660*	*790*	*590*	*690*	*770*	*280*	*375*	*445*
M1	—	—	—	—	—	—	205	270	315	220	295	345	190	250	295	150	200	230
	—	—	—	—	—	—	*670*	*890*	*1025*	*720*	*970*	*1125*	*620*	*820*	*970*	*490*	*660*	*750*
M2	—	—	—	—	—	—	170	225	260	185	240	285	155	210	245	125	165	190
	—	—	—	—	—	—	*560*	*740*	*850*	*610*	*790*	*940*	*510*	*690*	*800*	*410*	*540*	*620*
M3	—	—	—	—	—	—	140	180	210	150	195	230	130	170	195	100	135	155
	—	—	—	—	—	—	*460*	*590*	*690*	*490*	*640*	*750*	*425*	*560*	*640*	*330*	*445*	*510*
M4	—	—	—	—	—	—	110	140	165	115	155	175	100	130	150	80	105	120
	—	—	—	—	—	—	*360*	*460*	*540*	*375*	*510*	*570*	*330*	*425*	*490*	*260*	*345*	*395*
M5	—	—	—	—	—	—	90	120	135	100	130	150	85	110	125	65	85	100
	—	—	—	—	—	—	*295*	*395*	*445*	*330*	*425*	*490*	*280*	*360*	*410*	*215*	*280*	*330*
K1	320	420	495	410	510	570	405	500	560	245	325	380	365	450	500	—	—	—
	1050	*1375*	*1625*	*1350*	*1675*	*1875*	*1325*	*1650*	*1825*	*800*	*1075*	*1250*	*1200*	*1475*	*1650*	—	—	—
K2	280	370	440	365	445	500	360	440	495	215	285	335	320	395	445	—	—	—
	920	*1225*	*1450*	*1200*	*1450*	*1650*	*1175*	*1450*	*1625*	*710*	*940*	*1100*	*1050*	*1300*	*1450*	—	—	—
K3	240	315	370	310	375	420	305	370	415	185	245	285	270	335	375	—	—	—
	790	*1025*	*1225*	*1025*	*1225*	*1375*	*1000*	*1225*	*1350*	*610*	*800*	*940*	*890*	*1100*	*1225*	—	—	—
K4	225	300	355	295	360	405	290	355	400	175	230	270	260	320	360	—	—	—
	740	*980*	*1175*	*970*	*1175*	*1325*	*950*	*1175*	*1300*	*570*	*750*	*890*	*850*	*1050*	*1175*	—	—	—
K5	140	185	215	180	215	245	175	215	240	105	140	165	160	195	220	—	—	—
	460	*610*	*710*	*590*	*710*	*800*	*570*	*710*	*790*	*345*	*460*	*540*	*520*	*640*	*720*	—	—	—
K6	200	265	310	260	315	355	255	315	350	155	205	240	230	280	315	—	—	—
	660	*870*	*1025*	*850*	*1025*	*1175*	*840*	*1025*	*1150*	*510*	*670*	*790*	*750*	*920*	*1025*	—	—	—
K7	175	235	275	230	280	310	225	275	310	135	180	215	205	245	280	—	—	—
	570	*770*	*900*	*750*	*920*	*1025*	*740*	*900*	*1025*	*445*	*590*	*710*	*670*	*800*	*920*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	75	85	47	60	70	24	32	37
	—	—	—	—	—	—	—	—	—	*180*	*245*	*280*	*155*	*195*	*230*	*80*	*105*	*120*
S2	—	—	—	—	—	—	—	—	—	46	60	70	38	50	55	19	25	29
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*125*	*165*	*180*	*60*	*80*	*95*
S3	—	—	—	—	—	—	—	—	—	40	55	60	33	43	50	17	22	26
	—	—	—	—	—	—	—	—	—	*130*	*180*	*195*	*110*	*140*	*165*	*55*	*70*	*85*
S11	—	—	—	—	—	—	—	—	—	80	105	120	65	85	100	34	44	50
	—	—	—	—	—	—	—	—	—	*260*	*345*	*395*	*215*	*280*	*330*	*110*	*145*	*165*
S12	—	—	—	—	—	—	—	—	—	55	75	85	45	60	70	31	41	47
	—	—	—	—	—	—	—	—	—	*180*	*245*	*280*	*150*	*195*	*230*	*100*	*135*	*155*
S13	—	—	—	—	—	—	—	—	—	32	42	49	26	35	40	18	24	27
	—	—	—	—	—	—	—	—	—	*105*	*140*	*160*	*85*	*115*	*130*	*60*	*80*	*90*
H5	—	—	—	55	70	80	—	—	—	47	60	70	41	55	65	—	—	—
	—	—	—	*180*	*230*	*260*	—	—	—	*155*	*195*	*230*	*135*	*180*	*215*	—	—	—
H8	—	—	—	55	75	85	—	—	—	49	65	75	44	55	65	—	—	—
	—	—	—	*180*	*245*	*280*	—	—	—	*160*	*215*	*245*	*145*	*180*	*215*	—	—	—
H11	—	—	—	70	90	105	—	—	—	60	75	90	50	70	80	—	—	—
	—	—	—	*230*	*295*	*345*	—	—	—	*195*	*245*	*295*	*165*	*230*	*260*	—	—	—
H12	—	—	—	100	130	155	—	—	—	100	130	150	80	100	120	—	—	—
	—	—	—	*330*	*425*	*510*	—	—	—	*330*	*425*	*490*	*260*	*330*	*395*	—	—	—

Turbo 12 – R217.69-12 – Metric



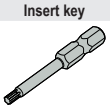


- For insert selection and cutting data recommendations, see page(s) 53-55
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-1820.0-12-2AN	02676791	Cylindrical	20,0	2	11,0	7,0	18,0	100,0	100,0	150,0	8,0	27,5	38,0	23200	0,3	XO.X12..
R217.69-2020.0-12-2AN	02676793	Cylindrical	20,0	2	11,0	7,0	20,0	30,0	100,0	150,0	8,0	27,5	38,0	23200	0,4	XO.X12..
R217.69-2225.0-12-2AN	02676794	Cylindrical	25,0	2	11,0	7,0	22,0	114,0	114,0	170,0	5,0	37,5	48,0	20800	0,5	XO.X12..
R217.69-2525.0-12-2AN	02676795	Cylindrical	25,0	2	11,0	7,0	25,0	35,0	114,0	170,0	5,0	37,5	48,0	20800	0,6	XO.X12..
R217.69-2525.0-12-3AN	02676800	Cylindrical	25,0	3	11,0	7,0	25,0	35,0	114,0	170,0	5,0	37,5	48,0	20800	0,6	XO.X12..
R217.69-3032.0-12-3AN	02676801	Cylindrical	32,0	3	11,0	7,0	30,0	135,0	135,0	195,0	3,0	51,5	62,0	18400	1,0	XO.X12..
R217.69-3232.0-12-3AN	02676802	Cylindrical	32,0	3	11,0	7,0	32,0	40,0	135,0	195,0	3,0	51,5	62,0	18400	1,1	XO.X12..
R217.69-3232.0-12-4AN	02676803	Cylindrical	32,0	4	11,0	7,0	32,0	40,0	135,0	195,0	3,0	51,5	62,0	18400	1,1	XO.X12..
R217.69-2020.3-12-2AN	02676817	Weldon	20,0	2	11,0	7,0	20,0	30,0	35,0	85,0	8,0	27,5	38,0	23200	0,2	XO.X12..
R217.69-2525.3-12-3AN	02676819	Weldon	25,0	3	11,0	7,0	25,0	32,0	39,0	95,0	5,0	37,5	48,0	20800	0,3	XO.X12..
R217.69-3232.3-12-3AN	02676820	Weldon	32,0	3	11,0	7,0	32,0	37,0	45,0	105,0	3,0	51,5	62,0	18400	0,6	XO.X12..
R217.69-3232.3-12-4AN	02676823	Weldon	32,0	4	11,0	7,0	32,0	37,0	45,0	105,0	3,0	51,5	62,0	18400	0,6	XO.X12..
R217.69-2025.3S-12-3AN	02676812	Seco-Weldon	25,0	3	11,0	7,0	20,0	36,0	50,0	100,0	5,0	37,5	48,0	20800	0,3	XO.X12..
R217.69-2532.3S-12-4AN	02676814	Seco-Weldon	32,0	4	11,0	7,0	25,0	40,0	54,0	110,0	3,0	51,5	62,0	18400	0,5	XO.X12..
R217.69-3240.3S-12-5AN	02676815	Seco-Weldon	40,0	5	11,0	7,0	32,0	46,0	60,0	120,0	2,5	67,5	78,0	16400	0,9	XO.X12..

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

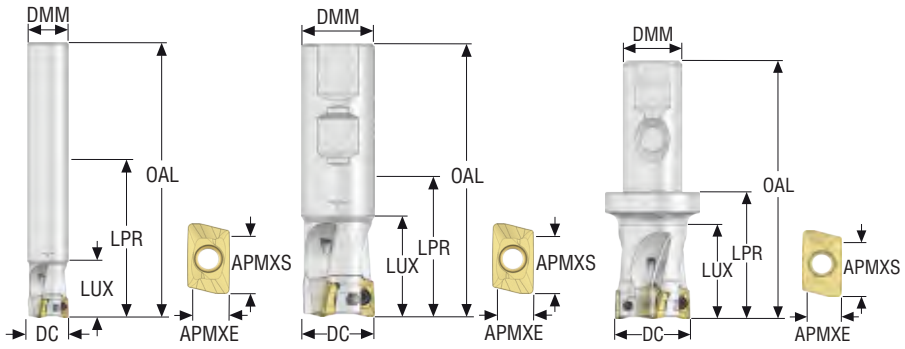
For cutter	Insert key	Insert screw
		
R217.69-.. Ø20-25	1/4HEX-T10PX50	C03507-T10P
R217.69-.. Ø32	1/4HEX-T10PX50	C03508-T10P
R217.69-.. Ø40	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.0NM	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217.69-12 – inch



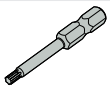


- For insert selection and cutting data recommendations, see page(s) 53-55
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-00.75-0-12-2AN	02688842	Cylindrical	0.750	2	0.433	0.276	0.750	1.181	3.937	5.906	8,0	1.004	1.417	23200	0.880	XO.X12
R217.69-00.87-0-12-2AN	02688849	Cylindrical	0.875	2	0.433	0.276	0.750	3.937	3.937	5.906	6,0	1.240	1.654	22000	0.880	XO.X12
R217.69-01.00-0-12-2AN	02688853	Cylindrical	1.000	2	0.433	0.276	1.000	1.378	4.488	6.693	5,0	1.476	1.890	20800	1.540	XO.X12
R217.69-01.00-0-12-3AN	02688854	Cylindrical	1.000	3	0.433	0.276	1.000	1.378	4.488	6.693	5,0	1.476	1.890	20800	1.320	XO.X12
R217.69-01.25-0-12-3AN	02688855	Cylindrical	1.250	3	0.433	0.276	1.250	1.575	5.315	7.677	3,0	1.988	2.421	18400	2.430	XO.X12
R217.69-00.75-3-12-2AN	02688950	Weldon	0.750	2	0.433	0.276	0.750	1.170	1.417	3.378	8,0	1.004	1.417	23200	0.440	XO.X12
R217.69-00.87-3-12-2AN	02688951	Weldon	0.875	2	0.433	0.276	0.750	1.409	1.409	3.378	6,0	1.240	1.654	22000	0.440	XO.X12
R217.69-01.00-3-12-3AN	02688954	Weldon	1.000	3	0.433	0.276	1.000	1.575	1.795	4.000	5,0	1.496	1.909	20800	0.880	XO.X12
R217.69-01.25-3-12-3AN	02688957	Weldon	1.250	3	0.433	0.276	1.250	1.339	1.890	4.252	3,0	2.008	2.421	18400	1.320	XO.X12
R217.69-01.25-3-12-4AN	02688960	Weldon	1.250	4	0.433	0.276	1.250	1.339	1.890	4.252	3,0	2.008	2.421	18400	1.320	XO.X12
R217.69-01.00-3S-12-3AN	02688974	Seco-Weldon	1.000	3	0.433	0.276	0.750	1.480	2.031	4.000	5,0	1.496	1.909	20800	0.660	XO.X12
R217.69-01.25-3S-12-4AN	02688976	Seco-Weldon	1.250	4	0.433	0.276	1.000	1.260	1.811	4.252	3,0	2.008	2.421	18400	1.100	XO.X12
R217.69-01.50-3S-12-5AN	02688996	Seco-Weldon	1.500	5	0.433	0.276	1.250	1.787	2.339	4.780	2,5	2.500	2.913	16400	1.760	XO.X12

Modification of the cutter body needed for radii > 0.094 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T10PX50	C03507-T10P

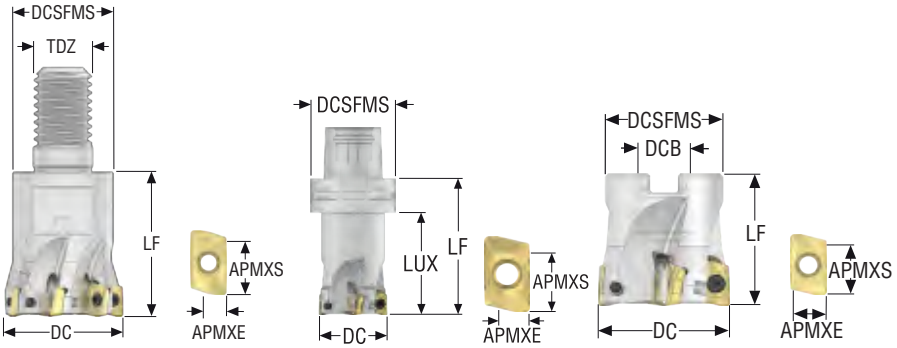
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217/220.69-12 – Metric



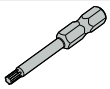


- For insert selection and cutting data recommendations, see page(s) 53-55
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LUX	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.69-1020.RE-12-2AN	02676828	Combimaster	20,0	2	11,0	7,0	–	M10	18,0	–	28,0	8,0	27,5	38,0	23200	0,1	XO.X12..
R217.69-1225.RE-12-3AN	02676833	Combimaster	25,0	3	11,0	7,0	–	M12	23,0	–	30,0	5,0	37,5	48,0	20800	0,1	XO.X12..
R217.69-1632.RE-12-3AN	02676838	Combimaster	32,0	3	11,0	7,0	–	M16	30,0	–	40,0	3,0	51,5	62,0	18400	0,2	XO.X12..
R217.69-1632.RE-12-4AN	02676839	Combimaster	32,0	4	11,0	7,0	–	M16	30,0	–	40,0	3,0	51,5	62,0	18400	0,2	XO.X12..
R217.69-1640.RE-12-4AN	02676840	Combimaster	40,0	4	11,0	7,0	–	M16	30,0	–	40,0	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-1640.RE-12-5AN	02676845	Combimaster	40,0	5	11,0	7,0	–	M16	30,0	–	40,0	2,5	67,5	78,0	16400	0,3	XO.X12..
R217.69-2040.RE-12-4AN	02972700	Combimaster	40,0	4	11,0	7,0	–	M20	36,5	–	40,0	2,5	67,5	78,0	16400	0,4	XO.X12..
R217.69-2040.RE-12-5AN	02972704	Combimaster	40,0	5	11,0	7,0	–	M20	36,5	–	40,0	2,5	67,5	78,0	16400	0,4	XO.X12..
C5-R217.69-040-12-4AN	02677616	Seco-Capto	40,0	4	11,0	7,0	–	–	50,0	57,0	80,0	2,5	67,5	78,0	16400	0,9	XO.X12..
C5-R217.69-054-12-5AN	02677619	Seco-Capto	54,0	5	11,0	7,0	–	–	50,0	60,0	60,0	1,7	95,5	106,0	14200	1,0	XO.X12..
R220.69-0032-12-3AN	02841296	Arbor	32,0	3	11,0	7,0	16,0	–	30,0	–	35,0	3,0	51,5	62,0	18400	0,2	XO.X12..
R220.69-0032-12-4AN	02841297	Arbor	32,0	4	11,0	7,0	16,0	–	30,0	–	35,0	3,0	51,5	62,0	18400	0,2	XO.X12..
R220.69-0040-12-4AN	02677566	Arbor	40,0	4	11,0	7,0	16,0	–	35,0	–	40,0	2,5	67,5	78,0	16400	0,3	XO.X12..
R220.69-0040-12-5AN	02677570	Arbor	40,0	5	11,0	7,0	16,0	–	35,0	–	40,0	2,5	67,5	78,0	16400	0,3	XO.X12..
R220.69-0044-12-4AN	02969083	Arbor	44,0	4	11,0	7,0	16,0	–	36,0	–	40,0	2,2	75,5	86,0	15600	0,3	XO.X12..
R220.69-0050-12-5AN	02677572	Arbor	50,0	5	11,0	7,0	22,0	–	47,0	–	40,0	2,0	87,5	98,0	14800	0,4	XO.X12..
R220.69-0050-12-7AN	02677573	Arbor	50,0	7	11,0	7,0	22,0	–	47,0	–	40,0	2,0	87,5	98,0	14800	0,4	XO.X12..
R220.69-0052-12-5AN	02497527	Arbor	52,0	5	11,0	7,0	22,0	–	47,0	–	40,0	1,7	91,5	102,0	14200	0,5	XO.X12..
R220.69-0063-12-6AN	02677576	Arbor	63,0	6	11,0	7,0	27,0	–	52,0	–	40,0	1,5	113,5	124,0	13200	0,6	XO.X12..
R220.69-0063-12-8AN	02677578	Arbor	63,0	8	11,0	7,0	27,0	–	52,0	–	40,0	1,5	113,5	124,0	13200	0,6	XO.X12..
R220.69-0066-12-6AN	02969085	Arbor	66,0	6	11,0	7,0	27,0	–	52,0	–	40,0	1,5	119,5	130,0	13200	0,6	XO.X12..
R220.69-0080-12-7AN	02677608	Arbor	80,0	7	11,0	7,0	27,0	–	62,0	–	50,0	1,0	147,5	158,0	11600	1,1	XO.X12..
R220.69-0080-12-10AN	02677581	Arbor	80,0	10	11,0	7,0	27,0	–	62,0	–	50,0	1,0	147,5	158,0	11600	1,1	XO.X12..
R220.69-0084-12-7AN	02969086	Arbor	84,0	7	11,0	7,0	27,0	–	62,0	–	50,0	1,0	155,5	166,0	11300	1,3	XO.X12..
R220.69-0100-12-8AN	02677610	Arbor	100,0	8	11,0	7,0	32,0	–	77,0	–	50,0	0,5	187,5	198,0	10400	1,8	XO.X12..
R220.69-0100-12-12AN	02677609	Arbor	100,0	12	11,0	7,0	32,0	–	77,0	–	50,0	0,5	187,5	198,0	10400	1,7	XO.X12..
R220.69-0125-12-10AN	02677611	Arbor	125,0	10	11,0	7,0	40,0	–	90,0	–	63,0	0,5	237,5	248,0	9200	3,2	XO.X12..
R220.69-0125-12-14AN	02677613	Arbor	125,0	14	11,0	7,0	40,0	–	90,0	–	63,0	0,5	237,5	248,0	9200	3,0	XO.X12..

Modification of the cutter body needed for radii > 2,4 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-.. Ø20-25	–	1/4HEX-T10PX50	C03507-T10P
R217.69- Ø32	–	1/4HEX-T10PX50	C03508-T10P
R217.69- Ø40	–	1/4HEX-T10PX50	C03509-T10P
C5-R217.69-..	–	1/4HEX-T10PX50	C03509-T10P
R220.69-0032	220.17-690	1/4HEX-T10PX50	C03507-T10P
R220.69-0040-0044	MC6S8X30	1/4HEX-T10PX50	C03509-T10P
R220.69-0050-0052	220.17-692	1/4HEX-T10PX50	C03509-T10P
R220.69-0063-0066	220.17-693	1/4HEX-T10PX50	C03509-T10P
R220.69-0080-0084	–	1/4HEX-T10PX50	C03509-T10P
R220.69-0100-0125	–	1/4HEX-T10PX90	C03509-T10P

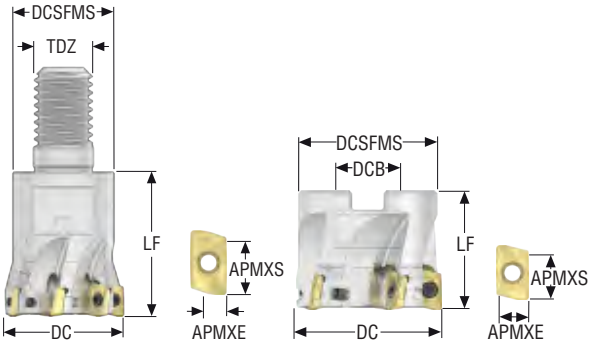
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.0NM	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217/220.69-12 – inch



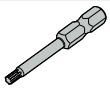


- For insert selection and cutting data recommendations, see page(s) 53-55
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-00.75-10RE-12-2AN	02689794	Combimaster	0.750	2	0.433	0.276	–	M10	0.709	1.378	8.0	1.004	1.417	23200	0.440	XO.X12
R217.69-01.00-12RE-12-3AN	02689797	Combimaster	1.000	3	0.433	0.276	–	M12	0.906	1.575	5.0	1.496	1.909	20800	0.440	XO.X12
R217.69-01.25-16RE-12-3AN	02689799	Combimaster	1.250	3	0.433	0.276	–	M16	1.181	1.575	3.0	2.008	2.421	18400	0.660	XO.X12
R217.69-01.25-16RE-12-4AN	02689801	Combimaster	1.250	4	0.433	0.276	–	M16	1.181	1.575	3.0	2.008	2.421	18400	0.660	XO.X12
R217.69-01.50-16RE-12-4AN	02689802	Combimaster	1.500	4	0.433	0.276	–	M16	1.181	1.575	2.5	2.500	2.913	16400	0.880	XO.X12
R217.69-01.50-16RE-12-5AN	02689805	Combimaster	1.500	5	0.433	0.276	–	M16	1.181	1.575	2.5	2.500	2.913	16400	0.660	XO.X12
R220.69-01.50-12-4AN	02689808	Arbor	1.500	4	0.433	0.276	0.750	–	1.378	1.575	2.5	2.500	2.913	16400	0.660	XO.X12
R220.69-01.50-12-5AN	02689809	Arbor	1.500	5	0.433	0.276	0.750	–	1.378	1.575	2.5	2.500	2.913	16400	0.660	XO.X12
R220.69-02.00-12-4AN	02689812	Arbor	2.000	4	0.433	0.276	0.750	–	1.850	1.575	2.0	3.504	3.917	14800	1.100	XO.X12
R220.69-02.00-12-5AN	02689813	Arbor	2.000	5	0.433	0.276	0.750	–	1.850	1.575	2.0	3.504	3.917	14800	1.100	XO.X12
R220.69-02.00-12-7AN	02689815	Arbor	2.000	7	0.433	0.276	0.750	–	1.850	1.575	2.0	3.504	3.917	14800	1.100	XO.X12
R220.69-02.50-12-4AN	02689816	Arbor	2.500	4	0.433	0.276	0.750	–	1.850	1.575	1.5	4.508	4.921	13200	1.320	XO.X12
R220.69-02.50-12-6AN	02689817	Arbor	2.500	6	0.433	0.276	0.750	–	1.850	1.575	1.5	4.508	4.921	13200	1.320	XO.X12
R220.69-03.00-12-4AN	02689820	Arbor	3.000	4	0.433	0.276	1.000	–	2.441	2.000	1.0	5.492	5.906	11600	2.200	XO.X12
R220.69-03.00-12-7AN	02689822	Arbor	3.000	7	0.433	0.276	1.000	–	2.441	2.000	1.0	5.492	5.906	11600	2.650	XO.X12
R220.69-03.00-12-10AN	02689821	Arbor	3.000	10	0.433	0.276	1.000	–	2.441	2.000	1.0	5.492	5.906	11600	2.650	XO.X12
R220.69-04.00-12-5AN	02689824	Arbor	4.000	5	0.433	0.276	1.500	–	3.543	2.000	0.5	7.500	7.913	10400	4.850	XO.X12
R220.69-04.00-12-8AN	02689826	Arbor	4.000	8	0.433	0.276	1.500	–	3.543	2.000	0.5	7.500	7.913	10400	5.070	XO.X12
R220.69-04.00-12-12AN	02689825	Arbor	4.000	12	0.433	0.276	1.500	–	3.543	2.000	0.5	7.500	7.913	10400	5.070	XO.X12

Modification of the cutter body needed for radii > 0.094 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-00.75 - 01.25	–	1/4HEX-T10PX50	C03507-T10P
R217.69- 01.50	–	1/4HEX-T10PX50	C03509-T10P
R220.69-01.50	220.17-698	1/4HEX-T10PX50	C03509-T10P
R220.69-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T10PX50	C03509-T10P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T10PX50	C03509-T10P
R220.69-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T10PX90	C03509-T10P

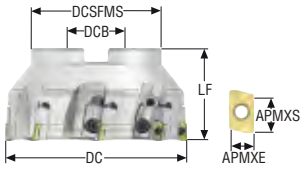
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217/220.69-12 – Metric



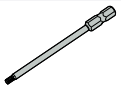


- For insert selection and cutting data recommendations, see page(s) 53-55
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

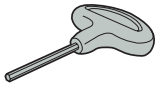
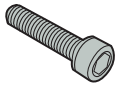
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-12-8CN	02706936	Arbor	125,0	8	11,0	7,0	40,0	90,0	63,0	0,5	237,5	248,0	9200	3,1	XO.X12..
R220.69-8160-12-10CN	02706940	Arbor	160,0	10	11,0	7,0	40,0	90,0	63,0	0,3	307,5	318,0	8200	5,3	XO.X12..
R220.69-8200-12-12CN	02706943	Arbor	200,0	12	11,0	7,0	60,0	130,0	63,0	0,3	387,5	398,0	7300	7,4	XO.X12..
R220.69-8250-12-16CN	02706945	Arbor	250,0	16	11,0	7,0	60,0	130,0	63,0	0,2	487,5	498,0	6500	14,8	XO.X12..

Modification of the cutter body needed for radii > 2,4 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.69-0125-8250	AU1114T-T15P	XO12PRN	FS96018	1/4HEX-T10PX90	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Insert clamping torque	Torque key
					
R220.69-0125	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	–	3.0NM	T00-10P30
R220.69-8160	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	3.0NM	T00-10P30
R220.69-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217/220.69-12 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX120408TR-ME08 F40M	5,0 *0.20*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P2	XOMX120408TR-ME08 F40M	5,0 *0.20*	0,12 *0.0048*	0,13 *0.0050*	0,19 *0.0075*
P3	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P4	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
P5	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P6	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P7	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P8	XOMX120408TR-M12 MP2501	5,0 *0.20*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P11	XOMX120408TR-M12 MP3501	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P12	XOMX120408TR-M12 MP3000	4,5 *0.18*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
M1	XOEX120408R-M07 F40M	5,0 *0.20*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
M2	XOEX120408R-M07 F40M	5,0 *0.20*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
M3	XOEX120408R-M07 F40M	4,5 *0.18*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
M4	XOEX120408R-M07 MS2050	3,0 *0.12*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
M5	XOEX120408R-M07 MS2050	3,0 *0.12*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
K1	XOMX120408TR-M12 MK1500	5,0 *0.20*	0,17 *0.0065*	0,19 *0.0075*	0,30 *0.012*
K2	XOMX120408TR-M12 MK1500	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K3	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K4	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K5	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
K6	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K7	XOMX120408TR-M12 MK2050	5,0 *0.20*	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
N1	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N2	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N3	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N11	XOEX120408FR-E06 H15	5,0 *0.20*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
S1	XOEX120408R-M07 F40M	3,0 *0.12*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
S2	XOEX120408R-M07 F40M	3,0 *0.12*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
S3	XOEX120408R-M07 F40M	3,0 *0.12*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
S11	XOEX120408R-M07 MS2050	4,0 *0.16*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S12	XOEX120408R-M07 MS2050	4,0 *0.16*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S13	XOEX120408R-M07 MS2050	3,0 *0.12*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
H5	XOMX120408TR-M12 MP3000	4,5 *0.18*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
H8	XOMX120408TR-M12 MP3000	4,0 *0.16*	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
H11	XOMX120408TR-MD13 MP1501	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
H12	XOMX120408TR-MD13 MP1501	4,0 *0.16*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-12 – Cutting data v_c = (m/min)/*(sf/min)*

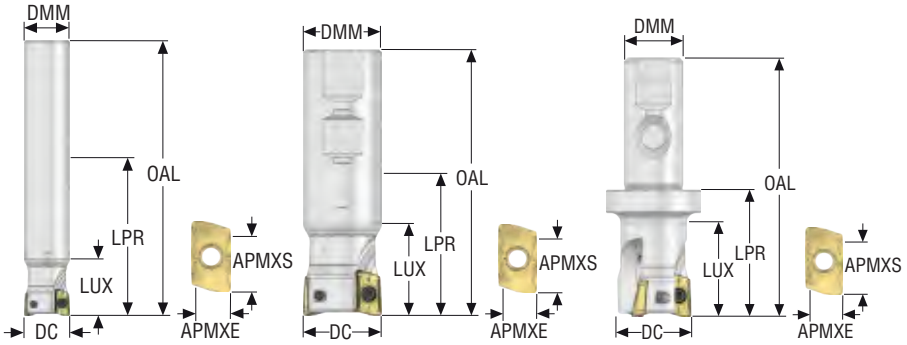
SMG	MK2050			MP3000			MS2050			F40M			MP2050			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	260 *850*	340 *1125*	405 *1325*	250 *820*	325 *1075*	390 *1275*	255 *840*	335 *1100*	395 *1300*	230 *750*	305 *1000*	355 *1175*	300 *980*	395 *1300*	465 *1525*	— —	— —	— —
P2	255 *840*	330 *1075*	395 *1300*	245 *800*	320 *1050*	380 *1250*	245 *800*	325 *1075*	380 *1250*	225 *740*	300 *980*	350 *1150*	290 *950*	385 *1275*	450 *1475*	— —	— —	— —
P3	220 *720*	290 *950*	340 *1125*	215 *710*	280 *920*	325 *1075*	220 *720*	285 *940*	335 *1100*	200 *660*	260 *850*	305 *1000*	255 *840*	340 *1125*	400 *1300*	— —	— —	— —
P4	195 *640*	255 *840*	305 *1000*	185 *610*	245 *800*	295 *970*	190 *620*	255 *840*	295 *970*	175 *570*	230 *750*	270 *890*	225 *740*	300 *980*	350 *1150*	— —	— —	— —
P5	185 *610*	250 *820*	290 *950*	180 *590*	240 *790*	280 *920*	185 *610*	240 *790*	285 *940*	165 *540*	220 *720*	260 *850*	215 *710*	285 *940*	335 *1100*	— —	— —	— —
P6	210 *690*	280 *920*	325 *1075*	200 *660*	265 *870*	315 *1025*	205 *670*	270 *890*	325 *1075*	185 *610*	245 *800*	295 *970*	240 *790*	320 *1050*	380 *1250*	— —	— —	— —
P7	195 *640*	260 *850*	310 *1025*	190 *620*	250 *820*	295 *970*	195 *640*	255 *840*	305 *1000*	175 *570*	235 *770*	275 *900*	230 *750*	300 *980*	360 *1175*	— —	— —	— —
P8	185 *610*	245 *800*	285 *940*	180 *590*	235 *770*	275 *900*	185 *610*	240 *790*	285 *940*	165 *540*	220 *720*	260 *850*	215 *710*	285 *940*	335 *1100*	— —	— —	— —
P11	190 *620*	255 *840*	300 *980*	185 *610*	245 *800*	290 *950*	190 *620*	250 *820*	295 *970*	170 *560*	225 *740*	270 *890*	220 *720*	295 *970*	350 *1150*	— —	— —	— —
P12	125 *410*	165 *540*	195 *640*	120 *395*	160 *520*	190 *620*	125 *410*	160 *520*	190 *620*	115 *375*	145 *475*	175 *570*	145 *475*	190 *620*	225 *740*	— —	— —	— —
M1	— —	— —	— —	180 *590*	240 *790*	285 *940*	200 *660*	265 *870*	310 *1025*	180 *590*	240 *790*	280 *920*	210 *690*	275 *900*	325 *1075*	— —	— —	— —
M2	— —	— —	— —	150 *490*	200 *660*	235 *770*	165 *540*	215 *710*	255 *840*	150 *490*	200 *660*	230 *750*	170 *560*	230 *750*	265 *870*	— —	— —	— —
M3	— —	— —	— —	120 *395*	160 *520*	190 *620*	135 *445*	180 *590*	205 *670*	120 *395*	160 *520*	185 *610*	140 *460*	185 *610*	215 *710*	— —	— —	— —
M4	— —	— —	— —	95 *310*	125 *410*	150 *490*	105 *345*	135 *445*	160 *520*	95 *310*	125 *410*	145 *475*	110 *360*	145 *475*	165 *540*	— —	— —	— —
M5	— —	— —	— —	80 *260*	105 *345*	125 *410*	90 *295*	115 *375*	135 *445*	80 *260*	105 *345*	120 *395*	90 *295*	120 *395*	140 *460*	— —	— —	— —
K1	270 *890*	355 *1175*	425 *1400*	190 *620*	250 *820*	300 *980*	— —	— —	— —	180 *590*	235 *770*	275 *900*	— —	— —	— —	— —	— —	— —
K2	240 *790*	320 *1050*	375 *1225*	170 *560*	225 *740*	265 *870*	— —	— —	— —	160 *520*	210 *690*	245 *800*	— —	— —	— —	— —	— —	— —
K3	205 *670*	270 *890*	320 *1050*	145 *475*	190 *620*	225 *740*	— —	— —	— —	135 *445*	175 *570*	205 *670*	— —	— —	— —	— —	— —	— —
K4	195 *640*	260 *850*	305 *1000*	135 *445*	185 *610*	215 *710*	— —	— —	— —	130 *425*	170 *560*	200 *660*	— —	— —	— —	— —	— —	— —
K5	120 *395*	160 *520*	185 *610*	85 *280*	115 *375*	130 *425*	— —	— —	— —	80 *260*	100 *330*	120 *395*	— —	— —	— —	— —	— —	— —
K6	170 *560*	230 *750*	270 *890*	120 *395*	160 *520*	190 *620*	— —	— —	— —	110 *360*	150 *490*	175 *570*	— —	— —	— —	— —	— —	— —
K7	155 *510*	205 *670*	235 *770*	110 *360*	145 *475*	170 *560*	— —	— —	— —	100 *330*	130 *425*	155 *510*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1300 *4275*	1725 *5650*	2025 *6650*	— —	— —	— —	1400 *4600*	1850 *6075*	2175 *7125*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	530 *1750*	700 *2300*	820 *2700*	— —	— —	— —	570 *1875*	750 *2450*	880 *2875*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	350 *1150*	470 *1550*	550 *1800*	— —	— —	— —	380 *1250*	500 *1650*	580 *1900*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	400 *1300*	530 *1750*	630 *2075*	— —	— —	— —	430 *1400*	570 *1875*	670 *2200*
S1	— —	— —	— —	45 *150*	60 *195*	70 *230*	49 *160*	65 *215*	75 *245*	45 *150*	60 *195*	70 *230*	55 *180*	70 *230*	80 *260*	— —	— —	— —
S2	— —	— —	— —	37 *120*	47 *155*	55 *180*	40 *130*	50 *165*	60 *195*	36 *120*	47 *155*	55 *180*	43 *140*	55 *180*	65 *215*	— —	— —	— —
S3	— —	— —	— —	32 *105*	42 *140*	49 *160*	35 *115*	45 *150*	55 *180*	31 *100*	41 *135*	48 *155*	38 *125*	49 *160*	60 *195*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	70 *230*	90 *295*	105 *345*	60 *195*	80 *260*	95 *310*	75 *245*	100 *330*	115 *375*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	47 *155*	60 *195*	70 *230*	43 *140*	55 *180*	65 *215*	50 *165*	70 *230*	80 *260*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	28 *90*	36 *120*	42 *140*	25 *80*	33 *110*	38 *125*	30 *100*	40 *130*	46 *150*	— —	— —	— —
H5	— —	— —	— —	38 *125*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	40 *130*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	48 *155*	65 *215*	75 *245*	— —	— —	— —	— —	— —	— —	55 *180*	75 *245*	85 *280*	— —	— —	— —
H12	— —	— —	— —	80 *260*	100 *330*	120 *395*	— —	— —	— —	— —	— —	— —	95 *310*	120 *395*	140 *460*	— —	— —	— —

R217/220.69-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	380	465	530	370	455	520	335	440	510	330	410	470	185	250	290
	—	—	—	*1250*	*1525*	*1750*	*1225*	*1500*	*1700*	*1100*	*1450*	*1675*	*1075*	*1350*	*1550*	*610*	*820*	*950*
P2	—	—	—	370	455	520	360	445	510	325	430	500	325	400	455	180	240	280
	—	—	—	*1225*	*1500*	*1700*	*1175*	*1450*	*1675*	*1075*	*1400*	*1650*	*1075*	*1300*	*1500*	*590*	*790*	*920*
P3	—	—	—	325	395	445	320	390	440	285	375	440	285	350	395	160	210	250
	—	—	—	*1075*	*1300*	*1450*	*1050*	*1275*	*1450*	*940*	*1225*	*1450*	*940*	*1150*	*1300*	*520*	*690*	*820*
P4	—	—	—	285	350	400	280	345	395	250	330	390	250	305	355	140	185	220
	—	—	—	*940*	*1150*	*1300*	*920*	*1125*	*1300*	*820*	*1075*	*1275*	*820*	*1000*	*1175*	*460*	*610*	*720*
P5	—	—	—	270	340	380	265	335	375	240	315	370	240	300	335	135	180	210
	—	—	—	*890*	*1125*	*1250*	*870*	*1100*	*1225*	*790*	*1025*	*1225*	*790*	*980*	*1100*	*445*	*590*	*690*
P6	—	—	—	305	380	430	300	375	420	270	355	425	270	335	380	150	200	240
	—	—	—	*1000*	*1250*	*1400*	*980*	*1225*	*1375*	*890*	*1175*	*1400*	*890*	*1100*	*1250*	*490*	*660*	*790*
P7	—	—	—	290	360	405	285	355	400	255	335	400	255	315	355	145	190	225
	—	—	—	*950*	*1175*	*1325*	*940*	*1175*	*1300*	*840*	*1100*	*1300*	*840*	*1025*	*1175*	*475*	*620*	*740*
P8	—	—	—	270	335	375	265	325	370	240	315	370	240	295	330	135	180	210
	—	—	—	*890*	*1100*	*1225*	*870*	*1075*	*1225*	*790*	*1025*	*1225*	*790*	*970*	*1075*	*445*	*590*	*690*
P11	—	—	—	280	350	395	275	340	385	245	325	385	245	305	345	140	185	220
	—	—	—	*920*	*1150*	*1300*	*900*	*1125*	*1275*	*800*	*1075*	*1275*	*800*	*1000*	*1125*	*460*	*610*	*720*
P12	—	—	—	185	225	250	180	220	245	160	210	250	165	200	220	90	120	140
	—	—	—	*610*	*740*	*820*	*590*	*720*	*800*	*520*	*690*	*820*	*540*	*660*	*720*	*295*	*395*	*460*
M1	—	—	—	—	—	—	185	240	290	230	305	360	170	225	270	155	205	240
	—	—	—	—	—	—	*610*	*790*	*950*	*750*	*1000*	*1175*	*560*	*740*	*890*	*510*	*670*	*790*
M2	—	—	—	—	—	—	150	200	240	190	255	295	140	190	220	130	170	200
	—	—	—	—	—	—	*490*	*660*	*790*	*620*	*840*	*970*	*460*	*620*	*720*	*425*	*560*	*660*
M3	—	—	—	—	—	—	125	165	195	155	205	240	115	155	180	105	140	160
	—	—	—	—	—	—	*410*	*540*	*640*	*510*	*670*	*790*	*375*	*510*	*590*	*345*	*460*	*520*
M4	—	—	—	—	—	—	100	130	150	120	160	185	90	120	140	80	110	125
	—	—	—	—	—	—	*330*	*425*	*490*	*395*	*520*	*610*	*295*	*395*	*460*	*260*	*360*	*410*
M5	—	—	—	—	—	—	80	105	125	100	135	155	75	100	115	70	90	105
	—	—	—	—	—	—	*260*	*345*	*410*	*330*	*445*	*510*	*245*	*330*	*375*	*230*	*295*	*345*
K1	290	380	450	375	460	520	365	450	510	255	340	395	325	400	460	—	—	—
	950	*1250*	*1475*	*1225*	*1500*	*1700*	*1200*	*1475*	*1675*	*840*	*1125*	*1300*	*1075*	*1300*	*1500*	—	—	—
K2	255	340	400	330	410	460	325	400	455	225	300	355	290	360	410	—	—	—
	840	*1125*	*1300*	*1075*	*1350*	*1500*	*1075*	*1300*	*1500*	*740*	*980*	*1175*	*950*	*1175*	*1350*	—	—	—
K3	215	285	335	280	345	390	275	340	385	190	255	300	245	305	345	—	—	—
	710	*940*	*1100*	*920*	*1125*	*1275*	*900*	*1125*	*1275*	*620*	*840*	*980*	*800*	*1000*	*1125*	—	—	—
K4	205	275	320	265	330	375	260	325	365	185	240	285	235	290	330	—	—	—
	670	*900*	*1050*	*870*	*1075*	*1225*	*850*	*1075*	*1200*	*610*	*790*	*940*	*770*	*950*	*1075*	—	—	—
K5	125	170	195	165	205	225	160	200	225	110	145	175	145	180	200	—	—	—
	410	*560*	*640*	*540*	*670*	*740*	*520*	*660*	*740*	*360*	*475*	*570*	*475*	*590*	*660*	—	—	—
K6	180	240	285	235	290	330	230	285	325	160	215	250	205	255	290	—	—	—
	590	*790*	*940*	*770*	*950*	*1075*	*750*	*940*	*1075*	*520*	*710*	*820*	*670*	*840*	*950*	—	—	—
K7	165	215	250	210	260	290	205	255	285	145	190	225	185	230	255	—	—	—
	540	*710*	*820*	*690*	*850*	*950*	*670*	*840*	*940*	*475*	*620*	*740*	*610*	*750*	*840*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	60	80	90	43	55	65	25	33	38
	—	—	—	—	—	—	—	—	—	*195*	*260*	*295*	*140*	*180*	*215*	*80*	*110*	*125*
S2	—	—	—	—	—	—	—	—	—	48	65	75	35	45	55	20	27	31
	—	—	—	—	—	—	—	—	—	*155*	*215*	*245*	*115*	*150*	*180*	*65*	*90*	*100*
S3	—	—	—	—	—	—	—	—	—	42	55	65	31	40	46	18	23	27
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*100*	*130*	*150*	*60*	*75*	*90*
S11	—	—	—	—	—	—	—	—	—	85	110	125	60	75	90	35	46	55
	—	—	—	—	—	—	—	—	—	*280*	*360*	*410*	*195*	*245*	*295*	*115*	*150*	*180*
S12	—	—	—	—	—	—	—	—	—	55	75	90	41	55	65	32	43	49
	—	—	—	—	—	—	—	—	—	*180*	*245*	*295*	*135*	*180*	*215*	*105*	*140*	*160*
S13	—	—	—	—	—	—	—	—	—	34	44	50	24	31	37	19	25	29
	—	—	—	—	—	—	—	—	—	*110*	*145*	*165*	*80*	*100*	*120*	*60*	*80*	*95*
H5	—	—	—	48	65	75	—	—	—	—	—	—	37	49	55	—	—	—
	—	—	—	*155*	*215*	*245*	—	—	—	—	—	—	*120*	*160*	*180*	—	—	—
H8	—	—	—	50	70	80	—	—	—	—	—	—	40	50	60	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	—	—	—	*130*	*165*	*195*	—	—	—
H11	—	—	—	60	80	95	—	—	—	—	—	—	47	60	75	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	—	—	—	*155*	*195*	*245*	—	—	—
H12	—	—	—	95	120	140	—	—	—	—	—	—	70	95	110	—	—	—
	—	—	—	*310*	*395*	*460*	—	—	—	—	—	—	*230*	*310*	*360*	—	—	—

Turbo 16 – R217.69-XO16 – Metric



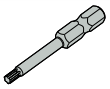


- For insert selection and cutting data recommendations, see page(s) 63-65
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-2525.0-XO16-2A	03336100	Cylindrical	25,0	2	15,0	9,0	25,0	35,0	114,0	170,0	11,0	33,5	47,7	16700	0,6	XO.X16
R217.69-3232.0-XO16-2A	03336101	Cylindrical	32,0	2	15,0	9,0	32,0	40,0	135,0	195,0	6,0	47,5	61,7	14800	1,1	XO.X16
R217.69-3232.0-XO16-3A	03336102	Cylindrical	32,0	3	15,0	9,0	32,0	40,0	135,0	195,0	6,0	47,5	61,7	14800	1,1	XO.X16
R217.69-2525.3-XO16-2A	03336092	Weldon	25,0	2	15,0	9,0	25,0	38,0	44,0	100,0	11,0	33,5	47,7	16700	0,4	XO.X16
R217.69-3232.3-XO16-2A	03336093	Weldon	32,0	2	15,0	9,0	32,0	38,0	50,0	110,0	6,0	47,5	61,7	14800	0,6	XO.X16
R217.69-3232.3-XO16-3A	03336094	Weldon	32,0	3	15,0	9,0	32,0	38,0	50,0	110,0	6,0	47,5	61,7	14800	0,6	XO.X16
R217.69-2025.3S-XO16-2A	03336095	Seco-Weldon	25,0	2	15,0	9,0	20,0	40,0	50,0	100,0	11,0	33,5	47,7	16700	0,3	XO.X16
R217.69-2532.3S-XO16-2A	03336096	Seco-Weldon	32,0	2	15,0	9,0	25,0	40,0	54,0	110,0	6,0	47,5	61,7	14800	0,5	XO.X16
R217.69-2532.3S-XO16-3A	03336097	Seco-Weldon	32,0	3	15,0	9,0	25,0	40,0	54,0	110,0	6,0	47,5	61,7	14800	0,5	XO.X16
R217.69-3240.3S-XO16-3A	03336098	Seco-Weldon	40,0	3	15,0	9,0	32,0	46,0	60,0	120,0	3,5	63,5	77,7	13200	0,8	XO.X16
R217.69-3240.3S-XO16-4A	03336099	Seco-Weldon	40,0	4	15,0	9,0	32,0	46,0	60,0	120,0	3,5	63,5	77,7	13200	0,8	XO.X16

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

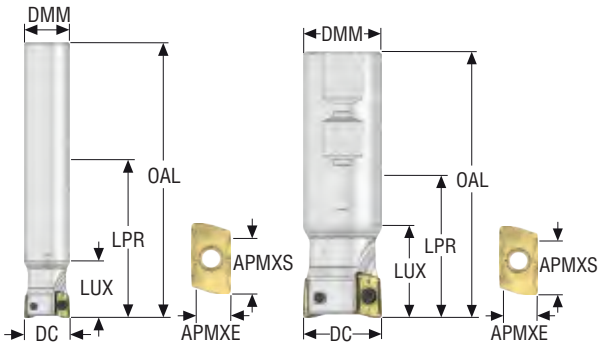
For cutter	Insert key	Insert screw
		
R217.69-2525-2532	1/4HEX-T15PX50	C04008-T15P
R217.69-3240	1/4HEX-T15PX50	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Turbo 16 – R217.69-XO16 – inch



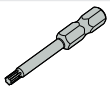


- For insert selection and cutting data recommendations, see page(s) 63-65
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-01.00-0-XO16-2A	03336134	Cylindrical	1.000	2	0.591	0.354	1.000	1.378	4.488	6.693	9,0	1.350	1.909	16600	1.320	XO.X16
R217.69-01.25-0-XO16-2A	03336135	Cylindrical	1.250	2	0.591	0.354	1.250	1.575	5.472	7.677	5,5	1.850	2.409	14800	2.430	XO.X16
R217.69-01.50-0-XO16-3A	03336136	Cylindrical	1.500	3	0.591	0.354	1.250	5.906	5.906	8.268	4,0	2.350	2.909	13500	2.650	XO.X16
R217.69-01.50-0-XO16-4A	03336137	Cylindrical	1.500	4	0.591	0.354	1.250	5.906	5.906	8.268	4,0	2.350	2.906	13500	2.650	XO.X16
R217.69-01.00-3-XO16-2A	03336130	Weldon	1.000	2	0.591	0.354	1.000	1.575	1.732	3.937	10,0	1.350	1.909	16600	0.660	XO.X16
R217.69-01.25-3-XO16-3A	03336131	Weldon	1.250	3	0.591	0.354	1.250	1.575	1.969	4.331	6,0	1.850	2.409	14800	1.320	XO.X16
R217.69-01.50-3-XO16-3A	03336132	Weldon	1.500	3	0.591	0.354	1.250	2.362	2.362	4.724	4,0	2.350	2.909	13500	1.540	XO.X16
R217.69-01.50-3-XO16-4A	03336133	Weldon	1.500	4	0.591	0.354	1.250	2.362	2.362	4.724	4,0	2.350	2.909	13500	1.540	XO.X16

Modification of the cutter body needed for radii > 0.158 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-01.00-01.25	1/4HEX-T15PX50	C04008-T15P
R217.69-01.50	1/4HEX-T15PX50	C04009-T15P

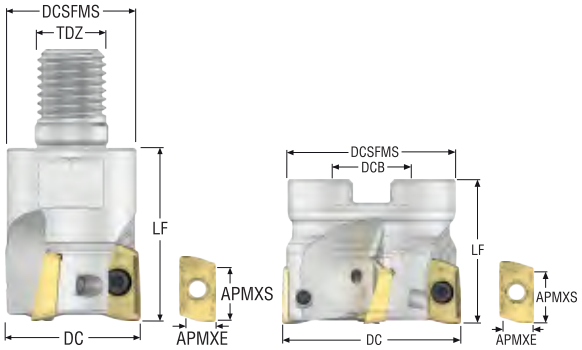
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Turbo 16 – R217/220.69-XO16 – Metric



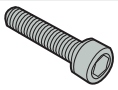
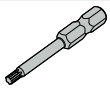
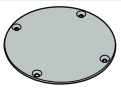


- For insert selection and cutting data recommendations, see page(s) 63-65
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

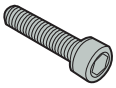
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		mm	mm		kg	
R217.69-1225.RE-XO16-2A	03336103	Combimaster	25,0	2	15,0	9,0	–	M12	23,0	40,0	11,0	33,5	47,7	16700	0,2	XO.X16
R217.69-1632.RE-XO16-2A	03336104	Combimaster	32,0	2	15,0	9,0	–	M16	30,0	40,0	6,0	47,5	61,7	14800	0,2	XO.X16
R217.69-1632.RE-XO16-3A	03336105	Combimaster	32,0	3	15,0	9,0	–	M16	30,0	40,0	6,0	47,5	61,7	14800	0,2	XO.X16
R217.69-2040.RE-XO16-3A	03336106	Combimaster	40,0	3	15,0	9,0	–	M20	36,5	45,0	3,5	63,5	77,7	13200	0,4	XO.X16
R217.69-2040.RE-XO16-4A	03336107	Combimaster	40,0	4	15,0	9,0	–	M20	36,5	45,0	3,5	63,5	77,7	13200	0,4	XO.X16
R220.69-0040-XO16-3A	03336108	Arbor	40,0	3	15,0	9,0	16,0	–	35,0	40,0	3,5	63,5	77,7	13200	0,2	XO.X16
R220.69-0040-XO16-4A	03336109	Arbor	40,0	4	15,0	9,0	16,0	–	35,0	40,0	3,5	63,5	77,7	13200	0,3	XO.X16
R220.69-0050-XO16-4A	03336110	Arbor	50,0	4	15,0	9,0	22,0	–	47,0	40,0	2,6	83,5	97,7	11800	0,4	XO.X16
R220.69-0050-XO16-5A	03336111	Arbor	50,0	5	15,0	9,0	22,0	–	47,0	40,0	2,6	83,5	97,7	11800	0,4	XO.X16
R220.69-0050-XO16-6A	10010246	Arbor	50,0	6	15,0	9,0	22,0	–	47,0	40,0	2,6	83,5	97,7	11800	0,4	XO.X16
R220.69-0052-XO16-5A	03336112	Arbor	52,0	5	15,0	9,0	22,0	–	47,0	40,0	2,5	87,5	101,7	11600	0,4	XO.X16
R220.69-0063-XO16-5A	03336113	Arbor	63,0	5	15,0	9,0	27,0	–	56,0	40,0	2,0	109,5	123,7	10500	0,6	XO.X16
R220.69-0063-XO16-6A	03336115	Arbor	63,0	6	15,0	9,0	27,0	–	56,0	40,0	2,0	109,5	123,7	10500	0,6	XO.X16
R220.69-0063-XO16-7A	10010247	Arbor	63,0	7	15,0	9,0	27,0	–	56,0	40,0	2,0	109,5	123,7	10549	0,6	XO.X16
R220.69-0066-XO16-6A	03336117	Arbor	66,0	6	15,0	9,0	27,0	–	56,0	40,0	1,8	115,5	129,7	10300	0,6	XO.X16
R220.69-0080-XO16-6A	03336118	Arbor	80,0	6	15,0	9,0	27,0	–	62,0	50,0	1,5	143,5	157,7	9300	1,0	XO.X16
R220.69-0080-XO16-8A	03336119	Arbor	80,0	8	15,0	9,0	27,0	–	62,0	50,0	1,5	143,5	157,7	9300	1,0	XO.X16
R220.69-0080-XO16-9A	10010248	Arbor	80,0	9	15,0	9,0	27,0	–	62,0	50,0	1,5	143,5	157,7	9300	1,0	XO.X16
R220.69-0084-XO16-8A	03336120	Arbor	84,0	8	15,0	9,0	27,0	–	62,0	50,0	1,3	151,5	165,7	9100	1,1	XO.X16
R220.69-0100-XO16-8A	03336121	Arbor	100,0	8	15,0	9,0	32,0	–	77,0	50,0	1,1	183,5	197,7	8300	1,6	XO.X16
R220.69-0100-XO16-10A	03336122	Arbor	100,0	10	15,0	9,0	32,0	–	77,0	50,0	1,1	183,5	197,7	8300	1,6	XO.X16
R220.69-0125-XO16-10A	03336123	Arbor	125,0	10	15,0	9,0	40,0	–	90,0	63,0	0,85	233,5	247,7	7400	3,0	XO.X16
R220.69-0125-XO16-12A	03336124	Arbor	125,0	12	15,0	9,0	40,0	–	90,0	63,0	0,85	234,0	247,0	7400	3,0	XO.X16
R220.69-8160-XO16-11A	03336125	Arbor	160,0	11	15,0	9,0	40,0	–	90,0	63,0	0,65	303,5	317,7	6600	5,0	XO.X16
R220.69-8160-XO16-13A	03336126	Arbor	160,0	13	15,0	9,0	40,0	–	90,0	63,0	0,65	303,5	317,7	6600	5,0	XO.X16

Modification of the cutter body needed for radii > 4,0 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.69-1225-1632	–	1/4HEX-T15PX50	C04008-T15P	–	–
R217.69-2040	–	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0040	TCEI0825	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0050-0052	220.17-692	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0063-0066	MLC6S12X30	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0080-0084	–	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-0100-0125	–	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-8160	–	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10

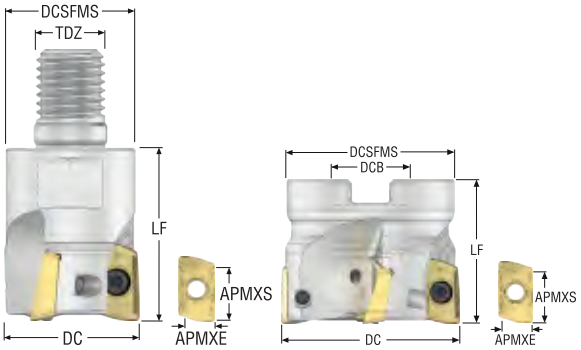
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220.69-1225-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.69-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Turbo 16 – R217/220.69-XO16 – inch



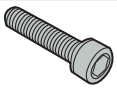
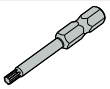
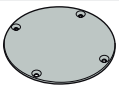


- For insert selection and cutting data recommendations, see page(s) 63-65
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-XO16-2A	03336138	Combimaster	1.000	2	0.591	0.354	–	M12	0.906	1.575	11.0	1.350	1.909	16600	0.440	XO.X16
R217.69-01.25-16RE-XO16-3A	03336139	Combimaster	1.250	3	0.591	0.354	–	M16	1.181	1.575	6.0	1.850	2.409	14800	0.440	XO.X16
R217.69-01.50-20RE-XO16-4A	03336140	Combimaster	1.500	4	0.591	0.354	–	M20	1.437	1.772	4.0	2.350	2.909	13500	0.880	XO.X16
R220.69-01.50-XO16-4A	03336141	Arbor	1.500	4	0.591	0.354	0.500	–	1.378	1.575	4.0	2.350	2.909	13500	0.660	XO.X16
R220.69-02.00-XO16-4A	03336142	Arbor	2.000	4	0.591	0.354	0.750	–	1.850	1.575	2.5	3.350	3.909	11700	0.880	XO.X16
R220.69-02.00-XO16-5A	03336143	Arbor	2.000	5	0.591	0.354	0.750	–	1.850	1.575	2.5	3.350	3.909	11700	0.880	XO.X16
R220.69-02.00-XO16-6A	03336144	Arbor	2.000	6	0.591	0.354	0.750	–	1.850	1.575	2.5	3.350	3.909	11700	0.660	XO.X16
R220.69-02.50-XO16-5A	03336145	Arbor	2.500	5	0.591	0.354	0.750	–	1.850	1.575	2.0	4.350	4.909	10500	1.320	XO.X16
R220.69-02.50-XO16-6A	03336146	Arbor	2.500	6	0.591	0.354	0.750	–	1.850	1.575	2.0	4.370	4.882	10500	1.320	XO.X16
R220.69-03.00-XO16-6A	03336147	Arbor	3.000	6	0.591	0.354	1.000	–	2.441	1.969	1.5	5.354	5.906	9500	2.650	XO.X16
R220.69-03.00-XO16-8A	03336148	Arbor	3.000	8	0.591	0.354	1.000	–	2.441	1.969	1.5	5.354	5.906	9500	2.430	XO.X16
R220.69-04.00-XO16-8A	03336149	Arbor	4.000	8	0.591	0.354	1.500	–	3.543	1.969	1.1	7.362	7.874	8300	4.410	XO.X16
R220.69-04.00-XO16-10A	03336150	Arbor	4.000	10	0.591	0.354	1.500	–	3.543	1.969	1.1	7.362	7.874	8300	4.410	XO.X16
R220.69-05.00-XO16-9A	03336151	Arbor	5.000	9	0.591	0.354	1.500	–	3.543	2.480	0.85	9.370	9.882	7400	7.940	XO.X16
R220.69-06.00-XO16-12A	10000967	Arbor	6.000	12	0.591	0.354	2.000	–	4.331	2.480	0.7	11.378	11.890	6700	10.360	XO.X16

Modification of the cutter body needed for radii > 0.158 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.69-01.00-01.25	–	1/4HEX-T15PX50	C04008-T15P	–	–
R217.69-01.50	–	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04009-T15P	–	–
R220.69-04.00	UF6S3/4UNFX2	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-06.00	–	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10

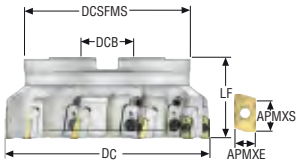
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220.69-01.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35
R220.69-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Turbo 16 – R220.69-XO16 – Metric



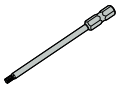
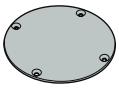


- For insert selection and cutting data recommendations, see page(s) 63-65
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

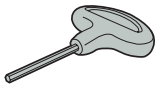
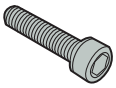
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-XO16-8CA	03336127	Arbor	125,0	8	15,0	9,0	40,0	90,0	63,0	0,85	233,5	247,7	7400	2,8	XO.X16
R220.69-8160-XO16-10CA	10000966	Arbor	160,0	10	15,0	9,0	40,0	90,0	63,0	0,65	303,5	317,7	6600	4,7	XO.X16
R220.69-8200-XO16-12CA	03336128	Arbor	200,0	12	15,0	9,0	60,0	130,0	63,0	0,5	383,5	397,7	5900	6,6	XO.X16
R220.69-8250-XO16-16CA	03336129	Arbor	250,0	16	15,0	9,0	60,0	130,0	63,0	0,4	483,5	497,7	5200	13,3	XO.X16

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw
							
R220.69-0125	AU1114T-T15P	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	–	–
R220.69-8160	AU1114T-T15P	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-160-90	MF6S4X10
R220.69-8200	AU1114T-T15P	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-200-90	MF6S4X8
R220.69-8250	AU1114T-T15P	XO16PRA	FS96018	1/4HEX-T15PX90	C04009-T15P	SC-250-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Insert clamping torque	Torque key
					
R220.69-0125	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	–	3.5NM	T00-15P35
R220.69-8160-8200	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	3.5NM	T00-15P35
R220.69-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R217/220.69-16 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX160508TR-ME11 F40M	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P2	XOMX160508TR-ME11 F40M	7,0 *0.28*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P3	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,18 *0.0070*	0,19 *0.0075*	0,30 *0.012*
P4	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 *0.0065*	0,19 *0.0075*	0,30 *0.012*
P5	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
P6	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P7	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,17 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P8	XOMX160508TR-M13 MP2501	7,0 *0.28*	0,18 *0.0070*	0,19 *0.0075*	0,30 *0.012*
P11	XOMX160508TR-M13 MP3501	7,0 *0.28*	0,17 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P12	XOMX160508TR-M13 MP3000	6,0 *0.24*	0,12 *0.0048*	0,13 *0.0050*	0,19 *0.0075*
M1	XOEX160508R-M09 F40M	7,0 *0.28*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
M2	XOEX160508R-M09 F40M	7,0 *0.28*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
M3	XOEX160508R-M09 F40M	6,0 *0.24*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
M4	XOEX160516R-M09 MS2050	4,5 *0.18*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
M5	XOEX160516R-M09 MS2050	4,5 *0.18*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
K1	XOMX160508TR-M13 MK1500	7,0 *0.28*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*
K2	XOMX160508TR-M13 MK1500	7,0 *0.28*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K3	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K4	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K5	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
K6	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K7	XOMX160508TR-M13 MK2050	7,0 *0.28*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
N1	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N2	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N3	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N11	XOEX160508FR-E07 H25	7,0 *0.28*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
S1	XOEX160516R-M09 F40M	4,5 *0.18*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S2	XOEX160516R-M09 F40M	4,5 *0.18*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S3	XOEX160516R-M09 F40M	4,5 *0.18*	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S11	XOEX160508R-M09 MS2050	5,0 *0.20*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S12	XOEX160508R-M09 MS2050	5,0 *0.20*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S13	XOEX160508R-M09 MS2050	4,5 *0.18*	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
H5	XOMX160508TR-M13 MP3000	6,0 *0.24*	0,12 *0.0048*	0,13 *0.0050*	0,19 *0.0075*
H8	XOMX160508TR-M13 MP3000	5,0 *0.20*	0,090 *0.0036*	0,095 *0.0038*	0,15 *0.0060*
H11	XOMX160508TR-MD14 MP1501	6,0 *0.24*	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
H12	XOMX160508TR-MD14 MP1501	5,0 *0.20*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-16 – Cutting data v_c = (m/min)/*(sf/min)*

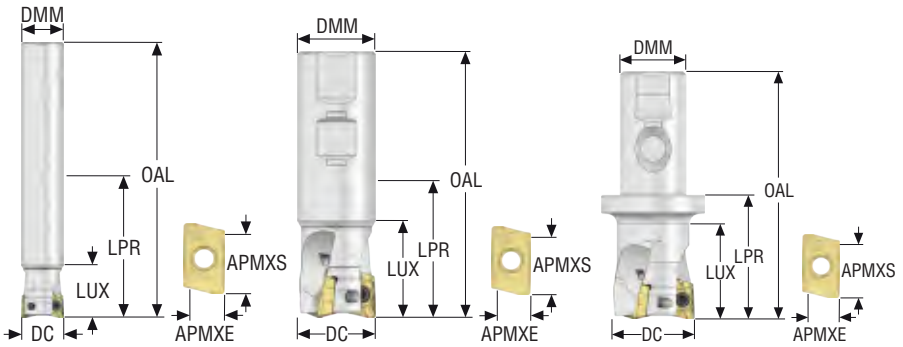
SMG	MK2050			MP3000			MS2050			F40M			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	250 *820*	330 *1075*	390 *1275*	240 *790*	315 *1025*	375 *1225*	245 *800*	320 *1050*	375 *1225*	220 *720*	295 *970*	345 *1125*	285 *940*	380 *1250*	445 *1450*	— —	— —	— —
P2	240 *790*	320 *1050*	375 *1225*	230 *750*	310 *1025*	360 *1175*	235 *770*	315 *1025*	365 *1200*	215 *710*	285 *940*	335 *1100*	280 *920*	370 *1225*	435 *1425*	— —	— —	— —
P3	210 *690*	280 *920*	330 *1075*	200 *660*	270 *890*	315 *1025*	210 *690*	275 *900*	325 *1075*	190 *620*	250 *820*	295 *970*	245 *800*	325 *1075*	380 *1250*	— —	— —	— —
P4	185 *610*	245 *800*	295 *970*	180 *590*	235 *770*	285 *940*	185 *610*	240 *790*	285 *940*	165 *540*	220 *720*	260 *850*	215 *710*	285 *940*	335 *1100*	— —	— —	— —
P5	180 *590*	235 *770*	280 *920*	170 *560*	225 *740*	270 *890*	175 *570*	230 *750*	275 *900*	160 *520*	210 *690*	250 *820*	205 *670*	275 *900*	320 *1050*	— —	— —	— —
P6	200 *660*	270 *890*	315 *1025*	195 *640*	260 *850*	305 *1000*	195 *640*	260 *850*	310 *1025*	180 *590*	235 *770*	280 *920*	230 *750*	305 *1000*	365 *1200*	— —	— —	— —
P7	190 *620*	255 *840*	300 *980*	180 *590*	245 *800*	285 *940*	185 *610*	245 *800*	295 *970*	170 *560*	225 *740*	265 *870*	220 *720*	290 *950*	345 *1125*	— —	— —	— —
P8	175 *570*	235 *770*	275 *900*	170 *560*	225 *740*	265 *870*	175 *570*	230 *750*	275 *900*	160 *520*	210 *690*	250 *820*	205 *670*	275 *900*	320 *1050*	— —	— —	— —
P11	185 *610*	245 *800*	290 *950*	175 *570*	235 *770*	280 *920*	180 *590*	240 *790*	285 *940*	165 *540*	215 *710*	260 *850*	210 *690*	280 *920*	335 *1100*	— —	— —	— —
P12	120 *395*	160 *520*	190 *620*	115 *375*	155 *510*	185 *610*	120 *395*	155 *510*	185 *610*	110 *360*	140 *460*	165 *540*	140 *460*	185 *610*	215 *710*	— —	— —	— —
M1	— —	— —	— —	170 *560*	230 *750*	270 *890*	190 *620*	255 *840*	295 *970*	175 *570*	230 *750*	270 *890*	200 *660*	265 *870*	310 *1025*	— —	— —	— —
M2	— —	— —	— —	145 *475*	190 *620*	225 *740*	155 *510*	210 *690*	245 *800*	145 *475*	190 *620*	225 *740*	165 *540*	220 *720*	255 *840*	— —	— —	— —
M3	— —	— —	— —	115 *375*	155 *510*	185 *610*	130 *425*	170 *560*	200 *660*	115 *375*	155 *510*	180 *590*	135 *445*	180 *590*	205 *670*	— —	— —	— —
M4	— —	— —	— —	90 *295*	120 *395*	140 *460*	100 *330*	130 *425*	155 *510*	90 *295*	120 *395*	140 *460*	105 *345*	140 *460*	160 *520*	— —	— —	— —
M5	— —	— —	— —	75 *245*	100 *330*	120 *395*	85 *280*	110 *360*	130 *425*	75 *245*	100 *330*	115 *375*	85 *280*	115 *375*	135 *445*	— —	— —	— —
K1	255 *840*	345 *1125*	405 *1325*	180 *590*	245 *800*	285 *940*	— —	— —	— —	170 *560*	225 *740*	265 *870*	— —	— —	— —	— —	— —	— —
K2	230 *750*	305 *1000*	365 *1200*	165 *540*	215 *710*	255 *840*	— —	— —	— —	150 *490*	200 *660*	235 *770*	— —	— —	— —	— —	— —	— —
K3	195 *640*	255 *840*	305 *1000*	140 *460*	180 *590*	215 *710*	— —	— —	— —	130 *425*	170 *560*	200 *660*	— —	— —	— —	— —	— —	— —
K4	185 *610*	245 *800*	295 *970*	130 *425*	175 *570*	205 *670*	— —	— —	— —	120 *395*	160 *520*	190 *620*	— —	— —	— —	— —	— —	— —
K5	115 *375*	150 *490*	180 *590*	80 *260*	105 *345*	125 *410*	— —	— —	— —	75 *245*	100 *330*	115 *375*	— —	— —	— —	— —	— —	— —
K6	165 *540*	215 *710*	260 *850*	115 *375*	155 *510*	180 *590*	— —	— —	— —	105 *345*	140 *460*	165 *540*	— —	— —	— —	— —	— —	— —
K7	150 *490*	195 *640*	230 *750*	105 *345*	135 *445*	160 *520*	— —	— —	— —	95 *310*	125 *410*	150 *490*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1275 *4175*	1675 *5500*	1950 *6400*	— —	— —	— —	1350 *4425*	1800 *5900*	2125 *6975*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	510 *1675*	670 *2200*	790 *2600*	— —	— —	— —	550 *1800*	730 *2400*	850 *2800*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	340 *1125*	450 *1475*	530 *1750*	— —	— —	— —	365 *1200*	485 *1600*	570 *1875*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	390 *1275*	510 *1675*	600 *1975*	— —	— —	— —	420 *1375*	560 *1825*	650 *2125*
S1	— —	— —	— —	43 *140*	55 *180*	65 *215*	47 *155*	60 *195*	70 *230*	42 *140*	55 *180*	65 *215*	50 *165*	65 *215*	80 *260*	— —	— —	— —
S2	— —	— —	— —	35 *115*	46 *150*	55 *180*	37 *120*	49 *160*	60 *195*	34 *110*	45 *150*	50 *165*	41 *135*	55 *180*	65 *215*	— —	— —	— —
S3	— —	— —	— —	31 *100*	40 *130*	47 *155*	33 *110*	43 *140*	50 *165*	30 *100*	39 *130*	46 *150*	37 *120*	47 *155*	55 *180*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	65 *215*	85 *280*	100 *330*	60 *195*	80 *260*	90 *295*	70 *230*	95 *310*	110 *360*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	45 *150*	60 *195*	70 *230*	41 *135*	55 *180*	65 *215*	49 *160*	65 *215*	75 *245*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	26 *85*	35 *115*	40 *130*	24 *80*	31 *100*	37 *120*	29 *95*	38 *125*	44 *145*	— —	— —	— —
H5	— —	— —	— —	36 *120*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	39 *130*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	46 *150*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	85 *280*	— —	— —	— —
H12	— —	— —	— —	75 *245*	100 *330*	115 *375*	— —	— —	— —	— —	— —	— —	90 *295*	115 *375*	135 *445*	— —	— —	— —

R217/220.69-16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	365	450	510	355	440	510	315	395	450
	—	—	—	*1200*	*1475*	*1675*	*1175*	*1450*	*1675*	*1025*	*1300*	*1475*
P2	—	—	—	350	440	490	340	430	480	300	385	430
	—	—	—	*1150*	*1450*	*1600*	*1125*	*1400*	*1575*	*980*	*1275*	*1400*
P3	—	—	—	305	385	430	300	375	425	265	335	380
	—	—	—	*1000*	*1275*	*1400*	*980*	*1225*	*1400*	*870*	*1100*	*1250*
P4	—	—	—	275	335	385	270	330	380	240	295	340
	—	—	—	*900*	*1100*	*1275*	*890*	*1075*	*1250*	*790*	*970*	*1125*
P5	—	—	—	260	320	370	255	315	365	230	280	325
	—	—	—	*850*	*1050*	*1225*	*840*	*1025*	*1200*	*750*	*920*	*1075*
P6	—	—	—	295	365	415	285	360	405	255	320	365
	—	—	—	*970*	*1200*	*1350*	*940*	*1175*	*1325*	*840*	*1050*	*1200*
P7	—	—	—	275	345	390	270	340	385	240	305	345
	—	—	—	*900*	*1125*	*1275*	*890*	*1125*	*1275*	*790*	*1000*	*1125*
P8	—	—	—	255	320	365	250	315	355	225	280	320
	—	—	—	*840*	*1050*	*1200*	*820*	*1025*	*1175*	*740*	*920*	*1050*
P11	—	—	—	270	335	380	265	330	375	235	295	335
	—	—	—	*890*	*1100*	*1250*	*870*	*1075*	*1225*	*770*	*970*	*1100*
P12	—	—	—	175	215	245	175	215	240	155	190	215
	—	—	—	*570*	*710*	*800*	*570*	*710*	*790*	*510*	*620*	*710*
M1	—	—	—	—	—	—	175	235	275	165	220	255
	—	—	—	—	—	—	*570*	*770*	*900*	*540*	*720*	*840*
M2	—	—	—	—	—	—	145	190	230	135	180	215
	—	—	—	—	—	—	*475*	*620*	*750*	*445*	*590*	*710*
M3	—	—	—	—	—	—	120	155	185	110	145	175
	—	—	—	—	—	—	*395*	*510*	*610*	*360*	*475*	*570*
M4	—	—	—	—	—	—	95	125	145	85	115	135
	—	—	—	—	—	—	*310*	*410*	*475*	*280*	*375*	*445*
M5	—	—	—	—	—	—	80	105	120	75	95	110
	—	—	—	—	—	—	*260*	*345*	*395*	*245*	*310*	*360*
K1	270	365	425	350	445	495	340	435	485	305	385	435
	890	*1200*	*1400*	*1150*	*1450*	*1625*	*1125*	*1425*	*1600*	*1000*	*1275*	*1425*
K2	245	320	385	315	390	445	310	380	440	275	340	395
	800	*1050*	*1275*	*1025*	*1275*	*1450*	*1025*	*1250*	*1450*	*900*	*1125*	*1300*
K3	205	270	325	265	330	380	260	325	370	235	290	330
	670	*890*	*1075*	*870*	*1075*	*1250*	*850*	*1075*	*1225*	*770*	*950*	*1075*
K4	195	260	310	255	315	360	250	310	355	225	275	315
	640	*850*	*1025*	*840*	*1025*	*1175*	*820*	*1025*	*1175*	*740*	*900*	*1025*
K5	120	160	190	160	195	220	155	190	215	140	170	195
	395	*520*	*620*	*520*	*640*	*720*	*510*	*620*	*710*	*460*	*560*	*640*
K6	175	230	275	225	275	320	220	270	310	195	245	280
	570	*750*	*900*	*740*	*900*	*1050*	*720*	*890*	*1025*	*640*	*800*	*920*
K7	155	205	240	200	245	280	200	245	275	175	220	245
	510	*670*	*790*	*660*	*800*	*920*	*660*	*800*	*900*	*570*	*720*	*800*
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	41	55	65
	—	—	—	—	—	—	—	—	—	*135*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	33	43	50
	—	—	—	—	—	—	—	—	—	*110*	*140*	*165*
S3	—	—	—	—	—	—	—	—	—	29	38	45
	—	—	—	—	—	—	—	—	—	*95*	*125*	*150*
S11	—	—	—	—	—	—	—	—	—	55	75	90
	—	—	—	—	—	—	—	—	—	*180*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	39	50	60
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*
S13	—	—	—	—	—	—	—	—	—	23	30	35
	—	—	—	—	—	—	—	—	—	*75*	*100*	*115*
H5	—	—	—	46	60	70	—	—	—	35	47	55
	—	—	—	*150*	*195*	*230*	—	—	—	*115*	*155*	*180*
H8	—	—	—	50	65	75	—	—	—	38	50	60
	—	—	—	*165*	*215*	*245*	—	—	—	*125*	*165*	*195*
H11	—	—	—	60	75	90	—	—	—	45	60	70
	—	—	—	*195*	*245*	*295*	—	—	—	*150*	*195*	*230*
H12	—	—	—	90	120	140	—	—	—	70	90	105
	—	—	—	*295*	*395*	*460*	—	—	—	*230*	*295*	*345*

Turbo 18 – R217.69-18 – Metric



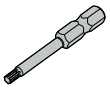


- For insert selection and cutting data recommendations, see page(s) 73-75
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.69-3032.0-18-2AN	02691799	Cylindrical	32,0	2	17,0	10,0	30,0	150,0	150,0	210,0	7,0	46,0	61,5	11100	1,1	XO.X18..
R217.69-3232.0-18-2AN	02691795	Cylindrical	32,0	2	17,0	10,0	32,0	40,0	150,0	210,0	7,0	46,0	61,5	11100	1,3	XO.X18..
R217.69-3232.0-18-3AN	02691796	Cylindrical	32,0	3	17,0	10,0	32,0	40,0	150,0	210,0	7,0	46,0	61,5	11100	1,2	XO.X18..
R217.69-3240.0-18-3AN	02691797	Cylindrical	40,0	3	17,0	10,0	32,0	150,0	150,0	210,0	4,5	62,0	77,5	9900	1,3	XO.X18..
R217.69-3240.0-18-4AN	02691798	Cylindrical	40,0	4	17,0	10,0	32,0	150,0	150,0	210,0	4,5	62,0	77,5	9900	1,3	XO.X18..
R217.69-3232.3-18-2AN	02691792	Weldon	32,0	2	17,0	10,0	32,0	38,0	50,0	110,0	7,0	46,0	61,5	11100	0,6	XO.X18..
R217.69-3232.3-18-3AN	02691793	Weldon	32,0	3	17,0	10,0	32,0	38,0	50,0	110,0	7,0	46,0	61,5	11100	0,6	XO.X18..
R217.69-2532.3S-18-2AN	02691790	Seco-Weldon	32,0	2	17,0	10,0	25,0	40,0	54,0	109,5	7,0	46,0	61,5	11100	0,5	XO.X18..
R217.69-3240.3S-18-3AN	02691791	Seco-Weldon	40,0	3	17,0	10,0	32,0	46,0	60,0	119,5	4,5	62,0	77,5	9900	0,9	XO.X18..

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

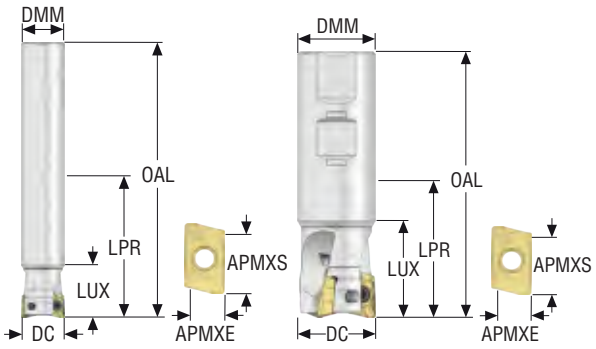
For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T20PX50	C04510-T20P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Turbo 18 – R217.69-18 – inch



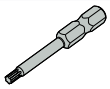


- For insert selection and cutting data recommendations, see page(s) 73-75
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.69-01.00-0-18-2LAN	02699117	Cylindrical	1.000	2	0.669	0.394	1.000	1.575	4.488	6.693	5,0	1.280	1.890	13800	1.320	XO.X18
R217.69-01.25-0-18-2LAN	02694932	Cylindrical	1.250	2	0.669	0.394	1.000	5.315	5.315	7.677	2,0	1.791	2.402	11100	1.540	XO.X18
R217.69-01.25-0-18-3LAN	02694936	Cylindrical	1.250	3	0.669	0.394	1.000	5.472	5.472	7.677	7,0	1.791	2.402	11100	1.980	XO.X18
R217.69-01.50-0-18-3LAN	02694937	Cylindrical	1.500	3	0.669	0.394	1.250	5.906	5.906	8.268	4,5	2.283	2.894	9900	2.650	XO.X18
R217.69-01.50-0-18-4LAN	02694938	Cylindrical	1.500	4	0.669	0.394	1.250	5.906	5.906	8.268	4,5	2.283	2.894	9900	2.650	XO.X18
R217.69-01.00-3-18-2AN	02699130	Weldon	1.000	2	0.669	0.394	1.000	1.575	1.732	3.937	6,0	1.280	1.890	13800	0.660	XO.X18
R217.69-01.25-3-18-3AN	02694949	Weldon	1.250	3	0.669	0.394	1.250	1.575	1.969	4.331	7,0	1.791	2.402	11100	1.320	XO.X18
R217.69-01.50-3-18-3AN	02694951	Weldon	1.500	3	0.669	0.394	1.250	2.362	2.362	4.724	4,5	2.283	2.894	9900	1.540	XO.X18
R217.69-01.50-3-18-4AN	02694954	Weldon	1.500	4	0.669	0.394	1.250	2.362	2.362	4.724	4,5	2.283	2.894	9900	1.540	XO.X18

Modification of the cutter body needed for radii > 0.158 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	1/4HEX-T20PX50	C04510-T20P

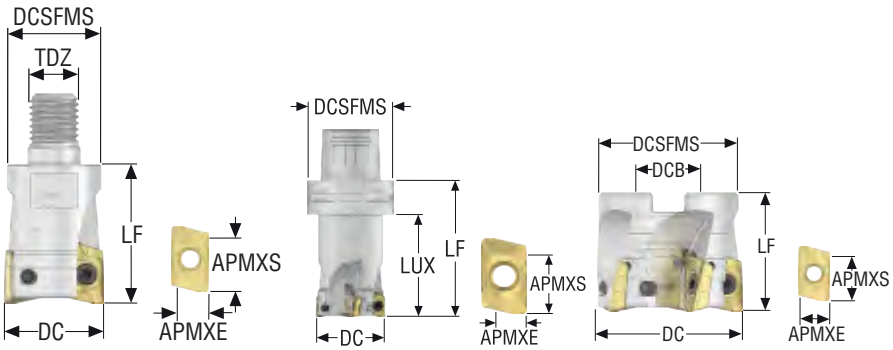
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.69-..	1/4HEX-T-HANDLE-5.0-14.0NM	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

Turbo 18 – R217/220.69-18 – Metric



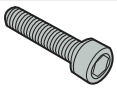
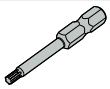


- For insert selection and cutting data recommendations, see page(s) 73-75
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

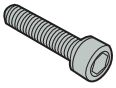
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LUX	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm	mm		mm	mm		kg	
R217.69-1632.RE-18-2AN	02691807	Combimaster	32,0	2	17,0	10,0	–	M16	30,0	–	45,0	7,0	46,0	61,5	11100	0,3	XO.X18..
R217.69-1632.RE-18-3AN	02691805	Combimaster	32,0	3	17,0	10,0	–	M16	30,0	–	45,0	7,0	46,0	61,5	11100	0,3	XO.X18..
R217.69-1640.RE-18-3AN	02691808	Combimaster	40,0	3	17,0	10,0	–	M16	30,0	–	45,0	4,5	62,0	77,5	9900	0,3	XO.X18..
R217.69-1640.RE-18-4AN	02691806	Combimaster	40,0	4	17,0	10,0	–	M16	30,0	–	45,0	4,5	62,0	77,5	9900	0,3	XO.X18..
R217.69-2040.RE-18-3AN	02972711	Combimaster	40,0	3	17,0	10,0	–	M20	36,5	–	45,0	4,5	62,0	77,5	9900	0,4	XO.X18..
R217.69-2040.RE-18-4AN	02753402	Combimaster	40,0	4	17,0	10,0	–	M20	36,5	–	45,0	4,5	62,0	77,5	9900	0,4	XO.X18..
C6-R217.69-040-18-3AN	02707507	Seco-Capto	40,0	3	17,0	10,0	–	–	63,0	55,0	80,0	4,5	62,0	77,5	9900	1,1	XO.X18..
C6-R217.69-066-18-5AN	02707509	Seco-Capto	66,0	5	17,0	10,0	–	–	63,0	60,0	60,0	2,0	114,0	129,5	7700	1,4	XO.X18..
C6-R217.69-080-18-6AN	02707511	Seco-Capto	80,0	6	17,0	10,0	–	–	63,0	60,0	60,0	1,5	142,0	157,5	7000	1,7	XO.X18..
R220.69-0040-18-4AN	03004031	Arbor	40,0	4	17,0	10,0	16,0	–	35,0	–	40,0	4,5	62,0	77,5	9900	0,3	XO.X18..
R220.69-0050-18-4AN	02701130	Arbor	50,0	4	17,0	10,0	22,0	–	47,0	–	40,0	3,0	82,0	97,5	8900	0,4	XO.X18..
R220.69-0050-18-5AN	02691824	Arbor	50,0	5	17,0	10,0	22,0	–	47,0	–	40,0	3,0	82,0	97,5	8900	0,4	XO.X18..
R220.69-0052-18-4AN	02969087	Arbor	52,0	4	17,0	10,0	22,0	–	47,0	–	40,0	3,15	86,0	101,5	8900	0,4	XO.X18..
R220.69-0063-18-4AN	02691810	Arbor	63,0	4	17,0	10,0	27,0	–	52,0	–	40,0	2,4	108,0	123,5	7900	0,6	XO.X18..
R220.69-0063-18-5AN	02691825	Arbor	63,0	5	17,0	10,0	27,0	–	52,0	–	40,0	2,4	108,0	123,5	7900	0,6	XO.X18..
R220.69-0063-18-6AN	02691826	Arbor	63,0	6	17,0	10,0	27,0	–	52,0	–	40,0	2,4	108,0	123,5	7900	0,6	XO.X18..
R220.69-0066-18-5AN	02969088	Arbor	66,0	5	17,0	10,0	27,0	–	52,0	–	40,0	2,0	114,0	129,5	7900	0,6	XO.X18..
R220.69-0080-18-5AN	02691811	Arbor	80,0	5	17,0	10,0	27,0	–	62,0	–	50,0	1,5	142,0	157,5	7000	1,0	XO.X18..
R220.69-0080-18-6AN	02691827	Arbor	80,0	6	17,0	10,0	27,0	–	62,0	–	50,0	1,5	142,0	157,5	7000	1,0	XO.X18..
R220.69-0080-18-8AN	02691828	Arbor	80,0	8	17,0	10,0	27,0	–	62,0	–	50,0	1,5	142,0	157,5	7000	1,0	XO.X18..
R220.69-0084-18-6AN	02440816	Arbor	84,0	6	17,0	10,0	27,0	–	62,0	–	50,0	1,5	150,0	165,5	7000	0,9	XO.X18..
R220.69-0100-18-6AN	02691817	Arbor	100,0	6	17,0	10,0	32,0	–	77,0	–	50,0	1,0	182,0	197,5	6300	1,7	XO.X18..
R220.69-0100-18-7AN	02691820	Arbor	100,0	7	17,0	10,0	32,0	–	77,0	–	50,0	1,0	182,0	197,5	6300	1,7	XO.X18..
R220.69-0100-18-9AN	02691822	Arbor	100,0	9	17,0	10,0	32,0	–	77,0	–	50,0	1,0	182,0	197,5	6300	1,6	XO.X18..
R220.69-0125-18-7AN	02691818	Arbor	125,0	7	17,0	10,0	40,0	–	90,0	–	63,0	1,0	232,0	247,5	5600	2,9	XO.X18..
R220.69-0125-18-8AN	02691823	Arbor	125,0	8	17,0	10,0	40,0	–	90,0	–	63,0	1,0	232,0	247,5	5600	3,1	XO.X18..
R220.69-0125-18-11AN	02691815	Arbor	125,0	11	17,0	10,0	40,0	–	90,0	–	63,0	1,0	232,0	247,5	5600	3,0	XO.X18..
R220.69-8160-18-7N	02691814	Arbor	160,0	7	17,0	10,0	40,0	–	90,0	–	63,0	0,5	302,0	317,5	5000	4,4	XO.X18..
R220.69-8160-18-9N	02691813	Arbor	160,0	9	17,0	10,0	40,0	–	90,0	–	63,0	0,5	302,0	317,5	5000	4,5	XO.X18..
R220.69-8160-18-12N	02691809	Arbor	160,0	12	17,0	10,0	40,0	–	90,0	–	63,0	0,5	302,0	317,5	5000	4,4	XO.X18..

Modification of the cutter body needed for radii > 4,0 mm
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
Cx-R217.69-..	–	1/4HEX-T20PX50	C04510-T20P
R220.69-0040	TCEI0825	1/4HEX-T20PX50	C04510-T20P
R220.69-0050-0052	220.17-692	1/4HEX-T20PX50	C04510-T20P
R220.69-0063-0066	220.17-693	1/4HEX-T20PX50	C04510-T20P
R220.69-0080-0084	–	1/4HEX-T20PX50	C04510-T20P
R220.69-0100-8160	–	1/4HEX-T20PX90	C04510-T20P

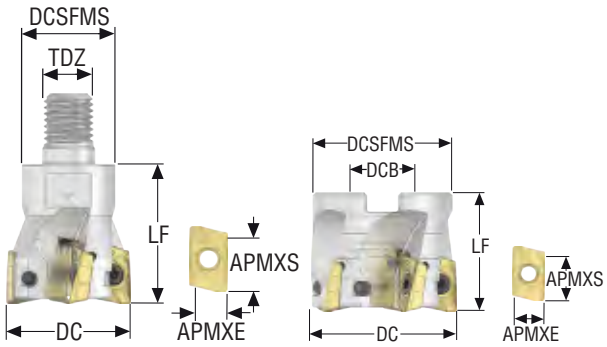
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
Cx-R217/220.69-1632-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	T00-20P50
R220.69-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Turbo 18 – R217/220.69-18 – inch



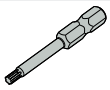


- For insert selection and cutting data recommendations, see page(s) 73-75
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		inch	inch		lbs	
R217.69-01.00-12RE-18-2AN	02699134	Combimaster	1.000	2	0.669	0.394	–	M12	0.906	1.575	6.0	1.280	1.890	13800	0.440	XO.X18
R217.69-01.25-16RE-18-3AN	02699137	Combimaster	1.250	3	0.669	0.394	–	M16	1.181	1.772	7.0	1.791	2.402	11100	0.660	XO.X18
R217.69-01.50-16RE-18-3AN	02699141	Combimaster	1.500	3	0.669	0.394	–	M16	1.181	1.772	4.5	2.283	2.894	9900	0.660	XO.X18
R217.69-01.50-16RE-18-4AN	02699143	Combimaster	1.500	4	0.669	0.394	–	M16	1.181	1.772	4.5	2.283	2.894	9900	0.660	XO.X18
R220.69-02.00-18-3AN	02694974	Arbor	2.000	3	0.669	0.394	0.750	–	1.850	1.575	3.0	3.287	3.898	8900	0.880	XO.X18
R220.69-02.00-18-4AN	02694975	Arbor	2.000	4	0.669	0.394	0.750	–	1.850	1.575	3.0	3.287	3.898	8900	0.880	XO.X18
R220.69-02.00-18-5AN	02694976	Arbor	2.000	5	0.669	0.394	0.750	–	1.850	1.575	3.0	3.287	3.898	8900	0.880	XO.X18
R220.69-02.50-18-5AN	02694979	Arbor	2.500	5	0.669	0.394	0.750	–	1.850	1.575	2.0	4.291	4.902	7900	1.320	XO.X18
R220.69-02.50-18-6AN	02694981	Arbor	2.500	6	0.669	0.394	0.750	–	1.850	1.575	2.0	4.291	4.902	7900	1.100	XO.X18
R220.69-03.00-18-6AN	02694985	Arbor	3.000	6	0.669	0.394	1.000	–	2.441	1.969	1.5	5.276	5.886	7000	2.430	XO.X18
R220.69-03.00-18-8AN	02694987	Arbor	3.000	8	0.669	0.394	1.000	–	2.441	1.969	1.5	5.276	5.886	7000	2.430	XO.X18
R220.69-04.00-18-5AN	02694990	Arbor	4.000	5	0.669	0.394	1.500	–	3.543	1.969	1.0	7.283	7.894	6300	4.850	XO.X18
R220.69-04.00-18-7AN	02694992	Arbor	4.000	7	0.669	0.394	1.500	–	3.543	1.969	1.0	7.283	7.894	6300	4.630	XO.X18
R220.69-04.00-18-9AN	02694993	Arbor	4.000	9	0.669	0.394	1.500	–	3.543	1.969	1.0	7.283	7.894	6300	4.630	XO.X18
R220.69-05.00-18-8AN	02694995	Arbor	5.000	8	0.669	0.394	1.500	–	3.543	2.480	1.0	9.291	9.902	5600	8.160	XO.X18
R220.69-05.00-18-11AN	02694994	Arbor	5.000	11	0.669	0.394	1.500	–	3.543	2.480	1.0	9.291	9.902	5600	8.160	XO.X18
R220.69-06.00-18-9N	02694997	Arbor	6.000	9	0.669	0.394	2.000	–	4.331	2.480	0.5	11.280	11.890	5000	9.040	XO.X18
R220.69-06.00-18-12N	02694996	Arbor	6.000	12	0.669	0.394	2.000	–	4.331	2.480	0.5	11.280	11.890	5000	9.040	XO.X18

Modification of the cutter body needed for radii > 0.158 in
For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..	–	1/4HEX-T20PX50	C04510-T20P
R220.69-02.00-02.50	220.17-695	1/4HEX-T20PX50	C04510-T20P
R220.69-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C04510-T20P
R220.69-04.00	UF6S3/4UNFX2	1/4HEX-T20PX90	C04510-T20P
R220.69-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C04510-T20P
R220.69-06.00	–	1/4HEX-T20PX90	C04510-T20P

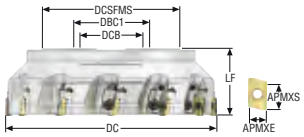
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220.69-01.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.69-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

Turbo 18 – R220.69-18 – Metric



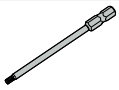


- For insert selection and cutting data recommendations, see page(s) 73-75
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

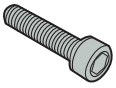
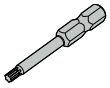
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		mm	mm		kg	
R220.69-0125-18-8CN	02706947	Arbor	125,0	8	17,0	10,0	40,0	90,0	63,0	1,0	232,0	247,5	5600	3,3	XO.X18..
R220.69-8160-18-10CN	02706948	Arbor	160,0	10	17,0	10,0	40,0	90,0	63,0	0,7	302,0	317,5	5000	5,2	XO.X18..
R220.69-8200-18-12CN	02706950	Arbor	200,0	12	17,0	10,0	60,0	130,0	63,0	0,5	382,0	397,5	4400	7,4	XO.X18..
R220.69-8250-18-16CN	02706951	Arbor	250,0	16	17,0	10,0	60,0	130,0	63,0	0,4	482,0	497,5	3900	14,7	XO.X18..

Modification of the cutter body needed for radii > 4,0 mm

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.69-0125-8250	AU1114T-T15P	XO18PRN	FS96018	1/4HEX-T20PX90	C04510-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Nest key	Setting key	Torque key
						
R220.69-0125-8250	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.69-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.69-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 872

R217/220.69-18 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	XOMX180608TR-ME13 F40M	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P2	XOMX180608TR-ME13 F40M	8,0 *0.32*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*
P3	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*
P4	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*
P5	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P6	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P7	XOMX180608TR-M14 MP2501	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P11	XOMX180608TR-M14 MP3501	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P12	XOMX180608TR-M14 MP3000	7,0 *0.28*	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
M1	XOMX180608R-M10 F40M	8,0 *0.32*	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
M2	XOMX180608R-M10 F40M	8,0 *0.32*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
M3	XOMX180608R-M10 F40M	7,0 *0.28*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M4	XOMX180608R-M10 MS2050	5,0 *0.20*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
M5	XOMX180608R-M10 MS2050	5,0 *0.20*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
K1	XOMX180608TR-M14 MK1500	8,0 *0.32*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
K2	XOMX180608TR-M14 MK1500	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
K3	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
K4	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
K5	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
K6	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
K7	XOMX180608TR-M14 MK2050	8,0 *0.32*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
N1	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
N2	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
N3	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
N11	XOEX180608FR-E10 H25	8,0 *0.32*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
S1	XOMX180608R-M10 F40M	5,0 *0.20*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
S2	XOMX180608R-M10 F40M	5,0 *0.20*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
S3	XOMX180608R-M10 F40M	5,0 *0.20*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
S11	XOMX180608R-M10 MS2050	6,0 *0.24*	0,10 *0.0040*	0,11 *0.0044*	0,18 *0.0070*
S12	XOMX180608R-M10 MS2050	6,0 *0.24*	0,10 *0.0040*	0,11 *0.0044*	0,18 *0.0070*
S13	XOMX180608R-M10 MS2050	5,0 *0.20*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
H5	XOMX180608TR-M14 MP3000	7,0 *0.28*	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
H8	XOMX180608TR-M14 MP3000	6,0 *0.24*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
H11	XOMX180608TR-MD15 MP1501	7,0 *0.28*	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*
H12	XOMX180608TR-MD15 MP1501	6,0 *0.24*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*

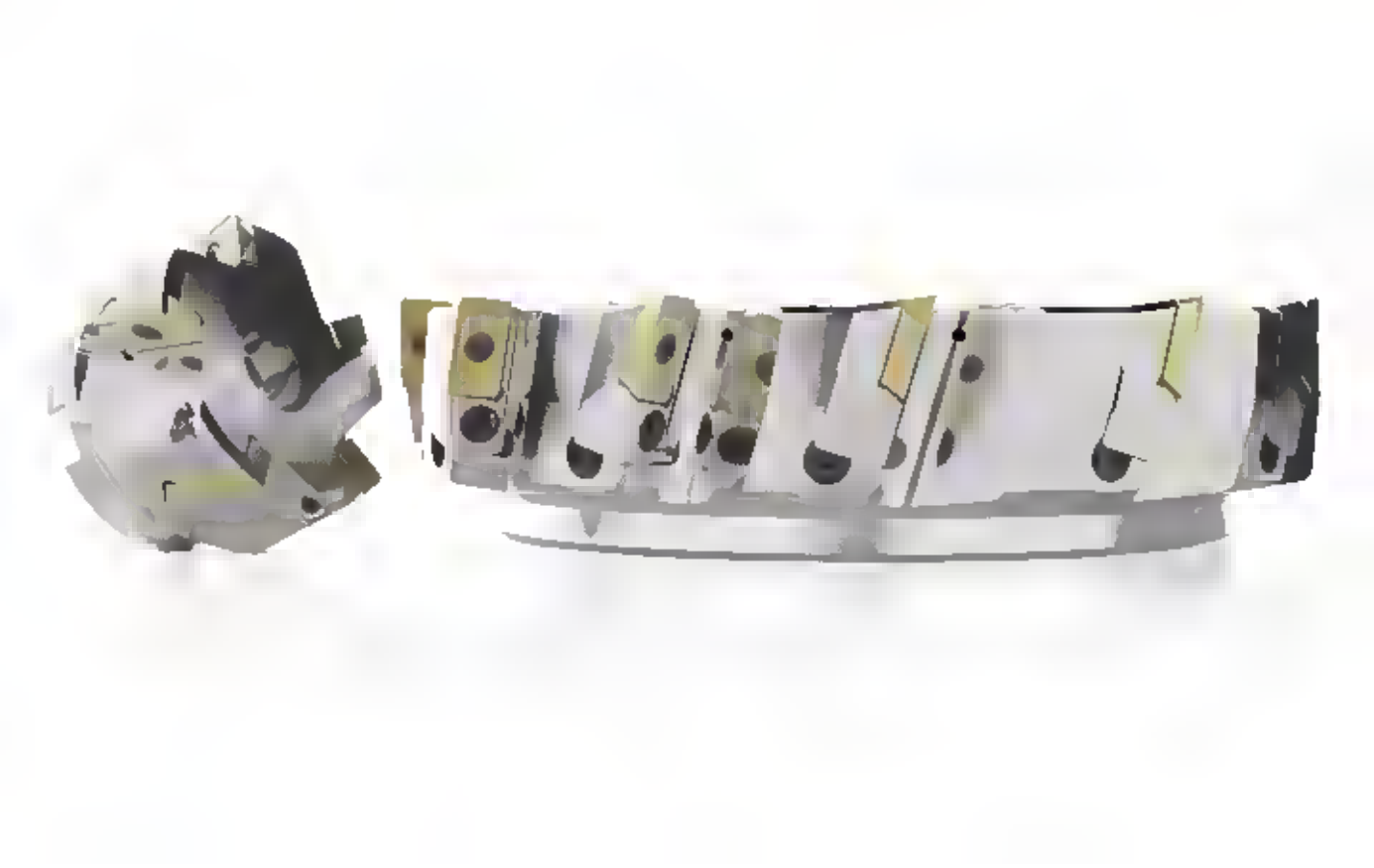
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-18 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	255 *840*	335 *1100*	400 *1300*	245 *800*	320 *1050*	385 *1275*	245 *800*	330 *1075*	380 *1250*	225 *740*	300 *980*	345 *1125*	290 *950*	385 *1275*	450 *1475*	— —	— —	— —
P2	245 *800*	325 *1075*	385 *1275*	235 *770*	315 *1025*	370 *1225*	240 *790*	315 *1025*	370 *1225*	220 *720*	285 *940*	340 *1125*	280 *920*	370 *1225*	440 *1450*	— —	— —	— —
P3	215 *710*	290 *950*	335 *1100*	205 *670*	280 *920*	325 *1075*	205 *670*	275 *900*	330 *1075*	185 *610*	250 *820*	300 *980*	245 *800*	325 *1075*	385 *1275*	— —	— —	— —
P4	190 *620*	255 *840*	295 *970*	180 *590*	245 *800*	285 *940*	185 *610*	240 *790*	290 *950*	170 *560*	220 *720*	260 *850*	220 *720*	285 *940*	340 *1125*	— —	— —	— —
P5	185 *610*	245 *800*	290 *950*	175 *570*	235 *770*	280 *920*	175 *570*	235 *770*	275 *900*	160 *520*	215 *710*	250 *820*	210 *690*	275 *900*	325 *1075*	— —	— —	— —
P6	205 *670*	275 *900*	325 *1075*	200 *660*	260 *850*	310 *1025*	200 *660*	265 *870*	310 *1025*	180 *590*	240 *790*	280 *920*	235 *770*	310 *1025*	365 *1200*	— —	— —	— —
P7	195 *640*	255 *840*	305 *1000*	185 *610*	250 *820*	295 *970*	190 *620*	250 *820*	290 *950*	170 *560*	225 *740*	265 *870*	220 *720*	295 *970*	345 *1125*	— —	— —	— —
P8	180 *590*	245 *800*	285 *940*	175 *570*	235 *770*	270 *890*	175 *570*	230 *750*	275 *900*	160 *520*	210 *690*	250 *820*	205 *670*	270 *890*	325 *1075*	— —	— —	— —
P11	190 *620*	250 *820*	295 *970*	180 *590*	240 *790*	285 *940*	180 *590*	240 *790*	285 *940*	165 *540*	220 *720*	260 *850*	215 *710*	285 *940*	335 *1100*	— —	— —	— —
P12	125 *410*	165 *540*	195 *640*	120 *395*	160 *520*	190 *620*	120 *395*	160 *520*	185 *610*	110 *360*	145 *475*	170 *560*	140 *460*	185 *610*	215 *710*	— —	— —	— —
M1	— —	— —	— —	175 *570*	235 *770*	275 *900*	195 *640*	250 *820*	300 *980*	175 *570*	230 *750*	275 *900*	200 *660*	265 *870*	315 *1025*	— —	— —	— —
M2	— —	— —	— —	150 *490*	195 *640*	230 *750*	160 *520*	210 *690*	250 *820*	145 *475*	190 *620*	225 *740*	165 *540*	220 *720*	260 *850*	— —	— —	— —
M3	— —	— —	— —	120 *395*	160 *520*	190 *620*	130 *425*	170 *560*	200 *660*	120 *395*	155 *510*	185 *610*	135 *445*	180 *590*	210 *690*	— —	— —	— —
M4	— —	— —	— —	95 *310*	125 *410*	145 *475*	100 *330*	135 *445*	155 *510*	95 *310*	120 *395*	140 *460*	105 *345*	140 *460*	165 *540*	— —	— —	— —
M5	— —	— —	— —	80 *260*	105 *345*	120 *395*	85 *280*	110 *360*	130 *425*	75 *245*	100 *330*	120 *395*	90 *295*	115 *375*	135 *445*	— —	— —	— —
K1	265 *870*	350 *1150*	415 *1350*	185 *610*	250 *820*	295 *970*	— —	— —	— —	175 *570*	225 *740*	270 *890*	— —	— —	— —	— —	— —	— —
K2	240 *790*	315 *1025*	375 *1225*	170 *560*	220 *720*	265 *870*	— —	— —	— —	155 *510*	205 *670*	240 *790*	— —	— —	— —	— —	— —	— —
K3	200 *660*	265 *870*	315 *1025*	140 *460*	190 *620*	225 *740*	— —	— —	— —	130 *425*	170 *560*	200 *660*	— —	— —	— —	— —	— —	— —
K4	190 *620*	255 *840*	300 *980*	135 *445*	180 *590*	215 *710*	— —	— —	— —	125 *410*	165 *540*	190 *620*	— —	— —	— —	— —	— —	— —
K5	120 *395*	155 *510*	185 *610*	85 *280*	110 *360*	130 *425*	— —	— —	— —	75 *245*	100 *330*	115 *375*	— —	— —	— —	— —	— —	— —
K6	170 *560*	225 *740*	265 *870*	120 *395*	160 *520*	190 *620*	— —	— —	— —	110 *360*	145 *475*	170 *560*	— —	— —	— —	— —	— —	— —
K7	150 *490*	200 *660*	235 *770*	105 *345*	140 *460*	165 *540*	— —	— —	— —	95 *310*	125 *410*	150 *490*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1275 *4175*	1675 *5500*	1975 *6475*	— —	— —	— —	1275 *4175*	1675 *5500*	2000 *6550*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	510 *1675*	670 *2200*	800 *2625*	— —	— —	— —	520 *1700*	680 *2225*	810 *2650*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	340 *1125*	450 *1475*	540 *1775*	— —	— —	— —	345 *1125*	455 *1500*	540 *1775*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	390 *1275*	510 *1675*	610 *2000*	— —	— —	— —	395 *1300*	520 *1700*	620 *2025*
S1	— —	— —	— —	44 *145*	60 *195*	70 *230*	48 *155*	60 *195*	75 *245*	43 *140*	55 *180*	65 *215*	50 *165*	70 *230*	80 *260*	— —	— —	— —
S2	— —	— —	— —	35 *115*	47 *155*	55 *180*	38 *125*	50 *165*	60 *195*	35 *115*	45 *150*	55 *180*	42 *140*	55 *180*	65 *215*	— —	— —	— —
S3	— —	— —	— —	31 *100*	41 *135*	48 *155*	33 *110*	44 *145*	50 *165*	30 *100*	40 *130*	47 *155*	37 *120*	48 *155*	55 *180*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	65 *215*	85 *280*	100 *330*	60 *195*	80 *260*	95 *310*	75 *245*	95 *310*	110 *360*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	46 *150*	60 *195*	70 *230*	42 *140*	55 *180*	65 *215*	50 *165*	65 *215*	80 *260*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	27 *90*	35 *115*	41 *135*	24 *80*	32 *105*	37 *120*	29 *95*	38 *125*	45 *150*	— —	— —	— —
H5	— —	— —	— —	38 *125*	49 *160*	60 *195*	— —	— —	— —	36 *120*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	40 *130*	55 *180*	60 *195*	— —	— —	— —	38 *125*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	48 *155*	60 *195*	75 *245*	— —	— —	— —	46 *150*	60 *195*	70 *230*	55 *180*	70 *230*	85 *280*	— —	— —	— —
H12	— —	— —	— —	75 *245*	105 *345*	120 *395*	— —	— —	— —	70 *230*	90 *295*	105 *345*	90 *295*	120 *395*	140 *460*	— —	— —	— —

R217/220.69-18 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	365	460	530	360	450	520	325	405	460	175	230	275
	—	—	—	*1200*	*1500*	*1750*	*1175*	*1475*	*1700*	*1075*	*1325*	*1500*	*570*	*750*	*900*
P2	—	—	—	360	445	510	350	435	495	315	395	445	165	225	260
	—	—	—	*1175*	*1450*	*1675*	*1150*	*1425*	*1625*	*1025*	*1300*	*1450*	*540*	*740*	*850*
P3	—	—	—	315	395	445	305	390	435	275	350	390	145	195	230
	—	—	—	*1025*	*1300*	*1450*	*1000*	*1275*	*1425*	*900*	*1150*	*1275*	*475*	*640*	*750*
P4	—	—	—	275	350	390	270	340	385	245	310	345	130	170	205
	—	—	—	*900*	*1150*	*1275*	*890*	*1125*	*1275*	*800*	*1025*	*1125*	*425*	*560*	*670*
P5	—	—	—	270	335	380	260	325	375	235	295	335	125	165	195
	—	—	—	*890*	*1100*	*1250*	*850*	*1075*	*1225*	*770*	*970*	*1100*	*410*	*540*	*640*
P6	—	—	—	300	375	425	295	365	420	265	330	380	140	185	220
	—	—	—	*980*	*1225*	*1400*	*970*	*1200*	*1375*	*870*	*1075*	*1250*	*460*	*610*	*720*
P7	—	—	—	285	355	405	280	345	395	250	310	355	130	175	210
	—	—	—	*940*	*1175*	*1325*	*920*	*1125*	*1300*	*820*	*1025*	*1175*	*425*	*570*	*690*
P8	—	—	—	265	335	375	255	325	365	230	295	330	120	165	190
	—	—	—	*870*	*1100*	*1225*	*840*	*1075*	*1200*	*750*	*970*	*1075*	*395*	*540*	*620*
P11	—	—	—	275	345	390	270	335	385	245	305	345	130	170	200
	—	—	—	*900*	*1125*	*1275*	*890*	*1100*	*1275*	*800*	*1000*	*1125*	*425*	*560*	*660*
P12	—	—	—	185	225	255	180	220	250	160	200	225	85	110	135
	—	—	—	*610*	*740*	*840*	*590*	*720*	*820*	*520*	*660*	*740*	*280*	*360*	*445*
M1	—	—	—	—	—	—	180	240	280	170	225	265	145	190	225
	—	—	—	—	—	—	*590*	*790*	*920*	*560*	*740*	*870*	*475*	*620*	*740*
M2	—	—	—	—	—	—	150	200	235	140	185	220	120	155	190
	—	—	—	—	—	—	*490*	*660*	*770*	*460*	*610*	*720*	*395*	*510*	*620*
M3	—	—	—	—	—	—	120	160	190	115	155	180	95	130	155
	—	—	—	—	—	—	*395*	*520*	*620*	*375*	*510*	*590*	*310*	*425*	*510*
M4	—	—	—	—	—	—	95	125	145	90	120	140	75	100	120
	—	—	—	—	—	—	*310*	*410*	*475*	*295*	*395*	*460*	*245*	*330*	*395*
M5	—	—	—	—	—	—	80	105	125	75	100	115	65	85	100
	—	—	—	—	—	—	*260*	*345*	*410*	*245*	*330*	*375*	*215*	*280*	*330*
K1	280	370	440	360	450	510	350	440	500	315	395	450	—	—	—
	920	*1225*	*1450*	*1175*	*1475*	*1675*	*1150*	*1450*	*1650*	*1025*	*1300*	*1475*	—	—	—
K2	250	330	395	325	405	460	315	395	450	285	355	405	—	—	—
	820	*1075*	*1300*	*1075*	*1325*	*1500*	*1025*	*1300*	*1475*	*940*	*1175*	*1325*	—	—	—
K3	215	280	335	275	340	390	270	335	380	240	300	345	—	—	—
	710	*920*	*1100*	*900*	*1125*	*1275*	*890*	*1100*	*1250*	*790*	*980*	*1125*	—	—	—
K4	205	270	320	260	325	370	255	320	365	230	285	330	—	—	—
	670	*890*	*1050*	*850*	*1075*	*1225*	*840*	*1050*	*1200*	*750*	*940*	*1075*	—	—	—
K5	125	165	195	160	200	225	160	195	220	140	175	200	—	—	—
	410	*540*	*640*	*520*	*660*	*740*	*520*	*640*	*720*	*460*	*570*	*660*	—	—	—
K6	180	235	280	230	285	330	225	280	320	205	255	290	—	—	—
	590	*770*	*920*	*750*	*940*	*1075*	*740*	*920*	*1050*	*670*	*840*	*950*	—	—	—
K7	160	210	250	210	255	290	205	250	285	180	225	255	—	—	—
	520	*690*	*820*	*690*	*840*	*950*	*670*	*820*	*940*	*590*	*740*	*840*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	42	55	65	23	31	36
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*75*	*100*	*120*
S2	—	—	—	—	—	—	—	—	—	34	45	50	19	25	29
	—	—	—	—	—	—	—	—	—	*110*	*150*	*165*	*60*	*80*	*95*
S3	—	—	—	—	—	—	—	—	—	30	39	46	17	22	26
	—	—	—	—	—	—	—	—	—	*100*	*130*	*150*	*55*	*70*	*85*
S11	—	—	—	—	—	—	—	—	—	60	80	90	32	43	50
	—	—	—	—	—	—	—	—	—	*195*	*260*	*295*	*105*	*140*	*165*
S12	—	—	—	—	—	—	—	—	—	40	55	65	30	39	47
	—	—	—	—	—	—	—	—	—	*130*	*180*	*215*	*100*	*130*	*155*
S13	—	—	—	—	—	—	—	—	—	24	31	36	18	23	27
	—	—	—	—	—	—	—	—	—	*80*	*100*	*120*	*60*	*75*	*90*
H5	—	—	—	48	60	75	—	—	—	37	49	60	—	—	—
	—	—	—	*155*	*195*	*245*	—	—	—	*120*	*160*	*195*	—	—	—
H8	—	—	—	50	70	80	—	—	—	40	55	60	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	*130*	*180*	*195*	—	—	—
H11	—	—	—	60	80	95	—	—	—	47	60	75	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	*155*	*195*	*245*	—	—	—
H12	—	—	—	90	125	140	—	—	—	70	95	110	—	—	—
	—	—	—	*295*	*410*	*460*	—	—	—	*230*	*310*	*360*	—	—	—

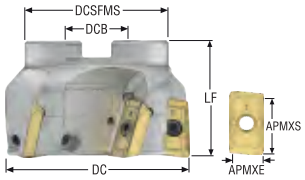


R220.90 ABEX

These multipurpose 90° square-shoulder milling cutters are for heavy roughing applications, delivering large depth-of-cut capability and high feed rates for consistent performance and excellent metal-removal rates.

- Cutter range 63-315 mm (2.5-12 inch)
- Max depth of cut 24 mm (0.94 inch)
- Recommended slotting depth of cut 13 mm (0.51 inch)
- Insert corner radii range 1.6 mm (0.063 inch)

R220.90-26 ABEX – Metric

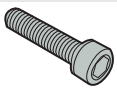




- For insert selection and cutting data recommendations, see page(s) 79-80
- For complete insert programme, see page(s) 806
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		mm	mm		kg	
R220.90-0063-26-5AM	02789823	Arbor	63,0	5	20,0	10,0	27,0	55,0	50,0	1,5	107,6	123,5	6700	0,6	ABEX26..
R220.90-0063-26-6AM	02789825	Arbor	63,0	6	20,0	10,0	27,0	55,0	50,0	1,5	107,6	123,5	6700	0,8	ABEX26..
R220.90-0080-26-5AM	02789826	Arbor	80,0	5	20,0	10,0	27,0	62,0	50,0	1,0	141,6	157,5	5900	1,1	ABEX26..
R220.90-0125-26-7AM	02789831	Arbor	125,0	7	20,0	10,0	40,0	90,0	63,0	0,5	231,6	247,5	4700	3,1	ABEX26..

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.90-0063-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P
R220.90-0100-0125	–	1/4HEX-T20PX90	C05013-T20P

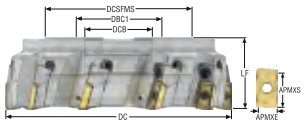
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R220.90-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.90 ABEX – Metric

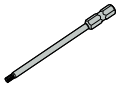
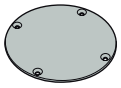




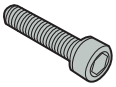
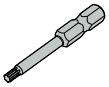
- For insert selection and cutting data recommendations, see page(s) 79-80
- For complete insert programme, see page(s) 806
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	DBC1	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R220.90-8160-26-8CAN	02830886	Arbor	160,0	8	20,0	10,0	40,0	90,0	66,7	63,0	0,4	296,5	316,8	4200	5,3	ABEX26..
R220.90-8200-26-10CAN	02830887	Arbor	200,0	10	20,0	10,0	60,0	130,0	101,6	63,0	0,35	376,5	396,8	3800	8,1	ABEX26..
R220.90-8250-26-12CAN	02830888	Arbor	250,0	12	20,0	10,0	60,0	130,0	101,6	63,0	0,3	476,5	496,8	3400	13,4	ABEX26..
R220.90-8315-26-14CAN	02830889	Arbor	315,0	14	20,0	10,0	60,0	225,0	101,6	80,0	0,3	606,5	626,8	3000	28,1	ABEX26..

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Cassette screw 2	Insert key	Insert screw	Lid	Lid screw
								
R220.90-8160	AU1114T-T15P	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10
R220.90-8200	AU1114T-T15P	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10
R220.90-8250	AU1114T-T15P	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10
R220.90-8315	AU1114T-T15P	AB26PRN	FS96018	C05018-T20P	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Nest key	Setting key	Torque key
						
R220.90-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.90-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50
R220.90-8315	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	1/4HEX-H5.0X50	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 872

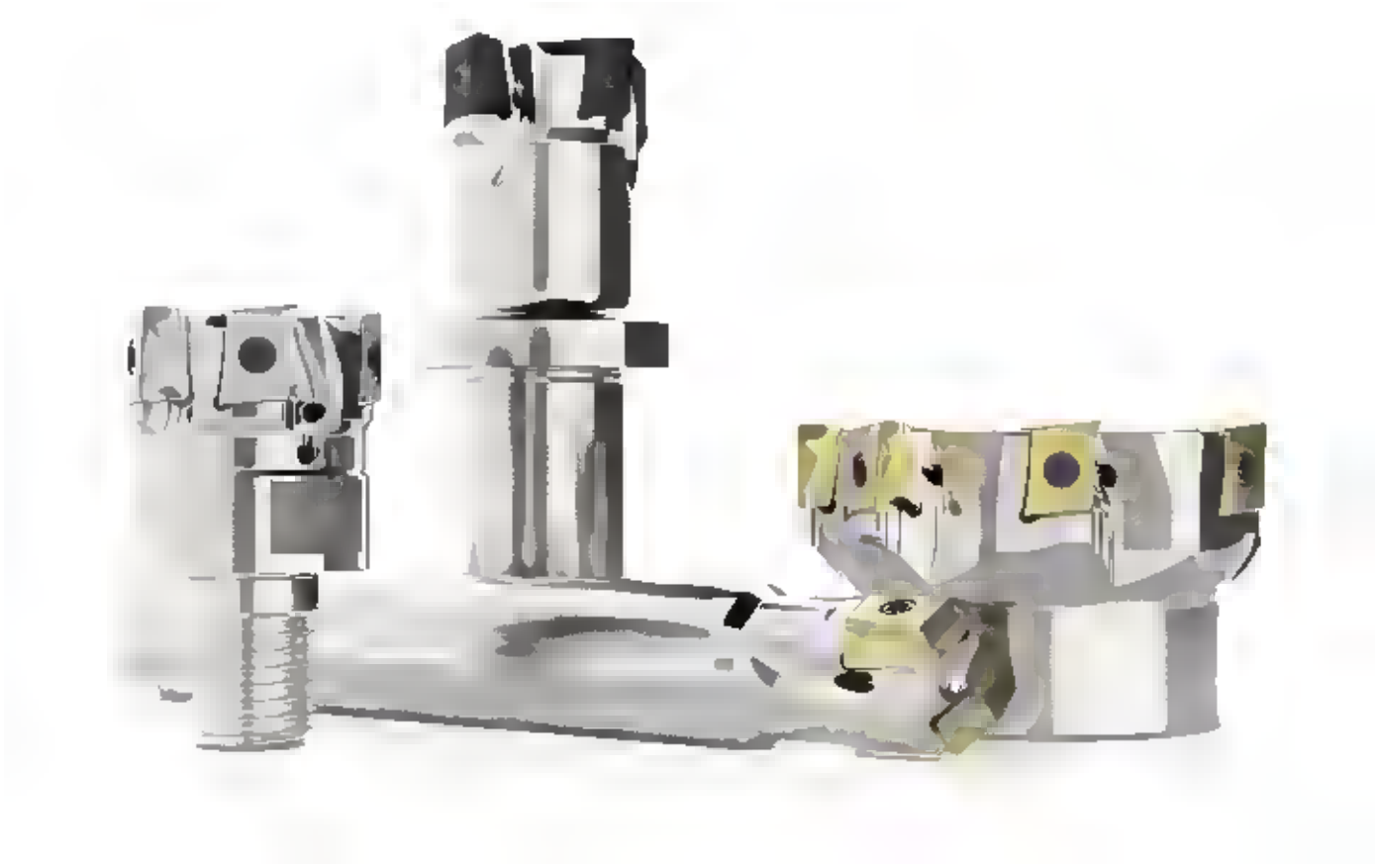
R220.90-26 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*
P2	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*
P3	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
P4	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
P5	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
P6	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*
P7	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*
P8	ABEX2606ZFFR-M15 MP2501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
P11	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*
P12	ABEX2606ZZFR-M15 MP3501	8,0 *0.32*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
M1	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*
M2	ABEX2606ZFFR-M15 F40M	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
M3	ABEX2606ZFFR-M15 F40M	8,0 *0.32*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
M4	ABEX2606ZFFR-M15 F40M	6,0 *0.24*	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
M5	ABEX2606ZFFR-M15 F40M	6,0 *0.24*	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
K1	ABEX2606ZFFR-M15 MK1500	10,0 *0.40*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*
K2	ABEX2606ZFFR-M15 MK1500	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
K3	ABEX2606ZFFR-M15 MK1500	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
K4	ABEX2606ZFFR-M15 MK1500	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
K5	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,18 *0.0070*	0,19 *0.0075*	0,30 *0.012*
K6	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
K7	ABEX2606ZZFR-M15 MP3501	10,0 *0.40*	0,18 *0.0070*	0,19 *0.0075*	0,30 *0.012*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.90-26 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			MK1500			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	185 *610*	250 *820*	295 *970*	— —	— —	— —	355 *1175*	440 *1450*	510 *1675*	345 *1125*	430 *1400*	495 *1625*	305 *1000*	385 *1275*	440 *1450*
P2	180 *590*	240 *790*	285 *940*	— —	— —	— —	345 *1125*	430 *1400*	490 *1600*	335 *1100*	420 *1375*	480 *1575*	295 *970*	375 *1225*	430 *1400*
P3	160 *520*	215 *710*	250 *820*	— —	— —	— —	305 *1000*	380 *1250*	430 *1400*	300 *980*	375 *1225*	420 *1375*	265 *870*	330 *1075*	375 *1225*
P4	145 *475*	190 *620*	220 *720*	— —	— —	— —	270 *890*	335 *1100*	380 *1250*	265 *870*	330 *1075*	370 *1225*	235 *770*	295 *970*	330 *1075*
P5	135 *445*	180 *590*	215 *710*	— —	— —	— —	255 *840*	320 *1050*	370 *1225*	250 *820*	315 *1025*	360 *1175*	225 *740*	280 *920*	325 *1075*
P6	155 *510*	200 *660*	240 *790*	— —	— —	— —	290 *950*	360 *1175*	415 *1350*	280 *920*	350 *1150*	405 *1325*	250 *820*	315 *1025*	365 *1200*
P7	145 *475*	190 *620*	230 *750*	— —	— —	— —	275 *900*	340 *1125*	390 *1275*	265 *870*	330 *1075*	385 *1275*	235 *770*	295 *970*	340 *1125*
P8	135 *445*	180 *590*	210 *690*	— —	— —	— —	255 *840*	320 *1050*	360 *1175*	250 *820*	315 *1025*	355 *1175*	225 *740*	280 *920*	315 *1025*
P11	140 *460*	185 *610*	220 *720*	— —	— —	— —	265 *870*	330 *1075*	380 *1250*	260 *850*	325 *1075*	370 *1225*	230 *750*	290 *950*	335 *1100*
P12	95 *310*	125 *410*	145 *475*	— —	— —	— —	175 *570*	220 *720*	245 *800*	175 *570*	215 *710*	240 *790*	155 *510*	190 *620*	220 *720*
M1	145 *475*	195 *640*	230 *750*	— —	— —	— —	— —	— —	— —	175 *570*	230 *750*	275 *900*	160 *520*	215 *710*	255 *840*
M2	120 *395*	160 *520*	195 *640*	— —	— —	— —	— —	— —	— —	145 *475*	190 *620*	230 *750*	135 *445*	180 *590*	215 *710*
M3	100 *330*	135 *445*	155 *510*	— —	— —	— —	— —	— —	— —	120 *395*	160 *520*	185 *610*	110 *360*	145 *475*	175 *570*
M4	80 *260*	105 *345*	125 *410*	— —	— —	— —	— —	— —	— —	95 *310*	125 *410*	145 *475*	90 *295*	115 *375*	135 *445*
M5	65 *215*	90 *295*	105 *345*	— —	— —	— —	— —	— —	— —	80 *260*	105 *345*	120 *395*	75 *245*	95 *310*	115 *375*
K1	145 *475*	190 *620*	225 *740*	270 *890*	360 *1175*	425 *1400*	345 *1125*	435 *1425*	495 *1625*	335 *1100*	425 *1400*	485 *1600*	300 *980*	375 *1225*	435 *1425*
K2	130 *425*	170 *560*	205 *670*	240 *790*	320 *1050*	380 *1250*	310 *1025*	390 *1275*	445 *1450*	305 *1000*	380 *1250*	435 *1425*	270 *890*	340 *1125*	390 *1275*
K3	110 *360*	145 *475*	175 *570*	205 *670*	270 *890*	325 *1075*	265 *870*	330 *1075*	380 *1250*	255 *840*	320 *1050*	370 *1225*	230 *750*	285 *940*	330 *1075*
K4	105 *345*	140 *460*	165 *540*	195 *640*	260 *850*	310 *1025*	250 *820*	315 *1025*	360 *1175*	245 *800*	305 *1000*	355 *1175*	220 *720*	275 *900*	315 *1025*
K5	65 *215*	85 *280*	100 *330*	120 *395*	160 *520*	185 *610*	155 *510*	195 *640*	220 *720*	150 *490*	190 *620*	215 *710*	135 *445*	170 *560*	190 *620*
K6	90 *295*	120 *395*	145 *475*	170 *560*	225 *740*	270 *890*	220 *720*	275 *900*	315 *1025*	215 *710*	270 *890*	310 *1025*	190 *620*	240 *790*	280 *920*
K7	80 *260*	110 *360*	130 *425*	155 *510*	205 *670*	240 *790*	200 *660*	250 *820*	280 *920*	195 *640*	245 *800*	275 *900*	175 *570*	220 *720*	245 *800*



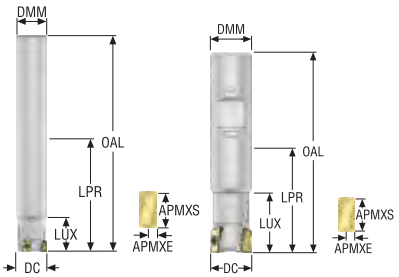
SQUARE T4

Made for roughing and semi-finishing operations, the Square T4 features four cutting edges and an innovative tangential cutter design that increases the surface area of contact between the insert and the cutter body resulting in good surface finish during slotting, contouring and plunging applications.

- Multi-edge inserts optimize cutting stability
- Available in two inserts size, 08 and 12
- Allow for clean 90-degree walls

Square T4 – R217.94-08 – Metric

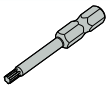




- For insert selection and cutting data recommendations, see page(s) 86-88
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		kg	
R217.94-1616.0-08-2A	02827519	Cylindrical	16,0	2	8,0	2,0	16,0	29,0	42,0	90,0	20600	0,2	LOEX08..
R217.94-1820.0-08-2A	02827520	Cylindrical	20,0	2	8,0	2,0	18,0	110,0	110,0	160,0	18400	0,4	LOEX08..
R217.94-2020.0-08-2A	02827522	Cylindrical	20,0	2	8,0	2,0	20,0	29,0	110,0	160,0	18400	0,4	LOEX08..
R217.94-2020.0-08-3A	02827523	Cylindrical	20,0	3	8,0	2,0	20,0	29,0	60,0	110,0	18400	0,3	LOEX08..
R217.94-2225.0-08-3A	02827524	Cylindrical	25,0	3	8,0	2,0	22,0	124,0	124,0	180,0	17600	0,5	LOEX08..
R217.94-2525.0-08-3A	02827525	Cylindrical	25,0	3	8,0	2,0	25,0	29,0	124,0	180,0	16500	0,7	LOEX08..
R217.94-2525.0-08-4A	02827526	Cylindrical	25,0	4	8,0	2,0	25,0	29,0	64,0	120,0	16500	0,4	LOEX08..
R217.94-3232.0-08-3A	02827528	Cylindrical	32,0	3	8,0	2,0	32,0	29,0	140,0	200,0	14600	1,2	LOEX08..
R217.94-3232.0-08-5A	02827529	Cylindrical	32,0	5	8,0	2,0	32,0	29,0	70,0	130,0	14600	0,8	LOEX08..
R217.94-1616.3-08-2A	02827530	Weldon	16,0	2	8,0	2,0	16,0	23,4	30,0	78,0	20600	0,2	LOEX08..
R217.94-2018.3-08-2A	02829812	Weldon	18,0	2	8,0	2,0	20,0	26,7	40,0	90,0	19400	0,2	LOEX08..
R217.94-2020.3-08-2A	02827531	Weldon	20,0	2	8,0	2,0	20,0	28,8	40,0	90,0	18400	0,3	LOEX08..
R217.94-2020.3-08-3A	02827533	Weldon	20,0	3	8,0	2,0	20,0	28,9	40,0	90,0	18400	0,3	LOEX08..
R217.94-2522.3-08-3A	02829813	Weldon	22,0	3	8,0	2,0	25,0	26,5	45,0	101,0	17600	0,3	LOEX08..
R217.94-2525.3-08-3A	02827534	Weldon	25,0	3	8,0	2,0	25,0	28,9	45,0	101,0	16500	0,4	LOEX08..
R217.94-2525.3-08-4A	02827535	Weldon	25,0	4	8,0	2,0	25,0	28,9	45,0	101,0	16500	0,4	LOEX08..
R217.94-3232.3-08-5A	02827537	Weldon	32,0	5	8,0	2,0	32,0	28,2	45,0	105,0	14600	0,6	LOEX08..

Spare Parts, included in delivery

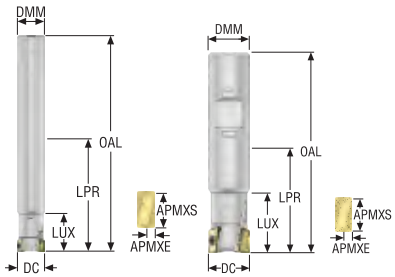
For cutter	Insert key	Insert screw
		
R217.94-.. Ø16-18	1/4HEX-T08PX50	C02707B-T08P
R217.94-.. Ø20-32	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1.2NM	T00-08P12

Torque and fixed keys, see page 872

Square T4 – R217.94-08 – inch

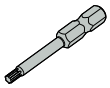




- For insert selection and cutting data recommendations, see page(s) 86-88
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.94-00.62-0-08-2A	02887518	Cylindrical	0.625	2	0.315	0.079	0.625	1.122	3.630	5.520	20600	0.440	LOEX08..
R217.94-01.00-0-08-3A	02887523	Cylindrical	1.000	3	0.315	0.079	1.000	1.138	5.665	7.870	16500	1.540	LOEX08..
R217.94-00.75-3-08-3A	02887522	Weldon	0.750	3	0.315	0.079	0.750	1.138	1.531	3.500	18400	0.440	LOEX08..
R217.94-01.00-3-08-3A	02887524	Weldon	1.000	3	0.315	0.079	1.000	1.138	2.031	4.000	16500	0.880	LOEX08..
R217.94-01.00-3-08-4A	02887525	Weldon	1.000	4	0.315	0.079	1.000	1.138	2.031	4.000	16500	0.880	LOEX08..
R217.94-01.25-3-08-4A	02887527	Weldon	1.250	4	0.315	0.079	1.250	1.110	2.138	4.500	14600	1.540	LOEX08..

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.94-00.62-00.75	1/4HEX-T08PX50	C02707B-T08P
R217.94-01.00-01.25	1/4HEX-T08PX50	C02708B-T08P

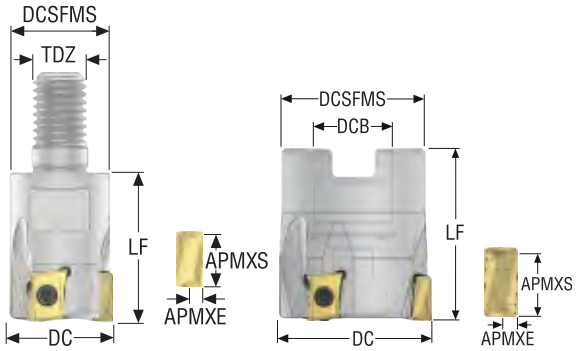
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

Square T4 – R217/220.94-08 – Metric



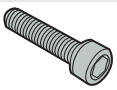
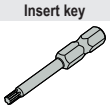


- For insert selection and cutting data recommendations, see page(s) 86-88
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm		kg	
R217.94-0816.RE-08-2A	02827538	Combimaster	16,0	2	8,0	2,0	–	M8	13,5	23,0	20600	0,1	LOEX08..
R217.94-1020.RE-08-3A	02827540	Combimaster	20,0	3	8,0	2,0	–	M10	18,5	28,0	18400	0,1	LOEX08..
R217.94-1225.RE-08-3A	02827541	Combimaster	25,0	3	8,0	2,0	–	M12	23,0	30,0	16500	0,2	LOEX08..
R217.94-1225.RE-08-4A	02827542	Combimaster	25,0	4	8,0	2,0	–	M12	23,0	30,0	16500	0,1	LOEX08..
R217.94-1632.RE-08-3A	02827543	Combimaster	32,0	3	8,0	2,0	–	M16	30,0	35,0	14600	0,3	LOEX08..
R217.94-1632.RE-08-5A	02827544	Combimaster	32,0	5	8,0	2,0	–	M16	30,0	35,0	14600	0,2	LOEX08..
R217.94-2040.RE-08-6A	02972755	Combimaster	40,0	6	8,0	2,0	–	M20	36,5	40,0	13000	0,4	LOEX08..
R220.94-0032-08-5A	02845461	Arbor	32,0	5	8,0	2,0	16,0	–	29,3	35,0	13000	0,2	LOEX08..
R220.94-0040-08-4A	02827545	Arbor	40,0	4	8,0	2,0	16,0	–	35,0	40,0	13000	0,3	LOEX08..
R220.94-0040-08-6A	02827546	Arbor	40,0	6	8,0	2,0	16,0	–	35,0	40,0	13000	0,3	LOEX08..
R220.94-0050-08-5A	02827547	Arbor	50,0	5	8,0	2,0	22,0	–	45,0	40,0	11700	0,5	LOEX08..
R220.94-0050-08-7A	02827548	Arbor	50,0	7	8,0	2,0	22,0	–	45,0	40,0	11700	0,5	LOEX08..
R220.94-0063-08-6A	02827549	Arbor	63,0	6	8,0	2,0	27,0	–	56,0	40,0	10400	0,7	LOEX08..
R220.94-0063-08-9A	02827550	Arbor	63,0	9	8,0	2,0	27,0	–	56,0	40,0	10400	0,7	LOEX08..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

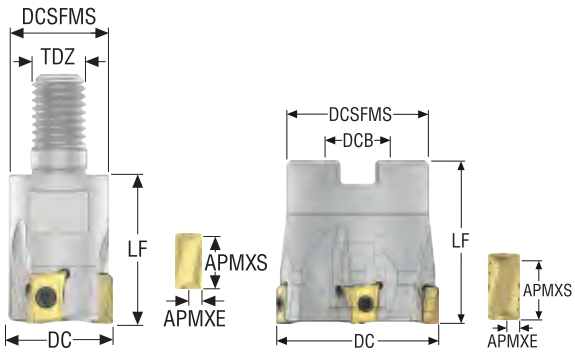
For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-.. Ø16	–	1/4HEX-T08PX50	C02707B-T08P
R217.94-.. Ø20-40	–	1/4HEX-T08PX50	C02708B-T08P
R220.94-0032	TCEI0825	1/4HEX-T08PX50	C02707B-T08P
R220.94-0040	TCEI0825	1/4HEX-T08PX50	C02708B-T08P
R220.94-0050	220.17-692	1/4HEX-T08PX50	C02708B-T08P
R220.94-0063	MLC6S12X30	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	1.2NM	T00-08P12

Torque and fixed keys, see page 872

Square T4 – R217/220.94-08 – inch



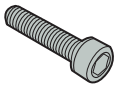
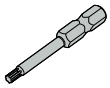


- For insert selection and cutting data recommendations, see page(s) 86-88
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		lbs	
R217.94-00.75-10RE-08-3A	10225143	Combimaster	0.750	3	0.315	0.079	–	M10	0.728	1.102	18400	0.220	LOEX0804
R217.94-01.00-12RE-08-3A	02890010	Combimaster	1.000	3	0.315	0.079	–	M12	0.906	1.181	16500	0.220	LOEX0804
R217.94-01.25-16RE-08-4A	10225144	Combimaster	1.250	4	0.315	0.079	–	M16	1.181	1.378	14600	0.440	LOEX0804
R220.94-01.50-08-4A	02887529	Arbor	1.500	4	0.315	0.079	0.750	–	1.378	1.575	13000	0.660	LOEX0804
R220.94-02.00-08-5A	02887530	Arbor	2.000	5	0.315	0.079	0.750	–	1.772	1.575	11700	1.100	LOEX0804

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-00.75	–	1/4HEX-T08PX50	C02707B-T08P
R217.94-01.00-01.25	–	1/4HEX-T08PX50	C02708B-T08P
R220.94-..	UC6S3/8UNFX1	1/4HEX-T08PX50	C02708B-T08P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

R217/220.94-08 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	LOEX080408TR-M08 F40M	4,0 *0.16*	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
P2	LOEX080408TR-M08 F40M	4,0 *0.16*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P3	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P4	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P5	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P6	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0070*
P7	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0070*
P8	LOEX080408TR-M08 MP2501	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P11	LOEX080408TR-M08 MP3501	4,0 *0.16*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0070*
P12	LOEX080408TR-M08 MP3000	3,0 *0.12*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
M1	LOEX080408TR-M08 F40M	4,0 *0.16*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
M2	LOEX080408TR-M08 F40M	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
M3	LOEX080408TR-M08 F40M	3,0 *0.12*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
M4	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
M5	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
K1	LOEX080408TR-M08 MK1500	4,0 *0.16*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K2	LOEX080408TR-M08 MK1500	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K3	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K4	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K5	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K6	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K7	LOEX080408TR-M08 MK2050	4,0 *0.16*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
N1	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
N2	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
N3	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
N11	LOEX080408TR-M08 F40M	4,0 *0.16*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
S1	LOEX080408TR-M08 F40M	2,5 *0.10*	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
S2	LOEX080408TR-M08 F40M	2,5 *0.10*	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
S3	LOEX080408TR-M08 F40M	2,5 *0.10*	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
S11	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S12	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S13	LOEX080408TR-M08 MS2050	2,5 *0.10*	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
H5	LOEX080408TR-M08 MP3000	3,0 *0.12*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H8	LOEX080408TR-M08 MP3000	2,5 *0.10*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*
H11	LOEX080408TR-MD08 MP1501	3,0 *0.12*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H12	LOEX080408TR-MD08 MP1501	2,5 *0.10*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

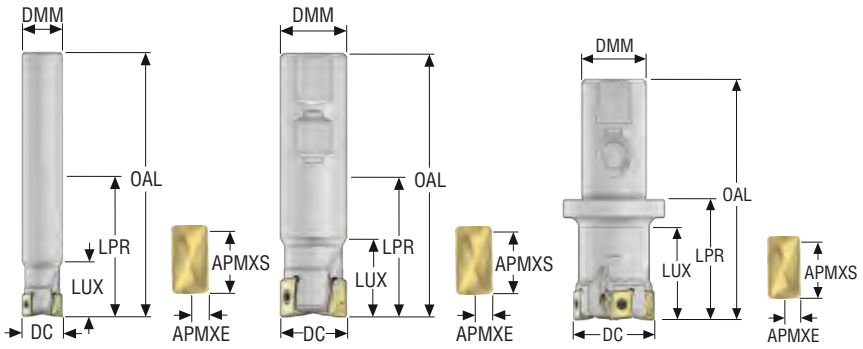
R217/220.94-08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	310 *1025*	410 *1350*	475 *1550*	300 *980*	395 *1300*	460 *1500*	260 *850*	345 *1125*	405 *1325*	240 *790*	315 *1025*	365 *1200*	295 *970*	390 *1275*	460 *1500*
P2	295 *970*	390 *1275*	465 *1525*	285 *940*	375 *1225*	445 *1450*	250 *820*	330 *1075*	395 *1300*	225 *740*	300 *980*	355 *1175*	290 *950*	380 *1250*	445 *1450*
P3	260 *850*	345 *1125*	405 *1325*	250 *820*	330 *1075*	390 *1275*	220 *720*	290 *950*	345 *1125*	200 *660*	265 *870*	310 *1025*	255 *840*	330 *1075*	395 *1300*
P4	230 *750*	300 *980*	355 *1175*	220 *720*	290 *950*	345 *1125*	195 *640*	255 *840*	300 *980*	175 *570*	230 *750*	275 *900*	225 *740*	295 *970*	345 *1125*
P5	220 *720*	290 *950*	340 *1125*	210 *690*	275 *900*	330 *1075*	185 *610*	245 *800*	290 *950*	170 *560*	220 *720*	260 *850*	215 *710*	280 *920*	330 *1075*
P6	250 *820*	330 *1075*	390 *1275*	240 *790*	320 *1050*	375 *1225*	215 *710*	280 *920*	330 *1075*	195 *640*	255 *840*	300 *980*	240 *790*	315 *1025*	370 *1225*
P7	235 *770*	310 *1025*	365 *1200*	230 *750*	300 *980*	350 *1150*	200 *660*	265 *870*	310 *1025*	180 *590*	240 *790*	280 *920*	225 *740*	300 *980*	350 *1150*
P8	220 *720*	290 *950*	340 *1125*	210 *690*	275 *900*	330 *1075*	185 *610*	245 *800*	290 *950*	170 *560*	220 *720*	260 *850*	215 *710*	275 *900*	330 *1075*
P11	230 *750*	305 *1000*	355 *1175*	220 *720*	290 *950*	340 *1125*	195 *640*	255 *840*	300 *980*	175 *570*	235 *770*	275 *900*	220 *720*	290 *950*	340 *1125*
P12	145 *475*	195 *640*	230 *750*	140 *460*	185 *610*	220 *720*	125 *410*	165 *540*	190 *620*	115 *375*	150 *490*	175 *570*	145 *475*	190 *620*	225 *740*
M1	— —	— —	— —	210 *690*	280 *920*	335 *1100*	200 *660*	265 *870*	315 *1025*	185 *610*	240 *790*	290 *950*	205 *670*	275 *900*	320 *1050*
M2	— —	— —	— —	175 *570*	230 *750*	275 *900*	165 *540*	220 *720*	260 *850*	150 *490*	200 *660*	235 *770*	170 *560*	225 *740*	265 *870*
M3	— —	— —	— —	145 *475*	185 *610*	220 *720*	135 *445*	180 *590*	210 *690*	125 *410*	160 *520*	190 *620*	140 *460*	185 *610*	215 *710*
M4	— —	— —	— —	110 *360*	145 *475*	170 *560*	105 *345*	140 *460*	165 *540*	95 *310*	125 *410*	150 *490*	110 *360*	140 *460*	165 *540*
M5	— —	— —	— —	95 *310*	125 *410*	145 *475*	90 *295*	115 *375*	135 *445*	80 *260*	105 *345*	125 *410*	90 *295*	115 *375*	140 *460*
K1	320 *1050*	420 *1375*	500 *1650*	225 *740*	295 *970*	355 *1175*	— —	— —	— —	180 *590*	240 *790*	285 *940*	— —	— —	— —
K2	280 *920*	370 *1225*	440 *1450*	200 *660*	265 *870*	310 *1025*	— —	— —	— —	160 *520*	210 *690*	250 *820*	— —	— —	— —
K3	240 *790*	315 *1025*	375 *1225*	170 *560*	225 *740*	265 *870*	— —	— —	— —	135 *445*	180 *590*	210 *690*	— —	— —	— —
K4	230 *750*	300 *980*	355 *1175*	160 *520*	210 *690*	250 *820*	— —	— —	— —	130 *425*	170 *560*	200 *660*	— —	— —	— —
K5	140 *460*	185 *610*	220 *720*	100 *330*	130 *425*	155 *510*	— —	— —	— —	80 *260*	105 *345*	125 *410*	— —	— —	— —
K6	200 *660*	265 *870*	315 *1025*	140 *460*	185 *610*	220 *720*	— —	— —	— —	115 *375*	150 *490*	175 *570*	— —	— —	— —
K7	180 *590*	240 *790*	280 *920*	125 *410*	170 *560*	195 *640*	— —	— —	— —	100 *330*	135 *445*	160 *520*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1325 *4350*	1775 *5825*	2075 *6800*	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	540 *1775*	720 *2350*	840 *2750*	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	360 *1175*	480 *1575*	560 *1825*	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	410 *1350*	550 *1800*	640 *2100*	— —	— —	— —
S1	— —	— —	— —	50 *165*	70 *230*	80 *260*	50 *165*	65 *215*	75 *245*	45 *150*	60 *195*	70 *230*	55 *180*	70 *230*	80 *260*
S2	— —	— —	— —	42 *140*	55 *180*	65 *215*	40 *130*	55 *180*	60 *195*	36 *120*	48 *155*	55 *180*	43 *140*	55 *180*	65 *215*
S3	— —	— —	— —	37 *120*	48 *155*	55 *180*	35 *115*	46 *150*	55 *180*	32 *105*	42 *140*	49 *160*	37 *120*	49 *160*	55 *180*
S11	— —	— —	— —	— —	— —	— —	70 *230*	90 *295*	105 *345*	65 *215*	80 *260*	95 *310*	75 *245*	100 *330*	115 *375*
S12	— —	— —	— —	— —	— —	— —	48 *155*	60 *195*	75 *245*	44 *145*	55 *180*	65 *215*	50 *165*	70 *230*	80 *260*
S13	— —	— —	— —	— —	— —	— —	28 *90*	37 *120*	43 *140*	25 *80*	33 *110*	39 *130*	30 *100*	39 *130*	45 *150*
H5	— —	— —	— —	44 *145*	60 *195*	70 *230*	— —	— —	— —	38 *125*	49 *160*	60 *195*	— —	— —	— —
H8	— —	— —	— —	47 *155*	60 *195*	70 *230*	— —	— —	— —	40 *130*	55 *180*	60 *195*	— —	— —	— —
H11	— —	— —	— —	55 *180*	75 *245*	85 *280*	— —	— —	— —	48 *155*	65 *215*	75 *245*	55 *180*	70 *230*	85 *280*
H12	— —	— —	— —	90 *295*	120 *395*	140 *460*	— —	— —	— —	75 *245*	95 *310*	110 *360*	90 *295*	120 *395*	140 *460*

R217/220.94-08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	450	550	610	445	540	600	400	490	540	195	255	300
	—	—	—	*1475*	*1800*	*2000*	*1450*	*1775*	*1975*	*1300*	*1600*	*1775*	*640*	*840*	*980*
P2	—	—	—	430	530	600	425	520	590	380	470	530	185	245	290
	—	—	—	*1400*	*1750*	*1975*	*1400*	*1700*	*1925*	*1250*	*1550*	*1750*	*610*	*800*	*950*
P3	—	—	—	380	460	520	375	455	510	335	410	460	160	215	255
	—	—	—	*1250*	*1500*	*1700*	*1225*	*1500*	*1675*	*1100*	*1350*	*1500*	*520*	*710*	*840*
P4	—	—	—	330	405	455	330	400	450	295	360	405	145	190	225
	—	—	—	*1075*	*1325*	*1500*	*1075*	*1300*	*1475*	*970*	*1175*	*1325*	*475*	*620*	*740*
P5	—	—	—	315	385	435	315	380	430	280	345	385	135	180	210
	—	—	—	*1025*	*1275*	*1425*	*1025*	*1250*	*1400*	*920*	*1125*	*1275*	*445*	*590*	*690*
P6	—	—	—	365	440	490	360	435	485	325	395	440	155	205	240
	—	—	—	*1200*	*1450*	*1600*	*1175*	*1425*	*1600*	*1075*	*1300*	*1450*	*510*	*670*	*790*
P7	—	—	—	345	415	465	340	410	460	305	370	415	150	195	230
	—	—	—	*1125*	*1350*	*1525*	*1125*	*1350*	*1500*	*1000*	*1225*	*1350*	*490*	*640*	*750*
P8	—	—	—	315	385	435	315	380	430	280	345	385	135	180	210
	—	—	—	*1025*	*1275*	*1425*	*1025*	*1250*	*1400*	*920*	*1125*	*1275*	*445*	*590*	*690*
P11	—	—	—	335	405	450	330	400	445	295	360	400	145	190	220
	—	—	—	*1100*	*1325*	*1475*	*1075*	*1300*	*1450*	*970*	*1175*	*1300*	*475*	*620*	*720*
P12	—	—	—	205	250	275	205	245	275	185	220	245	90	120	140
	—	—	—	*670*	*820*	*900*	*670*	*800*	*900*	*610*	*720*	*800*	*295*	*395*	*460*
M1	—	—	—	—	—	—	215	285	340	200	265	315	160	210	250
	—	—	—	—	—	—	*710*	*940*	*1125*	*660*	*870*	*1025*	*520*	*690*	*820*
M2	—	—	—	—	—	—	180	235	280	165	220	260	130	170	205
	—	—	—	—	—	—	*590*	*770*	*920*	*540*	*720*	*850*	*425*	*560*	*670*
M3	—	—	—	—	—	—	145	190	225	135	180	210	105	140	165
	—	—	—	—	—	—	*475*	*620*	*740*	*445*	*590*	*690*	*345*	*460*	*540*
M4	—	—	—	—	—	—	115	150	175	105	140	165	85	110	130
	—	—	—	—	—	—	*375*	*490*	*570*	*345*	*460*	*540*	*280*	*360*	*425*
M5	—	—	—	—	—	—	95	125	145	90	115	135	70	90	105
	—	—	—	—	—	—	*310*	*410*	*475*	*295*	*375*	*445*	*230*	*295*	*345*
K1	335	445	530	435	530	600	430	520	590	385	470	530	—	—	—
	1100	*1450*	*1750*	*1425*	*1750*	*1975*	*1400*	*1700*	*1925*	*1275*	*1550*	*1750*	—	—	—
K2	300	395	465	385	470	530	380	460	520	340	415	470	—	—	—
	980	*1300*	*1525*	*1275*	*1550*	*1750*	*1250*	*1500*	*1700*	*1125*	*1350*	*1550*	—	—	—
K3	250	335	395	325	395	445	320	390	440	290	350	395	—	—	—
	820	*1100*	*1300*	*1075*	*1300*	*1450*	*1050*	*1275*	*1450*	*950*	*1150*	*1300*	—	—	—
K4	240	320	375	310	380	425	305	375	420	275	335	380	—	—	—
	790	*1050*	*1225*	*1025*	*1250*	*1400*	*1000*	*1225*	*1375*	*900*	*1100*	*1250*	—	—	—
K5	150	200	230	190	230	255	190	230	255	170	205	230	—	—	—
	490	*660*	*750*	*620*	*750*	*840*	*620*	*750*	*840*	*560*	*670*	*750*	—	—	—
K6	210	280	330	275	335	375	270	330	370	240	295	335	—	—	—
	690	*920*	*1075*	*900*	*1100*	*1225*	*890*	*1075*	*1225*	*790*	*970*	*1100*	—	—	—
K7	190	255	295	245	295	330	240	295	325	215	265	295	—	—	—
	620	*840*	*970*	*800*	*970*	*1075*	*790*	*970*	*1075*	*710*	*870*	*970*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	50	65	75	25	34	39
	—	—	—	—	—	—	—	—	—	*165*	*215*	*245*	*80*	*110*	*130*
S2	—	—	—	—	—	—	—	—	—	40	55	60	21	27	32
	—	—	—	—	—	—	—	—	—	*130*	*180*	*195*	*70*	*90*	*105*
S3	—	—	—	—	—	—	—	—	—	35	46	55	18	24	28
	—	—	—	—	—	—	—	—	—	*115*	*150*	*180*	*60*	*80*	*90*
S11	—	—	—	—	—	—	—	—	—	70	90	105	36	46	55
	—	—	—	—	—	—	—	—	—	*230*	*295*	*345*	*120*	*150*	*180*
S12	—	—	—	—	—	—	—	—	—	48	60	75	33	43	50
	—	—	—	—	—	—	—	—	—	*155*	*195*	*245*	*110*	*140*	*165*
S13	—	—	—	—	—	—	—	—	—	28	37	43	19	25	29
	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*	*60*	*80*	*95*
H5	—	—	—	55	75	85	—	—	—	43	55	65	—	—	—
	—	—	—	*180*	*245*	*280*	—	—	—	*140*	*180*	*215*	—	—	—
H8	—	—	—	60	80	90	—	—	—	47	60	70	—	—	—
	—	—	—	*195*	*260*	*295*	—	—	—	*155*	*195*	*230*	—	—	—
H11	—	—	—	70	95	110	—	—	—	55	70	85	—	—	—
	—	—	—	*230*	*310*	*360*	—	—	—	*180*	*230*	*280*	—	—	—
H12	—	—	—	110	140	165	—	—	—	85	110	125	—	—	—
	—	—	—	*360*	*460*	*540*	—	—	—	*280*	*360*	*410*	—	—	—

Square T4 – R217.94-12 – Metric

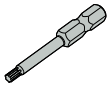




- For insert selection and cutting data recommendations, see page(s) 94-96
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		kg	
R217.94-2525.0-LO12-2A	10207966	Cylindrical	25,0	2	12,0	3,5	25,0	35,0	114,0	170,0	14000	0,6	LOEX1207
R217.94-3232.0-LO12-3A	10207967	Cylindrical	32,0	3	12,0	3,5	32,0	30,0	135,0	195,0	12400	1,2	LOEX1207
R217.94-3240.0-LO12-4A	10207968	Cylindrical	40,0	4	12,0	3,5	32,0	150,0	150,0	210,0	11100	1,3	LOEX1207
R217.94-2525.3-LO12-2A	10207962	Weldon	25,0	2	12,0	3,5	25,0	30,0	45,0	101,0	14000	0,4	LOEX1207
R217.94-3232.3-LO12-3A	10207963	Weldon	32,0	3	12,0	3,5	32,0	30,0	50,0	110,0	12400	0,6	LOEX1207
R217.94-2532.3S-LO12-3A	10207964	Seco-Weldon	32,0	3	12,0	3,5	25,0	40,0	54,0	110,0	12400	0,5	LOEX1207
R217.94-3240.3S-LO12-4A	10207965	Seco-Weldon	40,0	4	12,0	3,5	32,0	46,0	60,0	120,0	11100	0,9	LOEX1207

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.94-2525	1/4HEX-T15PX50	C040105B-T15P
R217.94-3232-3240	1/4HEX-T15PX50	C04012B-T15P

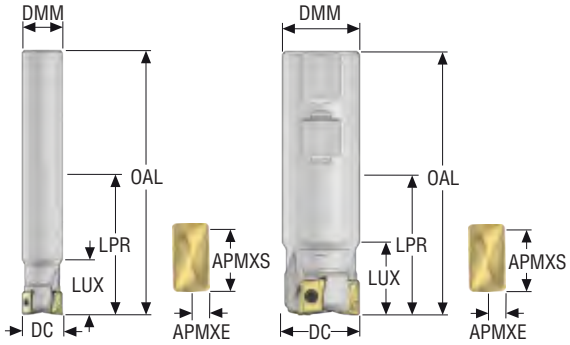
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Square T4 – R217.94-12 – inch

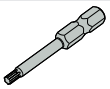




- For insert selection and cutting data recommendations, see page(s) 94-96
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.94-01.00-0-LO12-2A	10207988	Cylindrical	1.000	2	0.472	0.138	1.000	1.181	3.740	6.693	13900	1.320	LOEX1207
R217.94-01.50-0-LO12-4A	10207989	Cylindrical	1.500	4	0.472	0.138	1.500	1.181	5.906	8.268	11300	3.970	LOEX1207
R217.94-01.00-3-LO12-2A	10207985	Weldon	1.000	2	0.472	0.138	1.000	1.181	1.795	4.000	14000	0	LOEX1207
R217.94-01.25-3-LO12-3A	10207986	Weldon	1.250	3	0.472	0.138	1.250	1.181	1.890	4.252	12400	1.320	LOEX1207
R217.94-01.50-3-LO12-4A	10207987	Weldon	1.500	4	0.472	0.138	1.500	1.181	1.969	4.724	11300	2.200	LOEX1207

Spare Parts, included in delivery

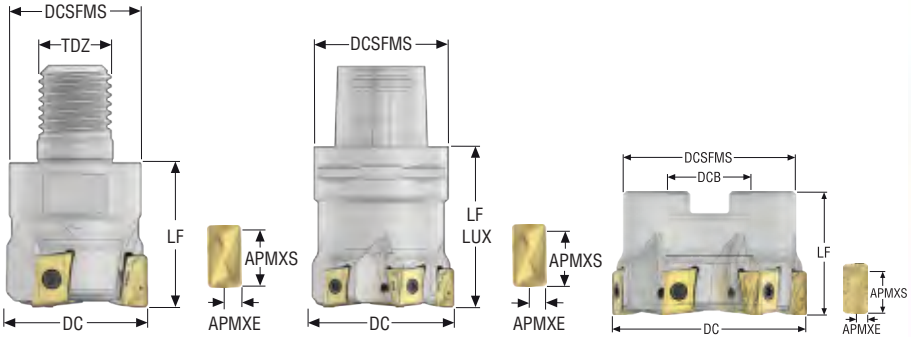
For cutter	Insert key	Insert screw
		
R217.94-01.00	1/4HEX-T15PX50	C040105B-T15P
R217.94-01.25-01.50	1/4HEX-T15PX50	C04012B-T15P

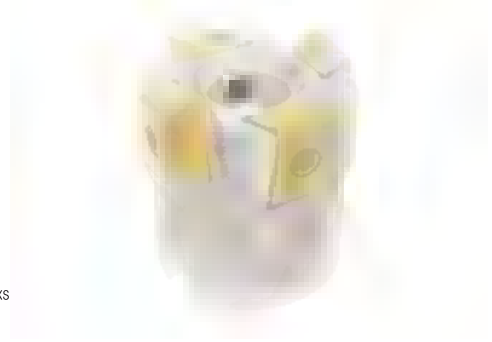
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Square T4 – R217/220.94-12 – Metric



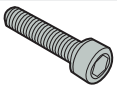
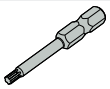


- For insert selection and cutting data recommendations, see page(s) 94-96
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LUX	LF	RMPX°	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm	mm			kg	
R217.94-1632.RE-LO12-3A	10207969	Combimaster	32,0	3	12,0	3,5	–	M16	30,0	–	40,0	0,0	12400	0,2	LOEX1207
R217.94-2040.RE-LO12-3A	10207970	Combimaster	40,0	3	12,0	3,5	–	M20	36,5	–	40,0	0,0	11100	0,4	LOEX1207
R217.94-2040.RE-LO12-5A	10207971	Combimaster	40,0	5	12,0	3,5	–	M20	36,5	–	40,0	0,0	11100	0,4	LOEX1207
C4-R217.94-044-LO12-4A	10207972	Seco-Capto	44,0	4	12,0	3,5	–	–	40,0	38,5	60,0	0,0	10600	0,6	LOEX1207
C5-R217.94-054-LO12-5A	10207973	Seco-Capto	54,0	5	12,0	3,5	–	–	50,0	38,5	60,0	0,0	9500	0,9	LOEX1207
C6-R217.94-066-LO12-6A	10207974	Seco-Capto	66,0	6	12,0	3,5	–	–	63,0	36,5	60,0	0,0	8600	1,5	LOEX1207
R220.94-0040-LO12-4A	10207999	Arbor	40,0	4	12,0	3,5	16,0	–	35,0	–	40,0	0,0	11100	0,3	LOEX1207
R220.94-0040-LO12-5A	10207975	Arbor	40,0	5	12,0	3,5	16,0	–	35,0	–	40,0	0,0	11100	0,2	LOEX1207
R220.94-0050-LO12-5A	10207976	Arbor	50,0	5	12,0	3,5	22,0	–	45,0	–	40,0	0,0	9900	0,4	LOEX1207
R220.94-0050-LO12-6A	10207977	Arbor	50,0	6	12,0	3,5	22,0	–	45,0	–	40,0	0,0	9900	0,4	LOEX1207
R220.94-0063-LO12-6A	10207978	Arbor	63,0	6	12,0	3,5	27,0	–	56,0	–	40,0	0,0	8800	0,6	LOEX1207
R220.94-0063-LO12-8A	10207979	Arbor	63,0	8	12,0	3,5	27,0	–	56,0	–	40,0	0,0	8800	0,6	LOEX1207
R220.94-0080-LO12-7A	10207980	Arbor	80,0	7	12,0	3,5	27,0	–	62,0	–	50,0	0,0	7800	1,1	LOEX1207
R220.94-0080-LO12-10A	10207981	Arbor	80,0	10	12,0	3,5	27,0	–	62,0	–	50,0	0,0	7800	1,1	LOEX1207
R220.94-0100-LO12-9A	10207982	Arbor	100,0	9	12,0	3,5	32,0	–	77,0	–	50,0	0,0	7000	1,8	LOEX1207
R220.94-0100-LO12-12A	10207983	Arbor	100,0	12	12,0	3,5	32,0	–	77,0	–	50,0	0,0	7000	1,8	LOEX1207
R220.94-0125-LO12-12A	10207984	Arbor	125,0	12	12,0	3,5	40,0	–	90,0	–	63,0	0,0	6300	3,3	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

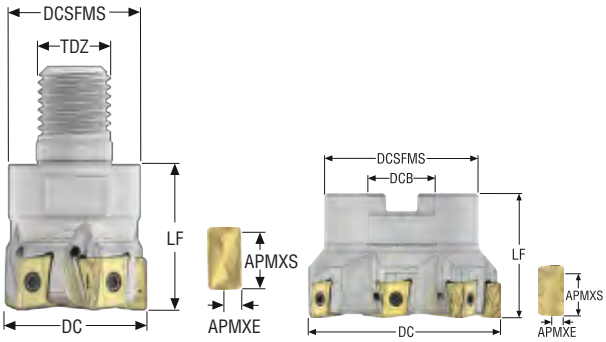
For cutter	Arbor screw	Insert key	Insert screw
			
Cx-R217.94-..	–	1/4HEX-T15PX50	C04012B-T15P
R220.94-0040	220.17-689	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050	220.17-692	1/4HEX-T15PX50	C04012B-T15P
R220.94-0063	MLC6S12X30	1/4HEX-T15PX50	C04012B-T15P
R220.94-0080	MC6S12X35	1/4HEX-T15PX50	C04012B-T15P
R220.94-0100	MC6S16X35	1/4HEX-T15PX50	C04012B-T15P
R220.94-0125	MC6S20X40	1/4HEX-T15PX50	C04012B-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
Cx-R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Square T4 – R217/220.94-12 – inch



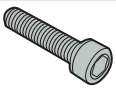
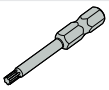
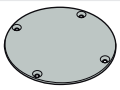


- For insert selection and cutting data recommendations, see page(s) 94-96
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		lbs	
R217.94-01.25-16RE-LO12-3A	10207990	Combimaster	1.250	3	0.472	0.138	–	M16	1.181	1.575	12400	0.440	LOEX1207
R220.94-01.50-LO12-4A	10207991	Arbor	1.500	4	0.472	0.138	0.500	–	1.378	1.575	11300	0.660	LOEX1207
R220.94-02.00-LO12-5A	10207992	Arbor	2.000	5	0.472	0.138	0.750	–	1.850	1.575	9800	0.880	LOEX1207
R220.94-02.00-LO12-6A	10207993	Arbor	2.000	6	0.472	0.138	0.750	–	1.850	1.575	9800	0.880	LOEX1207
R220.94-02.50-LO12-6A	10207994	Arbor	2.500	6	0.472	0.138	0.750	–	1.850	1.575	8800	1.100	LOEX1207
R220.94-02.50-LO12-8A	10207995	Arbor	2.500	8	0.472	0.138	0.750	–	1.850	1.575	8800	1.100	LOEX1207
R220.94-03.00-LO12-8A	10207996	Arbor	3.000	8	0.472	0.138	1.000	–	2.441	1.969	8000	2.430	LOEX1207
R220.94-04.00-LO12-10A	10207997	Arbor	4.000	10	0.472	0.138	1.500	–	3.543	1.969	7000	4.410	LOEX1207
R220.94-05.00-LO12-12A	10207998	Arbor	5.000	12	0.472	0.138	1.500	–	3.543	2.480	6200	7.280	LOEX1207
R220.94-06.00-LO12-14A	10208000	Arbor	6.000	14	0.472	0.138	2.000	–	4.331	2.480	6200	9.260	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.94-..	–	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-04.00	ULC6S3/4UNFX11/2	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04012B-T15P	–	–
R220.94-06.00	–	1/4HEX-T15PX50	C04012B-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R217/220.94-LO12 – Insert selection – Metric / *Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	LOEX120708TR-T4-M12 F40M	6,0 *0.24*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P2	LOEX120708TR-T4-M12 F40M	6,0 *0.24*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*
P3	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P4	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
P5	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P6	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P7	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P8	LOEX120708TR-T4-M12 MP2501	6,0 *0.24*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P11	LOEX120708TR-T4-M12 MP3501	6,0 *0.24*	0,17 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P12	LOEX120708TR-T4-M12 MS2500	4,5 *0.18*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
M1	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
M2	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
M3	LOEX120708R-T4-M09 F40M	4,5 *0.18*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
M4	LOEX120708R-T4-M09 MS2050	3,5 *0.14*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
M5	LOEX120708R-T4-M09 MS2050	3,5 *0.14*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K1	LOEX120708TR-T4-MD13 MK1500	6,0 *0.24*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*
K2	LOEX120708TR-T4-MD13 MK1500	6,0 *0.24*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
K3	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K4	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K5	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
K6	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K7	LOEX120708TR-T4-M12 MK2050	6,0 *0.24*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
N1	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
N2	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
N3	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
N11	LOEX120708R-T4-M09 F40M	6,0 *0.24*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
S1	LOEX120708R-T4-M09 F40M	3,5 *0.14*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S2	LOEX120708R-T4-M09 F40M	3,5 *0.14*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S3	LOEX120708R-T4-M09 F40M	3,5 *0.14*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
S11	LOEX120708R-T4-M09 MS2050	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
S12	LOEX120708R-T4-M09 MS2050	4,0 *0.16*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
S13	LOEX120708R-T4-M09 MS2050	3,5 *0.14*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
H5	LOEX120708TR-T4-M12 MP3000	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
H8	LOEX120708TR-T4-M12 MP3000	4,0 *0.16*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
H11	LOEX120708TR-T4-MD13 MP1501	4,5 *0.18*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
H12	LOEX120708TR-T4-MD13 MP1501	4,0 *0.16*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*

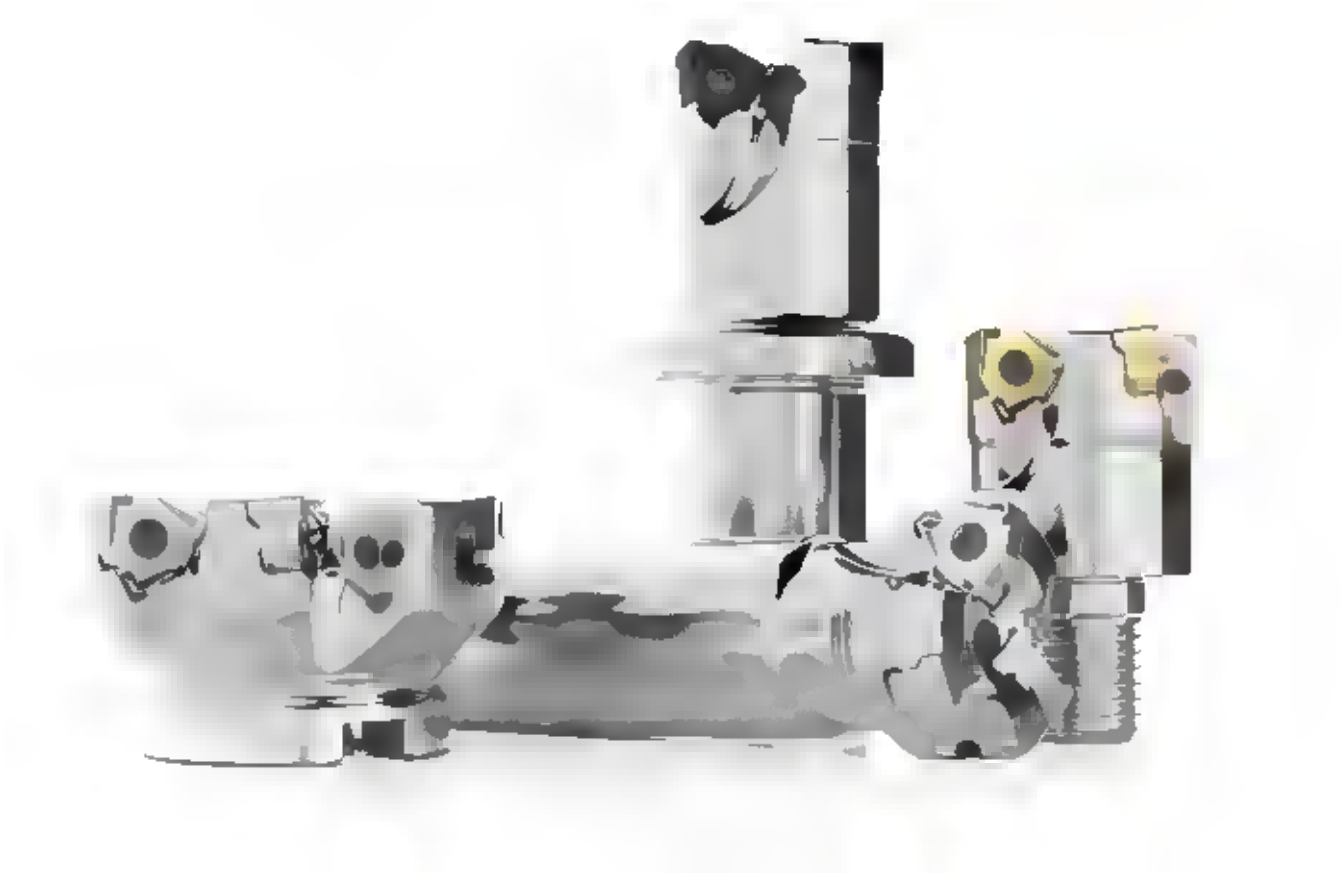
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.94-LO12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	265 *870*	355 *1175*	420 *1375*	255 *840*	340 *1125*	405 *1325*	225 *740*	300 *980*	355 *1175*	205 *670*	270 *890*	325 *1075*	265 *870*	350 *1150*	420 *1375*
P2	255 *840*	345 *1125*	400 *1300*	245 *800*	330 *1075*	385 *1275*	215 *710*	290 *950*	340 *1125*	195 *640*	265 *870*	310 *1025*	255 *840*	340 *1125*	400 *1300*
P3	225 *740*	300 *980*	350 *1150*	215 *710*	290 *950*	340 *1125*	190 *620*	255 *840*	300 *980*	170 *560*	230 *750*	270 *890*	225 *740*	300 *980*	350 *1150*
P4	200 *660*	265 *870*	310 *1025*	195 *640*	255 *840*	300 *980*	170 *560*	225 *740*	260 *850*	155 *510*	205 *670*	240 *790*	200 *660*	265 *870*	310 *1025*
P5	190 *620*	250 *820*	300 *980*	185 *610*	240 *790*	290 *950*	160 *520*	215 *710*	255 *840*	145 *475*	195 *640*	230 *750*	190 *620*	250 *820*	300 *980*
P6	215 *710*	290 *950*	340 *1125*	205 *670*	275 *900*	325 *1075*	180 *590*	245 *800*	285 *940*	165 *540*	220 *720*	260 *850*	215 *710*	285 *940*	340 *1125*
P7	205 *670*	270 *890*	320 *1050*	195 *640*	260 *850*	310 *1025*	170 *560*	230 *750*	270 *890*	155 *510*	210 *690*	245 *800*	200 *660*	270 *890*	320 *1050*
P8	190 *620*	250 *820*	295 *970*	180 *590*	240 *790*	285 *940*	160 *520*	215 *710*	250 *820*	145 *475*	195 *640*	230 *750*	190 *620*	250 *820*	295 *970*
P11	195 *640*	265 *870*	310 *1025*	190 *620*	255 *840*	300 *980*	165 *540*	225 *740*	265 *870*	150 *490*	205 *670*	240 *790*	195 *640*	265 *870*	310 *1025*
P12	130 *425*	170 *560*	205 *670*	125 *410*	165 *540*	195 *640*	110 *360*	145 *475*	175 *570*	100 *330*	130 *425*	155 *510*	130 *425*	170 *560*	205 *670*
M1	— —	— —	— —	185 *610*	245 *800*	290 *950*	175 *570*	235 *770*	275 *900*	160 *520*	215 *710*	250 *820*	185 *610*	245 *800*	285 *940*
M2	— —	— —	— —	155 *510*	205 *670*	245 *800*	145 *475*	190 *620*	230 *750*	135 *445*	175 *570*	210 *690*	155 *510*	200 *660*	240 *790*
M3	— —	— —	— —	125 *410*	165 *540*	200 *660*	120 *395*	155 *510*	190 *620*	110 *360*	145 *475*	170 *560*	125 *410*	165 *540*	195 *640*
M4	— —	— —	— —	100 *330*	130 *425*	150 *490*	95 *310*	125 *410*	145 *475*	85 *280*	110 *360*	130 *425*	100 *330*	130 *425*	150 *490*
M5	— —	— —	— —	80 *260*	110 *360*	125 *410*	80 *260*	105 *345*	120 *395*	70 *230*	95 *310*	110 *360*	80 *260*	110 *360*	125 *410*
K1	275 *900*	370 *1225*	435 *1425*	195 *640*	260 *850*	305 *1000*	— —	— —	— —	155 *510*	210 *690*	245 *800*	— —	— —	— —
K2	250 *820*	325 *1075*	390 *1275*	175 *570*	230 *750*	275 *900*	— —	— —	— —	140 *460*	185 *610*	220 *720*	— —	— —	— —
K3	210 *690*	275 *900*	330 *1075*	150 *490*	195 *640*	235 *770*	— —	— —	— —	120 *395*	155 *510*	185 *610*	— —	— —	— —
K4	200 *660*	265 *870*	315 *1025*	140 *460*	185 *610*	225 *740*	— —	— —	— —	115 *375*	150 *490*	180 *590*	— —	— —	— —
K5	125 *410*	160 *520*	190 *620*	85 *280*	115 *375*	135 *445*	— —	— —	— —	70 *230*	90 *295*	110 *360*	— —	— —	— —
K6	175 *570*	230 *750*	280 *920*	125 *410*	165 *540*	195 *640*	— —	— —	— —	100 *330*	130 *425*	155 *510*	— —	— —	— —
K7	160 *520*	205 *670*	245 *800*	110 *360*	145 *475*	175 *570*	— —	— —	— —	90 *295*	115 *375*	140 *460*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1150 *3775*	1525 *5000*	1800 *5900*	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	460 *1500*	620 *2025*	730 *2400*	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	310 *1025*	410 *1350*	485 *1600*	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	350 *1150*	470 *1550*	560 *1825*	— —	— —	— —
S1	— —	— —	— —	46 *150*	60 *195*	70 *230*	44 *145*	60 *195*	65 *215*	40 *130*	50 *165*	60 *195*	48 *155*	65 *215*	75 *245*
S2	— —	— —	— —	37 *120*	49 *160*	55 *180*	35 *115*	46 *150*	55 *180*	32 *105*	42 *140*	49 *160*	39 *130*	50 *165*	60 *195*
S3	— —	— —	— —	33 *110*	43 *140*	50 *165*	31 *100*	41 *135*	48 *155*	28 *90*	37 *120*	44 *145*	34 *110*	45 *150*	55 *180*
S11	— —	— —	— —	— —	— —	— —	60 *195*	80 *260*	95 *310*	55 *180*	70 *230*	85 *280*	65 *215*	85 *280*	105 *345*
S12	— —	— —	— —	— —	— —	— —	42 *140*	55 *180*	65 *215*	38 *125*	50 *165*	60 *195*	46 *150*	60 *195*	70 *230*
S13	— —	— —	— —	— —	— —	— —	25 *80*	32 *105*	38 *125*	22 *70*	29 *95*	34 *110*	27 *90*	35 *115*	42 *140*
H5	— —	— —	— —	39 *130*	50 *165*	60 *195*	— —	— —	— —	33 *110*	44 *145*	50 *165*	— —	— —	— —
H8	— —	— —	— —	42 *140*	55 *180*	65 *215*	— —	— —	— —	36 *120*	47 *155*	55 *180*	— —	— —	— —
H11	— —	— —	— —	49 *160*	65 *215*	80 *260*	— —	— —	— —	42 *140*	55 *180*	65 *215*	49 *160*	65 *215*	80 *260*
H12	— —	— —	— —	80 *260*	105 *345*	125 *410*	— —	— —	— —	65 *215*	85 *280*	100 *330*	85 *280*	110 *360*	130 *425*

R217/220.94-LO12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	375	465	530	390	480	550	300	395	475	340	425	485	165	220	260
	—	—	—	*1225*	*1525*	*1750*	*1275*	*1575*	*1800*	*980*	*1300*	*1550*	*1125*	*1400*	*1600*	*540*	*720*	*850*
P2	—	—	—	360	455	510	380	470	540	295	385	465	325	410	465	160	215	250
	—	—	—	*1175*	*1500*	*1675*	*1250*	*1550*	*1775*	*970*	*1275*	*1525*	*1075*	*1350*	*1525*	*520*	*710*	*820*
P3	—	—	—	315	395	450	335	410	465	255	340	400	285	360	405	140	185	220
	—	—	—	*1025*	*1300*	*1475*	*1100*	*1350*	*1525*	*840*	*1125*	*1300*	*940*	*1175*	*1325*	*460*	*610*	*720*
P4	—	—	—	285	350	395	295	365	415	225	300	360	255	315	360	125	165	195
	—	—	—	*940*	*1150*	*1300*	*970*	*1200*	*1350*	*740*	*980*	*1175*	*840*	*1025*	*1175*	*410*	*540*	*640*
P5	—	—	—	270	335	385	280	350	400	215	290	340	245	305	350	120	155	190
	—	—	—	*890*	*1100*	*1275*	*920*	*1150*	*1300*	*710*	*950*	*1125*	*800*	*1000*	*1150*	*395*	*510*	*620*
P6	—	—	—	305	380	430	315	395	445	245	325	385	275	345	390	135	180	210
	—	—	—	*1000*	*1250*	*1400*	*1025*	*1300*	*1450*	*800*	*1075*	*1275*	*900*	*1125*	*1275*	*445*	*590*	*690*
P7	—	—	—	285	360	405	295	370	420	230	305	360	260	325	370	125	170	200
	—	—	—	*940*	*1175*	*1325*	*970*	*1225*	*1375*	*750*	*1000*	*1175*	*850*	*1075*	*1225*	*410*	*560*	*660*
P8	—	—	—	265	335	375	280	345	390	215	285	335	240	305	340	115	155	185
	—	—	—	*870*	*1100*	*1225*	*920*	*1125*	*1275*	*710*	*940*	*1100*	*790*	*1000*	*1125*	*375*	*510*	*610*
P11	—	—	—	280	350	395	290	360	410	220	295	350	250	315	360	125	165	195
	—	—	—	*920*	*1150*	*1300*	*950*	*1175*	*1350*	*720*	*970*	*1150*	*820*	*1025*	*1175*	*410*	*540*	*640*
P12	—	—	—	185	225	255	190	230	260	145	195	230	165	205	235	80	105	125
	—	—	—	*610*	*740*	*840*	*620*	*750*	*850*	*475*	*640*	*750*	*540*	*670*	*770*	*260*	*345*	*410*
M1	—	—	—	—	—	—	195	255	305	210	275	330	175	235	275	135	185	215
	—	—	—	—	—	—	*640*	*840*	*1000*	*690*	*900*	*1075*	*570*	*770*	*900*	*445*	*610*	*710*
M2	—	—	—	—	—	—	160	215	250	175	230	275	145	190	230	115	150	180
	—	—	—	—	—	—	*520*	*710*	*820*	*570*	*750*	*900*	*475*	*620*	*750*	*375*	*490*	*590*
M3	—	—	—	—	—	—	130	170	205	140	185	225	120	155	190	95	125	145
	—	—	—	—	—	—	*425*	*560*	*670*	*460*	*610*	*740*	*395*	*510*	*620*	*310*	*410*	*475*
M4	—	—	—	—	—	—	105	135	160	110	145	175	95	125	145	75	95	115
	—	—	—	—	—	—	*345*	*445*	*520*	*360*	*475*	*570*	*310*	*410*	*475*	*245*	*310*	*375*
M5	—	—	—	—	—	—	85	115	135	95	120	145	80	105	120	60	80	95
	—	—	—	—	—	—	*280*	*375*	*445*	*310*	*395*	*475*	*260*	*345*	*395*	*195*	*260*	*310*
K1	275	365	435	365	460	520	380	475	540	230	305	365	325	415	470	—	—	—
	900	*1200*	*1425*	*1200*	*1500*	*1700*	*1250*	*1550*	*1775*	*750*	*1000*	*1200*	*1075*	*1350*	*1550*	—	—	—
K2	250	325	390	325	405	465	340	425	480	205	275	325	295	365	425	—	—	—
	820	*1075*	*1275*	*1075*	*1325*	*1525*	*1125*	*1400*	*1575*	*670*	*900*	*1075*	*970*	*1200*	*1400*	—	—	—
K3	210	275	330	275	340	390	285	360	405	175	230	275	250	310	360	—	—	—
	690	*900*	*1075*	*900*	*1125*	*1275*	*940*	*1175*	*1325*	*570*	*750*	*900*	*820*	*1025*	*1175*	—	—	—
K4	200	265	315	265	325	375	275	340	390	165	220	260	240	295	340	—	—	—
	660	*870*	*1025*	*870*	*1075*	*1225*	*900*	*1125*	*1275*	*540*	*720*	*850*	*790*	*970*	*1125*	—	—	—
K5	120	160	190	165	200	225	170	210	235	105	135	160	150	180	205	—	—	—
	395	*520*	*620*	*540*	*660*	*740*	*560*	*690*	*770*	*345*	*445*	*520*	*490*	*590*	*670*	—	—	—
K6	175	235	280	235	285	330	240	300	340	145	195	230	210	260	300	—	—	—
	570	*770*	*920*	*770*	*940*	*1075*	*790*	*980*	*1125*	*475*	*640*	*750*	*690*	*850*	*980*	—	—	—
K7	155	210	245	210	255	290	215	270	300	130	175	205	190	235	265	—	—	—
	510	*690*	*800*	*690*	*840*	*950*	*710*	*890*	*980*	*425*	*570*	*670*	*620*	*770*	*870*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	85	44	60	65	22	30	35
	—	—	—	—	—	—	—	—	—	*180*	*230*	*280*	*145*	*195*	*215*	*70*	*100*	*115*
S2	—	—	—	—	—	—	—	—	—	44	60	70	35	46	55	18	24	28
	—	—	—	—	—	—	—	—	—	*145*	*195*	*230*	*115*	*150*	*180*	*60*	*80*	*90*
S3	—	—	—	—	—	—	—	—	—	39	50	60	31	41	48	16	21	25
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*	*100*	*135*	*155*	*50*	*70*	*80*
S11	—	—	—	—	—	—	—	—	—	75	100	120	60	80	95	31	41	49
	—	—	—	—	—	—	—	—	—	*245*	*330*	*395*	*195*	*260*	*310*	*100*	*135*	*160*
S12	—	—	—	—	—	—	—	—	—	50	70	80	42	55	65	29	38	45
	—	—	—	—	—	—	—	—	—	*165*	*230*	*260*	*140*	*180*	*215*	*95*	*125*	*150*
S13	—	—	—	—	—	—	—	—	—	31	40	47	25	32	38	17	22	26
	—	—	—	—	—	—	—	—	—	*100*	*130*	*155*	*80*	*105*	*125*	*55*	*70*	*85*
H5	—	—	—	48	65	75	—	—	—	44	60	70	38	50	60	—	—	—
	—	—	—	*155*	*215*	*245*	—	—	—	*145*	*195*	*230*	*125*	*165*	*195*	—	—	—
H8	—	—	—	50	70	80	—	—	—	47	60	75	41	55	65	—	—	—
	—	—	—	*165*	*230*	*260*	—	—	—	*155*	*195*	*245*	*135*	*180*	*215*	—	—	—
H11	—	—	—	60	80	95	—	—	—	55	75	85	48	65	75	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	*180*	*245*	*280*	*155*	*215*	*245*	—	—	—
H12	—	—	—	90	120	145	—	—	—	95	125	145	75	100	115	—	—	—
	—	—	—	*295*	*395*	*475*	—	—	—	*310*	*410*	*475*	*245*	*330*	*375*	—	—	—



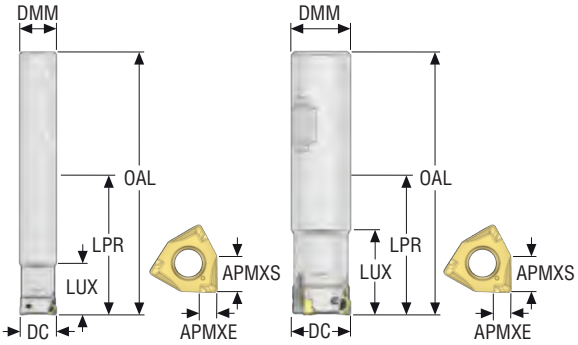
SQUARE 6

Seco's line of Square 6 shoulder milling cutters answers the need for added economy in square shoulder milling. This unique square shoulder milling cutter uses trigonal inserts with three cutting edges on each side – six total cutting edges – to lower the cost per cutting edge.

- With two different cutter family sizes - Insert size 04 and 08
- Wiper flats optimize surface finishes
- Multiple grades and geometries are available

Square 6™ – R217.96-04 – Metric

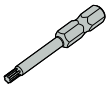




- For insert selection and cutting data recommendations, see page(s) 102-104
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		kg	
R217.96-1820.0-04-3A	02833459	Cylindrical	20,0	3	4,0	2,0	18,0	100,0	100,0	150,0	29400	0,3	XNEX04..
R217.96-2020.0-04-3A	02768343	Cylindrical	20,0	3	4,0	2,0	20,0	29,0	100,0	150,0	29400	0,4	XNEX04..
R217.96-2525.0-04-4A	02768359	Cylindrical	25,0	4	4,0	2,0	25,0	29,0	114,0	170,0	26300	0,6	XNEX04..
R217.96-2525.0-04-5A	02768361	Cylindrical	25,0	5	4,0	2,0	25,0	29,0	114,0	170,0	26300	0,7	XNEX04..
R217.96-3232.0-04-5A	02768370	Cylindrical	32,0	5	4,0	2,0	32,0	31,0	135,0	195,0	23200	1,2	XNEX04..
R217.96-3232.0-04-6A	02768371	Cylindrical	32,0	6	4,0	2,0	32,0	31,0	135,0	195,0	23200	1,2	XNEX04..
R217.96-2020.3-04-3A	02768349	Weldon	20,0	3	4,0	2,0	20,0	29,0	40,0	90,0	29400	0,3	XNEX04..
R217.96-2525.3-04-4A	02768362	Weldon	25,0	4	4,0	2,0	25,0	34,0	45,0	101,0	26300	0,4	XNEX04..
R217.96-2525.3-04-5A	02768364	Weldon	25,0	5	4,0	2,0	25,0	34,0	45,0	101,0	26300	0,4	XNEX04..
R217.96-3232.3-04-5A	02768372	Weldon	32,0	5	4,0	2,0	32,0	37,0	45,0	105,0	23200	0,6	XNEX04..

Spare Parts, included in delivery

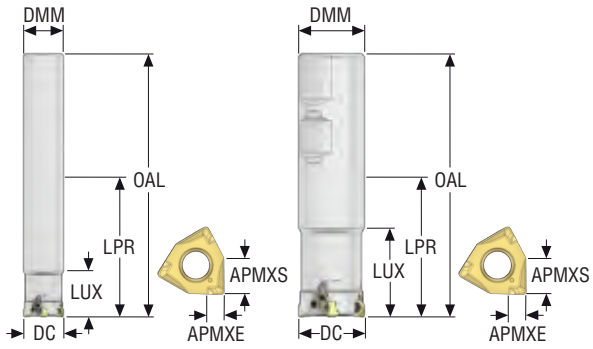
For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1.2NM	T00-08P12

Torque and fixed keys, see page 872

Square 6™ – R217.96-04 – inch





- For insert selection and cutting data recommendations, see page(s) 102-104
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.96-00.75-0-04-3A	02770505	Cylindrical	0.750	3	0.157	0.079	0.750	1.394	3.941	5.910	29400	0.880	XNEX04..
R217.96-00.75-3-04-3A	02770536	Weldon	0.750	3	0.157	0.079	0.750	1.193	1.422	3.390	29400	0.440	XNEX04..
R217.96-01.00-3-04-5A	02770596	Weldon	1.000	5	0.157	0.079	1.000	1.178	1.575	3.780	26300	0.880	XNEX04..
R217.96-01.25-3-04-5A	02770602	Weldon	1.250	5	0.157	0.079	1.250	1.240	1.638	4.000	23200	1.320	XNEX04..

Spare Parts, included in delivery

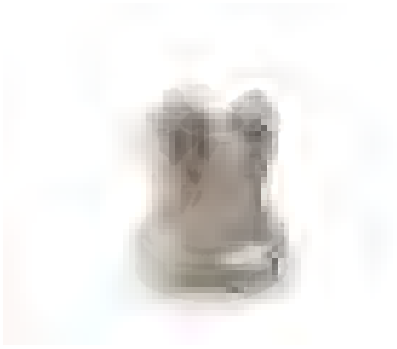
For cutter	Insert key	Insert screw
		
R217.96..	1/4HEX-T08PX50	C02506-T08P

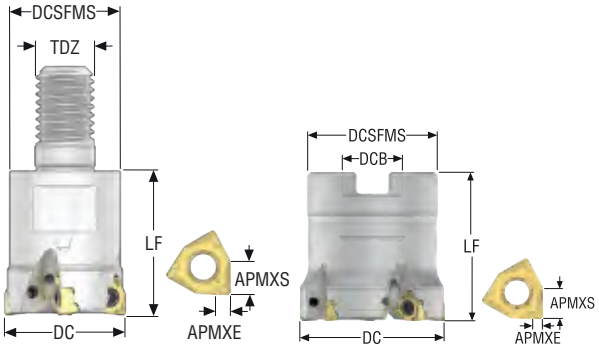
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

Square 6™ – R217/220.96-04 – Metric



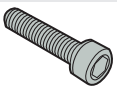
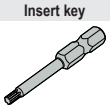


- For insert selection and cutting data recommendations, see page(s) 102-104
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			mm		mm	mm	mm		mm	mm	kg		
R217.96-1020.RE-04-3A	02768351	Combimaster	20,0	3	4,0	2,0	–	M10	18,3	28,0	0,1	29400	XNEX04..
R217.96-1225.RE-04-4A	02768365	Combimaster	25,0	4	4,0	2,0	–	M12	23,0	30,0	0,2	26300	XNEX04..
R217.96-1225.RE-04-5A	02768367	Combimaster	25,0	5	4,0	2,0	–	M12	23,0	30,0	0,2	26300	XNEX04..
R217.96-1632.RE-04-5A	02768375	Combimaster	32,0	5	4,0	2,0	–	M16	30,0	40,0	0,3	23200	XNEX04..
R217.96-1632.RE-04-6A	02768376	Combimaster	32,0	6	4,0	2,0	–	M16	30,0	40,0	0,3	23200	XNEX04..
R220.96-0032-04-4A	02841298	Arbor	32,0	4	4,0	2,0	16,0	–	35,0	40,0	0,2	23200	XNEX04..
R220.96-0032-04-6A	02841306	Arbor	32,0	6	4,0	2,0	16,0	–	35,0	40,0	0,2	23200	XNEX04..
R220.96-0040-04-5A	02841154	Arbor	40,0	5	4,0	2,0	16,0	–	35,0	40,0	0,3	20700	XNEX04..
R220.96-0040-04-7A	02768377	Arbor	40,0	7	4,0	2,0	16,0	–	35,0	40,0	0,3	20700	XNEX04..
R220.96-0050-04-6A	02841155	Arbor	50,0	6	4,0	2,0	22,0	–	47,0	40,0	0,5	18600	XNEX04..
R220.96-0050-04-8A	02768413	Arbor	50,0	8	4,0	2,0	22,0	–	47,0	40,0	0,5	18600	XNEX04..
R220.96-0050-04-9A	02768412	Arbor	50,0	9	4,0	2,0	22,0	–	47,0	40,0	0,5	18600	XNEX04..
R220.96-0063-04-7A	02841156	Arbor	63,0	7	4,0	2,0	27,0	–	62,0	40,0	0,7	16500	XNEX04..
R220.96-0063-04-9A	02768433	Arbor	63,0	9	4,0	2,0	27,0	–	62,0	40,0	0,7	16500	XNEX04..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

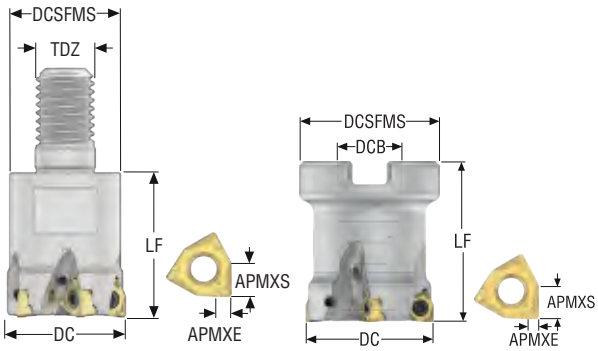
For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T08PX50	C02506-T08P
R220.96-0032-0040	TCEI0825	1/4HEX-T08PX50	C02506-T08P
R220.96-0050	220.17-692	1/4HEX-T08PX50	C02506-T08P
R220.96-0063	–	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	1.2NM	T00-08P12

Torque and fixed keys, see page 872

Square 6™ – R217/220.96-04 – inch



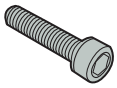
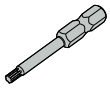


- For insert selection and cutting data recommendations, see page(s) 102-104
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			inch		inch	inch	inch		inch	inch	lbs		
R217.96-00.75-10RE-04-3A	02770501	Combimaster	0.750	3	0.157	0.079	–	M10	0.689	1.070	0.220	29400	XNEX04..
R217.96-01.00-12RE-04-5A	02770543	Combimaster	1.000	5	0.157	0.079	–	M12	0.906	1.570	0.440	26300	XNEX04..
R217.96-01.25-16RE-04-5A	02770599	Combimaster	1.250	5	0.157	0.079	–	M16	1.181	1.570	0.660	23200	XNEX04..
R220.96-01.50-04-6A	02770608	Arbor	1.500	6	0.157	0.079	0.750	–	1.378	1.570	0.440	20700	XNEX04..
R220.96-02.00-04-9A	02770613	Arbor	2.000	9	0.157	0.079	0.750	–	1.850	1.567	0.880	18600	XNEX04..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T08PX50	C02506-T08P
R220.96-..	UC6S3/8UNFX1	1/4HEX-T08PX50	C02506-T08P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

R217/220.96-04 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	XNEX040304TR-M08 F40M	2,0 *0.080*	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
P2	XNEX040304TR-M08 F40M	2,0 *0.080*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P3	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P4	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P5	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P6	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0070*
P7	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0070*
P8	XNEX040304TR-M08 MP2501	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P11	XNEX040304TR-M08 MP3000	2,0 *0.080*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0070*
P12	XNEX040304TR-M08 MP3000	1,6 *0.065*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
M1	XNEX040304R-M06 F40M	2,0 *0.080*	0,090 *0.0036*	0,095 *0.0038*	0,15 *0.0060*
M2	XNEX040304R-M06 F40M	2,0 *0.080*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M3	XNEX040304R-M06 F40M	1,6 *0.065*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M4	XNEX040304R-M06 MS2050	1,2 *0.048*	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
M5	XNEX040304R-M06 MS2050	1,2 *0.048*	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
K1	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K2	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K3	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K4	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K5	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K6	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K7	XNEX040304TR-M08 MK2050	2,0 *0.080*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
N1	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
N2	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
N3	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
N11	XNEX040304R-M06 F40M	2,0 *0.080*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
S1	XNEX040304R-M06 F40M	1,2 *0.048*	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
S2	XNEX040304R-M06 F40M	1,2 *0.048*	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
S3	XNEX040304R-M06 F40M	1,2 *0.048*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
S11	XNEX040304R-M06 MS2050	1,4 *0.055*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
S12	XNEX040304R-M06 MS2050	1,4 *0.055*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
S13	XNEX040304R-M06 MS2050	1,2 *0.048*	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
H5	XNEX040304TR-M08 MP3000	1,6 *0.065*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H8	XNEX040304TR-M08 MP3000	1,4 *0.055*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*
H11	XNEX040308TR-M08 MP1501	1,6 *0.065*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H12	XNEX040304TR-M08 MP1501	1,4 *0.055*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

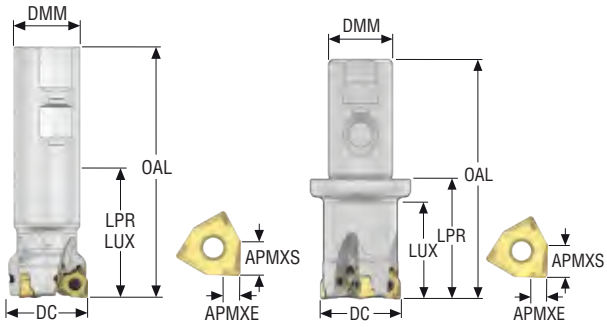
R217/220.96-04 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	305 *1000*	395 *1300*	470 *1550*	325 *1075*	425 *1400*	510 *1675*	285 *940*	375 *1225*	445 *1450*	235 *770*	305 *1000*	360 *1175*
P2	290 *950*	385 *1275*	455 *1500*	315 *1025*	415 *1350*	485 *1600*	280 *920*	365 *1200*	425 *1400*	225 *740*	295 *970*	350 *1150*
P3	255 *840*	340 *1125*	400 *1300*	275 *900*	360 *1175*	425 *1400*	240 *790*	320 *1050*	370 *1225*	195 *640*	260 *850*	305 *1000*
P4	225 *740*	295 *970*	350 *1150*	245 *800*	320 *1050*	380 *1250*	215 *710*	280 *920*	330 *1075*	175 *570*	230 *750*	270 *890*
P5	215 *710*	285 *940*	335 *1100*	235 *770*	310 *1025*	360 *1175*	205 *670*	270 *890*	315 *1025*	165 *540*	220 *720*	260 *850*
P6	245 *800*	325 *1075*	380 *1250*	260 *850*	345 *1125*	405 *1325*	230 *750*	305 *1000*	355 *1175*	190 *620*	250 *820*	295 *970*
P7	235 *770*	310 *1025*	360 *1175*	245 *800*	325 *1075*	385 *1275*	215 *710*	285 *940*	335 *1100*	180 *590*	235 *770*	275 *900*
P8	215 *710*	285 *940*	335 *1100*	230 *750*	305 *1000*	355 *1175*	200 *660*	265 *870*	310 *1025*	165 *540*	220 *720*	260 *850*
P11	225 *740*	300 *980*	350 *1150*	240 *790*	320 *1050*	370 *1225*	210 *690*	280 *920*	325 *1075*	175 *570*	230 *750*	270 *890*
P12	145 *475*	190 *620*	225 *740*	155 *510*	200 *660*	235 *770*	135 *445*	175 *570*	210 *690*	110 *360*	145 *475*	170 *560*
M1	— —	— —	— —	235 *770*	310 *1025*	360 *1175*	225 *740*	295 *970*	340 *1125*	180 *590*	240 *790*	285 *940*
M2	— —	— —	— —	195 *640*	260 *850*	300 *980*	185 *610*	245 *800*	285 *940*	150 *490*	195 *640*	230 *750*
M3	— —	— —	— —	155 *510*	205 *670*	240 *790*	145 *475*	195 *640*	225 *740*	120 *395*	160 *520*	190 *620*
M4	— —	— —	— —	120 *395*	160 *520*	185 *610*	115 *375*	150 *490*	175 *570*	95 *310*	125 *410*	145 *475*
M5	— —	— —	— —	100 *330*	135 *445*	155 *510*	95 *310*	125 *410*	145 *475*	80 *260*	105 *345*	120 *395*
K1	315 *1025*	415 *1350*	495 *1625*	250 *820*	330 *1075*	385 *1275*	— —	— —	— —	175 *570*	235 *770*	280 *920*
K2	275 *900*	365 *1200*	435 *1425*	220 *720*	295 *970*	345 *1125*	— —	— —	— —	155 *510*	205 *670*	245 *800*
K3	235 *770*	310 *1025*	365 *1200*	185 *610*	250 *820*	290 *950*	— —	— —	— —	135 *445*	175 *570*	205 *670*
K4	225 *740*	295 *970*	350 *1150*	180 *590*	235 *770*	275 *900*	— —	— —	— —	125 *410*	170 *560*	200 *660*
K5	140 *460*	185 *610*	215 *710*	110 *360*	145 *475*	170 *560*	— —	— —	— —	80 *260*	105 *345*	120 *395*
K6	195 *640*	260 *850*	310 *1025*	155 *510*	210 *690*	245 *800*	— —	— —	— —	110 *360*	150 *490*	175 *570*
K7	175 *570*	235 *770*	275 *900*	140 *460*	185 *610*	215 *710*	— —	— —	— —	100 *330*	135 *445*	155 *510*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1325 *4350*	1750 *5750*	2050 *6725*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	530 *1750*	710 *2325*	830 *2725*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	355 *1175*	470 *1550*	550 *1800*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	405 *1325*	540 *1775*	630 *2075*
S1	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	80 *260*	44 *145*	60 *195*	70 *230*
S2	— —	— —	— —	— —	— —	— —	43 *140*	55 *180*	65 *215*	36 *120*	47 *155*	55 *180*
S3	— —	— —	— —	— —	— —	— —	37 *120*	50 *165*	60 *195*	31 *100*	41 *135*	48 *155*
S11	— —	— —	— —	— —	— —	— —	75 *245*	100 *330*	115 *375*	60 *195*	80 *260*	95 *310*
S12	— —	— —	— —	— —	— —	— —	50 *165*	70 *230*	80 *260*	43 *140*	55 *180*	65 *215*
S13	— —	— —	— —	— —	— —	— —	30 *100*	39 *130*	46 *150*	25 *80*	33 *110*	38 *125*
H5	— —	— —	— —	48 *155*	65 *215*	75 *245*	— —	— —	— —	37 *120*	49 *160*	55 *180*
H8	— —	— —	— —	50 *165*	65 *215*	75 *245*	— —	— —	— —	40 *130*	50 *165*	60 *195*
H11	— —	— —	— —	60 *195*	80 *260*	95 *310*	— —	— —	— —	47 *155*	60 *195*	75 *245*
H12	— —	— —	— —	95 *310*	125 *410*	150 *490*	— —	— —	— —	70 *230*	95 *310*	110 *360*

R217/220.96-04 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	445	540	600	480	580	640	215	280	325
	—	—	—	*1450*	*1775*	*1975*	*1575*	*1900*	*2100*	*710*	*920*	*1075*
P2	—	—	—	430	530	590	470	560	630	205	270	320
	—	—	—	*1400*	*1750*	*1925*	*1550*	*1825*	*2075*	*670*	*890*	*1050*
P3	—	—	—	370	455	510	405	490	540	180	235	280
	—	—	—	*1225*	*1500*	*1675*	*1325*	*1600*	*1775*	*590*	*770*	*920*
P4	—	—	—	335	405	450	360	430	475	160	210	245
	—	—	—	*1100*	*1325*	*1475*	*1175*	*1400*	*1550*	*520*	*690*	*800*
P5	—	—	—	320	385	430	340	410	455	150	200	235
	—	—	—	*1050*	*1275*	*1400*	*1125*	*1350*	*1500*	*490*	*660*	*770*
P6	—	—	—	355	435	485	385	465	510	170	225	265
	—	—	—	*1175*	*1425*	*1600*	*1275*	*1525*	*1675*	*560*	*740*	*870*
P7	—	—	—	335	410	455	365	435	485	160	215	250
	—	—	—	*1100*	*1350*	*1500*	*1200*	*1425*	*1600*	*520*	*710*	*820*
P8	—	—	—	310	380	425	340	410	455	150	200	235
	—	—	—	*1025*	*1250*	*1400*	*1125*	*1350*	*1500*	*490*	*660*	*770*
P11	—	—	—	325	400	445	350	425	470	155	210	245
	—	—	—	*1075*	*1300*	*1450*	*1150*	*1400*	*1550*	*510*	*690*	*800*
P12	—	—	—	205	245	270	215	255	280	100	130	155
	—	—	—	*670*	*800*	*890*	*710*	*840*	*920*	*330*	*425*	*510*
M1	—	—	—	—	—	—	245	320	375	180	235	275
	—	—	—	—	—	—	*800*	*1050*	*1225*	*590*	*770*	*900*
M2	—	—	—	—	—	—	200	265	305	145	195	225
	—	—	—	—	—	—	*660*	*870*	*1000*	*475*	*640*	*740*
M3	—	—	—	—	—	—	160	210	245	115	155	180
	—	—	—	—	—	—	*520*	*690*	*800*	*375*	*510*	*590*
M4	—	—	—	—	—	—	125	165	190	90	120	140
	—	—	—	—	—	—	*410*	*540*	*620*	*295*	*395*	*460*
M5	—	—	—	—	—	—	105	135	160	75	100	115
	—	—	—	—	—	—	*345*	*445*	*520*	*245*	*330*	*375*
K1	340	450	520	435	530	590	475	570	630	—	—	—
	1125	*1475*	*1700*	*1425*	*1750*	*1925*	*1550*	*1875*	*2075*	—	—	—
K2	300	395	465	385	465	520	415	500	550	—	—	—
	980	*1300*	*1525*	*1275*	*1525*	*1700*	*1350*	*1650*	*1800*	—	—	—
K3	255	335	395	325	395	440	350	420	465	—	—	—
	840	*1100*	*1300*	*1075*	*1300*	*1450*	*1150*	*1375*	*1525*	—	—	—
K4	245	320	375	310	375	420	335	405	445	—	—	—
	800	*1050*	*1225*	*1025*	*1225*	*1375*	*1100*	*1325*	*1450*	—	—	—
K5	150	195	230	190	225	255	200	240	265	—	—	—
	490	*640*	*750*	*620*	*740*	*840*	*660*	*790*	*870*	—	—	—
K6	215	285	330	275	330	370	295	355	390	—	—	—
	710	*940*	*1075*	*900*	*1075*	*1225*	*970*	*1175*	*1275*	—	—	—
K7	190	250	295	240	290	325	260	310	340	—	—	—
	620	*820*	*970*	*790*	*950*	*1075*	*850*	*1025*	*1125*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	28	37	43
	—	—	—	—	—	—	—	—	—	*90*	*120*	*140*
S2	—	—	—	—	—	—	—	—	—	22	29	34
	—	—	—	—	—	—	—	—	—	*70*	*95*	*110*
S3	—	—	—	—	—	—	—	—	—	20	26	30
	—	—	—	—	—	—	—	—	—	*65*	*85*	*100*
S11	—	—	—	—	—	—	—	—	—	39	50	60
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*
S12	—	—	—	—	—	—	—	—	—	36	47	55
	—	—	—	—	—	—	—	—	—	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	21	27	32
	—	—	—	—	—	—	—	—	—	*70*	*90*	*105*
H5	—	—	—	55	75	85	—	—	—	—	—	—
	—	—	—	*180*	*245*	*280*	—	—	—	—	—	—
H8	—	—	—	60	75	90	—	—	—	—	—	—
	—	—	—	*195*	*245*	*295*	—	—	—	—	—	—
H11	—	—	—	70	95	110	—	—	—	—	—	—
	—	—	—	*230*	*310*	*360*	—	—	—	—	—	—
H12	—	—	—	105	140	160	—	—	—	—	—	—
	—	—	—	*345*	*460*	*520*	—	—	—	—	—	—

Square 6™ – R217.96-08 – Metric





- For insert selection and cutting data recommendations, see page(s) 112-114
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm	mm		kg	
R217.96-3240.3-08-3A	02622987	Weldon	40,0	3	7,5	3,0	32,0	60,0	60,0	120,0	11800	0,7	XNEX08..
R217.96-3240.3-08-4A	02622989	Weldon	40,0	4	7,5	3,0	32,0	60,0	60,0	120,0	11800	0,7	XNEX08..
R217.96-3240.3S-08-3A	02622914	Seco-Weldon	40,0	3	7,5	3,0	32,0	50,0	60,0	120,0	11800	0,8	XNEX08..
R217.96-3240.3S-08-4A	02622915	Seco-Weldon	40,0	4	7,5	3,0	32,0	50,0	60,0	120,0	11800	0,8	XNEX08..

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T15PX50	C04011-T15P

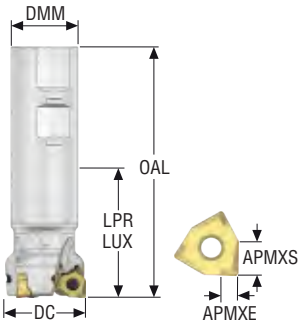
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Square 6™ – R217.96-08 – inch

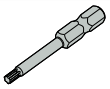




- For insert selection and cutting data recommendations, see page(s) 112-114
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch	inch		lbs	
R217.96-01.50-3-08-3A	02642818	Weldon	1.500	3	0.295	0.118	1.250	2.138	2.138	4.500	20700	1.540	XNEX08..

Spare Parts, included in delivery

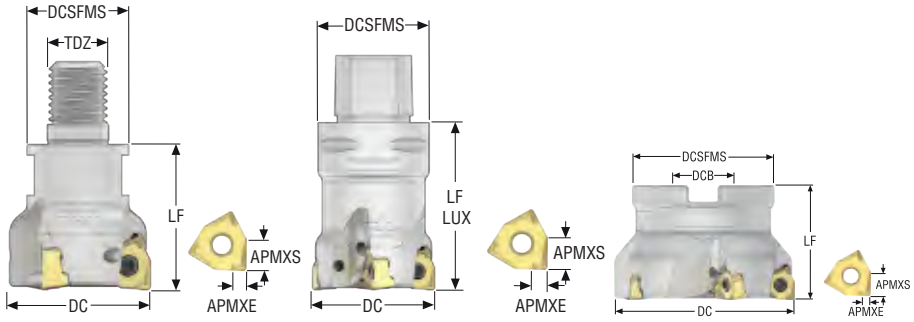
For cutter	Insert key	Insert screw
		
R217.96-..	1/4HEX-T15PX50	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.96-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Square 6™ – R217/220.96-08 – Metric



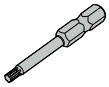


- For insert selection and cutting data recommendations, see page(s) 112-114
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

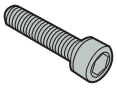
Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LUX	LF	RPMX	Weight	Insert
			mm		mm	mm	mm		mm	mm	mm		kg	
R217.96-1640.RE-08-3A	02678953	Combimaster	40,0	3	7,5	3,0	–	M16	28,0	–	40,0	11800	0,3	XNEX08..
R217.96-1640.RE-08-4A	02678957	Combimaster	40,0	4	7,5	3,0	–	M16	28,0	–	40,0	11800	0,3	XNEX08..
R217.96-2040.RE-08-4A	02972745	Combimaster	40,0	4	7,5	3,0	–	M20	36,5	–	40,0	11800	0,3	XNEX08..
C4-R217.96-044-08-3A	02690109	Seco-Capto	44,0	3	7,5	3,0	–	–	40,0	60,0	60,0	11300	0,6	XNEX08..
C4-R217.96-044-08-4A	02690177	Seco-Capto	44,0	4	7,5	3,0	–	–	40,0	60,0	60,0	11300	0,6	XNEX08..
C5-R217.96-054-08-4A	02690178	Seco-Capto	54,0	4	7,5	3,0	–	–	50,0	60,0	60,0	10200	0,9	XNEX08..
C5-R217.96-054-08-5A	02690179	Seco-Capto	54,0	5	7,5	3,0	–	–	50,0	60,0	60,0	10200	0,9	XNEX08..
C5-R217.96-063-08-6A	02690180	Seco-Capto	63,0	6	7,5	3,0	–	–	50,0	60,0	60,0	9400	1,0	XNEX08..
C6-R217.96-066-08-7A	02780514	Seco-Capto	66,0	7	7,5	3,0	–	–	63,0	60,0	60,0	9400	1,4	XNEX08..
C6-R217.96-080-08-7A	02690182	Seco-Capto	80,0	7	7,5	3,0	–	–	63,0	60,0	60,0	8400	1,7	XNEX08..
C6-R217.96-080-08-9A	02690183	Seco-Capto	80,0	9	7,5	3,0	–	–	63,0	60,0	60,0	8400	1,2	XNEX08..
R220.96-0050-08-4A	02623180	Arbor	50,0	4	7,5	3,0	22,0	–	47,0	–	40,0	10600	0,4	XNEX08..
R220.96-0050-08-5A	02623182	Arbor	50,0	5	7,5	3,0	22,0	–	47,0	–	40,0	10600	0,3	XNEX08..
R220.96-0052-08-5A	02969090	Arbor	52,0	5	7,5	3,0	22,0	–	47,0	–	40,0	10600	0,4	XNEX08..
R220.96-0063-08-4A	02623183	Arbor	63,0	4	7,5	3,0	22,0	–	47,0	–	40,0	9400	0,6	XNEX08..
R220.96-0063-08-5A-27	02768079	Arbor	63,0	5	7,5	3,0	27,0	–	62,0	–	40,0	9400	0,7	XNEX08..
R220.96-0063-08-6A	02623194	Arbor	63,0	6	7,5	3,0	22,0	–	47,0	–	40,0	9400	0,5	XNEX08..
R220.96-0063-08-6A-27	02679623	Arbor	63,0	6	7,5	3,0	27,0	–	62,0	–	40,0	9400	0,7	XNEX08..
R220.96-0063-08-7A	02623196	Arbor	63,0	7	7,5	3,0	22,0	–	47,0	–	40,0	9400	0,5	XNEX08..
R220.96-0063-08-7A-27	02679624	Arbor	63,0	7	7,5	3,0	27,0	–	62,0	–	40,0	9400	0,6	XNEX08..
R220.96-0066-08-6A	02711515	Arbor	66,0	6	7,5	3,0	22,0	–	47,0	–	40,0	9400	0,5	XNEX08..
R220.96-0080-08-5A	02623197	Arbor	80,0	5	7,5	3,0	27,0	–	62,0	–	50,0	8400	1,1	XNEX08..
R220.96-0080-08-7A	02623198	Arbor	80,0	7	7,5	3,0	27,0	–	62,0	–	50,0	8400	1,1	XNEX08..
R220.96-0080-08-9A	02623200	Arbor	80,0	9	7,5	3,0	27,0	–	62,0	–	50,0	8400	1,1	XNEX08..
R220.96-0084-08-7A	02969094	Arbor	84,0	7	7,5	3,0	27,0	–	62,0	–	50,0	8400	1,2	XNEX08..
R220.96-0100-08-6A	02623201	Arbor	100,0	6	7,5	3,0	32,0	–	77,0	–	50,0	7500	1,6	XNEX08..
R220.96-0100-08-8A	02623203	Arbor	100,0	8	7,5	3,0	32,0	–	77,0	–	50,0	7500	1,6	XNEX08..
R220.96-0100-08-11A	02623204	Arbor	100,0	11	7,5	3,0	32,0	–	77,0	–	50,0	7500	1,6	XNEX08..
R220.96-0125-08-7A	02640708	Arbor	125,0	7	7,5	3,0	40,0	–	90,0	–	63,0	6700	3,0	XNEX08..
R220.96-0125-08-11A	02640709	Arbor	125,0	11	7,5	3,0	40,0	–	90,0	–	63,0	6700	2,8	XNEX08..
R220.96-0125-08-14A	02640710	Arbor	125,0	14	7,5	3,0	40,0	–	90,0	–	63,0	6700	2,8	XNEX08..
R220.96-8160-08-12	02640711	Arbor	160,0	12	7,5	3,0	40,0	–	90,0	–	63,0	5900	4,9	XNEX08..
R220.96-8160-08-16	02640712	Arbor	160,0	16	7,5	3,0	40,0	–	90,0	–	63,0	5900	4,8	XNEX08..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

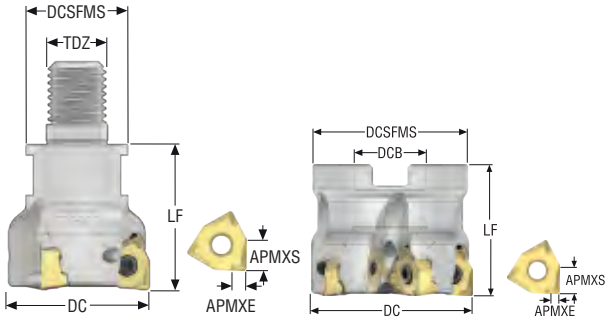
For cutter	Arbor screw	Insert key	Insert screw
			
Cx/R217.96-..	–	1/4HEX-T15PX50	C04011-T15P
R220.96-0050-0052	220.17-696	1/4HEX-T15PX50	C04011-T15P
R220.96-0063-0066	220.17-692	1/4HEX-T15PX50	C04011-T15P
R220.96-0063-27	220.17-693	1/4HEX-T15PX50	C04011-T15P
R220.96-0080-0084	MC6S12X35	1/4HEX-T15PX50	C04011-T15P
R220.96-0100-0125	–	1/4HEX-T15PX50	C04011-T15P
R220.96-8160	–	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
Cx-R217/220.96-1640-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.96-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Square 6™ – R217/220.96-08 – inch



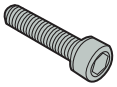
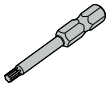


- For insert selection and cutting data recommendations, see page(s) 112-114
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch		inch	inch		lbs	
R217.96-01.50-20RE-08-3A	03212088	Combimaster	1.500	3	0.295	0.118	–	M20	1.398	1.575	20700	0.880	XNEX08..
R220.96-02.00-08-4A	02642870	Arbor	2.000	4	0.295	0.118	0.750	–	1.850	1.575	10600	0.880	XNEX08..
R220.96-02.00-08-5A	02642872	Arbor	2.000	5	0.295	0.118	0.750	–	1.850	1.575	10600	0.880	XNEX08..
R220.96-02.50-08-4A	02642873	Arbor	2.500	4	0.295	0.118	0.750	–	1.850	1.575	9400	1.540	XNEX08..
R220.96-02.50-08-6A	02642874	Arbor	2.500	6	0.295	0.118	0.750	–	1.850	1.575	9400	1.100	XNEX08..
R220.96-02.50-08-7A	02642878	Arbor	2.500	7	0.295	0.118	0.750	–	1.850	1.575	9400	1.320	XNEX08..
R220.96-03.00-08-5A	02642879	Arbor	3.000	5	0.295	0.118	1.000	–	2.441	1.969	8400	2.430	XNEX08..
R220.96-03.00-08-7A	02642881	Arbor	3.000	7	0.295	0.118	1.000	–	2.441	1.969	8400	2.200	XNEX08..
R220.96-03.00-08-9A	02642882	Arbor	3.000	9	0.295	0.118	1.000	–	2.441	1.969	8400	2.200	XNEX08..
R220.96-04.00-08-6A	02642884	Arbor	4.000	6	0.295	0.118	1.500	–	3.031	1.969	7500	3.970	XNEX08..
R220.96-04.00-08-8A	02642886	Arbor	4.000	8	0.295	0.118	1.500	–	3.031	1.969	7500	3.750	XNEX08..
R220.96-04.00-08-11A	02642887	Arbor	4.000	11	0.295	0.118	1.500	–	3.031	1.969	7500	3.750	XNEX08..
R220.96-05.00-08-7A	02642888	Arbor	5.000	7	0.295	0.118	1.500	–	3.543	2.480	6700	7.720	XNEX08..
R220.96-05.00-08-11A	02642889	Arbor	5.000	11	0.295	0.118	1.500	–	3.543	2.480	6700	7.280	XNEX08..
R220.96-06.00-08-12	02642891	Arbor	6.000	12	0.295	0.118	2.000	–	4.331	2.480	5900	9.480	XNEX08..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

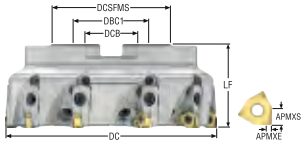
For cutter	Arbor screw	Insert key	Insert screw
			
R217.96-..	–	1/4HEX-T15PX50	C04011-T15P
R220.96-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P
R220.96-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.96-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX50	C04011-T15P
R220.96-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.96-06.00	–	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220.96-01.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35
R220.96-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Square 6™ – R220.96-08 – Metric

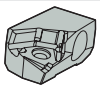
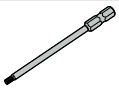
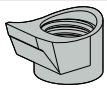




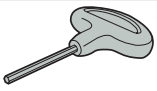
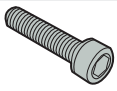
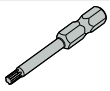
- For insert selection and cutting data recommendations, see page(s) 112-114
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R220.96-8160-08-7C	02827066	Arbor	160,0	7	7,5	3,0	40,0	90,0	63,0	5900	5,5	XNEX08..
R220.96-8160-08-10C	02827062	Arbor	160,0	10	7,5	3,0	40,0	90,0	63,0	5900	5,5	XNEX08..
R220.96-8200-08-8C	02827067	Arbor	200,0	8	7,5	3,0	60,0	130,0	63,0	5300	8,0	XNEX08..
R220.96-8200-08-12C	02827063	Arbor	200,0	8	7,5	3,0	60,0	130,0	63,0	5300	7,7	XNEX08..
R220.96-8250-08-10C	02827068	Arbor	250,0	10	7,5	3,0	60,0	130,0	63,0	4200	15,2	XNEX08..

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Wedge clamp radial adj.	Wedge screw
							
R220.96-8160-8250	AU1114T-T15P	XN08PRN	FS96018	1/4HEX-T15PX90	C04011-T15P	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Allen key	Arbor screw	Insert clamping torque	Torque key	Wedge key
						
R220.96-8160	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S12X40	3.5NM	T00-15P35	1/4HEX-T25PX50
R220.96-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	H05-4	MC6S16X50	3.5NM	T00-15P35	1/4HEX-T25PX50

Torque and fixed keys, see page 872

R217/220.96-08 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	30%	10%
P1	XNEX080608TR-ME09 F40M	3,5 *0.14*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P2	XNEX080608TR-ME09 F40M	3,5 *0.14*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P3	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P4	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,18 *0.0070*	0,19 *0.0075*	0,30 *0.012*
P5	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,30 *0.012*
P6	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
P7	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
P8	XNEX080608TR-M13 MP2501	3,5 *0.14*	0,18 *0.0070*	0,20 *0.0080*	0,30 *0.012*
P11	XNEX080608TR-M13 MP3501	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
P12	XNEX080608R-M08 MS2500	3,0 *0.12*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
M1	XNEX080608R-M08 F40M	3,5 *0.14*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
M2	XNEX080608R-M08 F40M	3,5 *0.14*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
M3	XNEX080608R-M08 F40M	3,0 *0.12*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
M4	XNEX080608R-M08 MS2050	2,0 *0.080*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M5	XNEX080608R-M08 MS2050	2,0 *0.080*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
K1	XNEX080608TR-M13 MK1500	3,5 *0.14*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*
K2	XNEX080608TR-M13 MK1500	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,30 *0.012*
K3	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,30 *0.012*
K4	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,30 *0.012*
K5	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K6	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,17 *0.0065*	0,19 *0.0075*	0,30 *0.012*
K7	XNEX080608TR-M13 MK2050	3,5 *0.14*	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
N1	XNEX080608R-M08 H25	3,5 *0.14*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
N2	XNEX080608R-M08 H25	3,5 *0.14*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
N3	XNEX080608R-M08 H25	3,5 *0.14*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
N11	XNEX080608R-M08 H25	3,5 *0.14*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
S1	XNEX080608R-M08 F40M	2,0 *0.080*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
S2	XNEX080608R-M08 F40M	2,0 *0.080*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
S3	XNEX080608R-M08 F40M	2,0 *0.080*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S11	XNEX080608R-M08 MS2050	2,5 *0.10*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S12	XNEX080608R-M08 MS2050	2,5 *0.10*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S13	XNEX080608R-M08 MS2050	2,0 *0.080*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H5	XNEX080608TR-M13 MP3000	3,0 *0.12*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
H8	XNEX080608TR-M13 MP3000	2,5 *0.10*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
H11	XNEX080608TR-MD15 MP1501	3,0 *0.12*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
H12	XNEX080608TR-MD15 MP1501	2,5 *0.10*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.96-08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	260 *850*	350 *1150*	415 *1350*	250 *820*	335 *1100*	395 *1300*	255 *840*	335 *1100*	400 *1300*	200 *660*	265 *870*	320 *1050*	300 *980*	395 *1300*	475 *1550*	— —	— —	— —
P2	255 *840*	340 *1125*	395 *1300*	245 *800*	325 *1075*	380 *1250*	250 *820*	330 *1075*	390 *1275*	195 *640*	260 *850*	305 *1000*	290 *950*	385 *1275*	460 *1500*	— —	— —	— —
P3	220 *720*	290 *950*	345 *1125*	215 *710*	280 *920*	335 *1100*	220 *720*	290 *950*	340 *1125*	170 *560*	225 *740*	265 *870*	255 *840*	340 *1125*	400 *1300*	— —	— —	— —
P4	195 *640*	260 *850*	305 *1000*	185 *610*	250 *820*	295 *970*	190 *620*	255 *840*	300 *980*	150 *490*	200 *660*	235 *770*	225 *740*	300 *980*	355 *1175*	— —	— —	— —
P5	190 *620*	250 *820*	295 *970*	180 *590*	240 *790*	285 *940*	185 *610*	240 *790*	285 *940*	145 *475*	190 *620*	230 *750*	215 *710*	285 *940*	340 *1125*	— —	— —	— —
P6	210 *690*	280 *920*	335 *1100*	205 *670*	270 *890*	320 *1050*	205 *670*	280 *920*	325 *1075*	165 *540*	215 *710*	255 *840*	245 *800*	325 *1075*	385 *1275*	— —	— —	— —
P7	200 *660*	265 *870*	315 *1025*	195 *640*	255 *840*	300 *980*	195 *640*	260 *850*	310 *1025*	155 *510*	205 *670*	240 *790*	230 *750*	310 *1025*	365 *1200*	— —	— —	— —
P8	185 *610*	245 *800*	290 *950*	180 *590*	235 *770*	280 *920*	185 *610*	240 *790*	285 *940*	145 *475*	190 *620*	225 *740*	215 *710*	285 *940*	340 *1125*	— —	— —	— —
P11	195 *640*	255 *840*	305 *1000*	185 *610*	245 *800*	295 *970*	190 *620*	255 *840*	300 *980*	150 *490*	195 *640*	235 *770*	220 *720*	300 *980*	355 *1175*	— —	— —	— —
P12	125 *410*	170 *560*	200 *660*	125 *410*	160 *520*	190 *620*	125 *410*	160 *520*	190 *620*	100 *330*	130 *425*	155 *510*	145 *475*	190 *620*	225 *740*	— —	— —	— —
M1	— —	— —	— —	180 *590*	245 *800*	285 *940*	200 *660*	265 *870*	315 *1025*	155 *510*	210 *690*	245 *800*	210 *690*	275 *900*	330 *1075*	— —	— —	— —
M2	— —	— —	— —	150 *490*	200 *660*	240 *790*	165 *540*	220 *720*	260 *850*	130 *425*	170 *560*	205 *670*	175 *570*	230 *750*	270 *890*	— —	— —	— —
M3	— —	— —	— —	125 *410*	165 *540*	195 *640*	135 *445*	175 *570*	210 *690*	105 *345*	140 *460*	165 *540*	140 *460*	185 *610*	220 *720*	— —	— —	— —
M4	— —	— —	— —	95 *310*	130 *425*	150 *490*	105 *345*	140 *460*	160 *520*	85 *280*	110 *360*	130 *425*	110 *360*	145 *475*	170 *560*	— —	— —	— —
M5	— —	— —	— —	80 *260*	105 *345*	125 *410*	85 *280*	115 *375*	135 *445*	70 *230*	90 *295*	105 *345*	90 *295*	120 *395*	140 *460*	— —	— —	— —
K1	275 *900*	365 *1200*	425 *1400*	190 *620*	260 *850*	300 *980*	— —	— —	— —	155 *510*	205 *670*	240 *790*	— —	— —	— —	170 *560*	225 *740*	265 *870*
K2	245 *800*	320 *1050*	385 *1275*	175 *570*	225 *740*	270 *890*	— —	— —	— —	140 *460*	180 *590*	215 *710*	— —	— —	— —	150 *490*	200 *660*	235 *770*
K3	205 *670*	270 *890*	325 *1075*	145 *475*	190 *620*	230 *750*	— —	— —	— —	115 *375*	155 *510*	185 *610*	— —	— —	— —	— —	— —	— —
K4	195 *640*	260 *850*	310 *1025*	140 *460*	185 *610*	220 *720*	— —	— —	— —	110 *360*	145 *475*	175 *570*	— —	— —	— —	— —	— —	— —
K5	120 *395*	160 *520*	190 *620*	85 *280*	115 *375*	135 *445*	— —	— —	— —	70 *230*	90 *295*	105 *345*	— —	— —	— —	— —	— —	— —
K6	175 *570*	230 *750*	275 *900*	125 *410*	160 *520*	195 *640*	— —	— —	— —	100 *330*	130 *425*	155 *510*	— —	— —	— —	— —	— —	— —
K7	155 *510*	205 *670*	240 *790*	110 *360*	145 *475*	170 *560*	— —	— —	— —	85 *280*	115 *375*	135 *445*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1125 *3700*	1500 *4925*	1775 *5825*	— —	— —	— —	1250 *4100*	1675 *5500*	1975 *6475*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	455 *1500*	610 *2000*	720 *2350*	— —	— —	— —	510 *1675*	680 *2225*	790 *2600*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	305 *1000*	405 *1325*	480 *1575*	— —	— —	— —	340 *1125*	450 *1475*	530 *1750*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	350 *1150*	465 *1525*	550 *1800*	— —	— —	— —	390 *1275*	520 *1700*	610 *2000*
S1	— —	— —	— —	45 *150*	60 *195*	70 *230*	49 *160*	65 *215*	75 *245*	39 *130*	50 *165*	60 *195*	55 *180*	70 *230*	85 *280*	— —	— —	— —
S2	— —	— —	— —	36 *120*	48 *155*	55 *180*	39 *130*	50 *165*	60 *195*	31 *100*	41 *135*	48 *155*	43 *140*	55 *180*	65 *215*	— —	— —	— —
S3	— —	— —	— —	32 *105*	42 *140*	49 *160*	34 *110*	45 *150*	55 *180*	27 *90*	36 *120*	42 *140*	38 *125*	50 *165*	60 *195*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	70 *230*	90 *295*	105 *345*	55 *180*	70 *230*	85 *280*	75 *245*	100 *330*	115 *375*	38 *125*	49 *160*	60 *195*
S12	— —	— —	— —	— —	— —	— —	47 *155*	60 *195*	75 *245*	37 *120*	49 *160*	60 *195*	50 *165*	70 *230*	80 *260*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	27 *90*	36 *120*	43 *140*	22 *70*	29 *95*	34 *110*	30 *100*	40 *130*	47 *155*	— —	— —	— —
H5	— —	— —	— —	38 *125*	50 *165*	60 *195*	— —	— —	— —	33 *110*	43 *140*	50 *165*	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	41 *135*	55 *180*	65 *215*	— —	— —	— —	35 *115*	46 *150*	55 *180*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	48 *155*	65 *215*	75 *245*	— —	— —	— —	41 *135*	55 *180*	65 *215*	55 *180*	75 *245*	85 *280*	— —	— —	— —
H12	— —	— —	— —	80 *260*	105 *345*	120 *395*	— —	— —	— —	65 *215*	80 *260*	95 *310*	95 *310*	120 *395*	140 *460*	— —	— —	— —

R217/220.96-08 – Cutting data v_c = (m/min)/*(sf/min)*

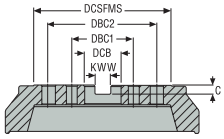
SMG	MK1500			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	380	475	540	370	465	530	335	440	530	390	475	540	190	250	295
	—	—	—	*1250*	*1550*	*1775*	*1225*	*1525*	*1750*	*1100*	*1450*	*1750*	*1275*	*1550*	*1775*	*620*	*820*	*970*
P2	—	—	—	370	465	520	360	455	510	325	430	510	380	465	530	185	240	290
	—	—	—	*1225*	*1525*	*1700*	*1175*	*1500*	*1675*	*1075*	*1400*	*1675*	*1250*	*1525*	*1750*	*610*	*790*	*950*
P3	—	—	—	325	400	455	315	390	445	285	375	445	335	405	455	160	210	250
	—	—	—	*1075*	*1300*	*1500*	*1025*	*1275*	*1450*	*940*	*1225*	*1450*	*1100*	*1325*	*1500*	*520*	*690*	*820*
P4	—	—	—	285	355	400	280	350	395	250	330	395	295	355	400	140	185	220
	—	—	—	*940*	*1175*	*1300*	*920*	*1150*	*1300*	*820*	*1075*	*1300*	*970*	*1175*	*1300*	*460*	*610*	*720*
P5	—	—	—	275	340	390	270	335	385	240	315	375	280	340	385	135	180	210
	—	—	—	*900*	*1125*	*1275*	*890*	*1100*	*1275*	*790*	*1025*	*1225*	*920*	*1125*	*1275*	*445*	*590*	*690*
P6	—	—	—	310	380	435	305	375	430	270	365	425	315	390	435	150	205	240
	—	—	—	*1025*	*1250*	*1425*	*1000*	*1225*	*1400*	*890*	*1200*	*1400*	*1025*	*1275*	*1425*	*490*	*670*	*790*
P7	—	—	—	295	360	415	285	355	405	255	345	405	295	365	410	145	195	225
	—	—	—	*970*	*1175*	*1350*	*940*	*1175*	*1325*	*840*	*1125*	*1325*	*970*	*1200*	*1350*	*475*	*640*	*740*
P8	—	—	—	270	335	385	265	330	375	240	315	375	280	340	385	135	180	210
	—	—	—	*890*	*1100*	*1275*	*870*	*1075*	*1225*	*790*	*1025*	*1225*	*920*	*1125*	*1275*	*445*	*590*	*690*
P11	—	—	—	285	350	400	280	345	395	245	335	390	290	355	400	140	190	220
	—	—	—	*940*	*1150*	*1300*	*920*	*1125*	*1300*	*800*	*1100*	*1275*	*950*	*1175*	*1300*	*460*	*620*	*720*
P12	—	—	—	185	225	255	185	225	255	160	215	250	185	220	245	90	120	140
	—	—	—	*610*	*740*	*840*	*610*	*740*	*840*	*520*	*710*	*820*	*610*	*720*	*800*	*295*	*395*	*460*
M1	—	—	—	—	—	—	185	250	290	230	305	365	200	265	315	155	205	245
	—	—	—	—	—	—	*610*	*820*	*950*	*750*	*1000*	*1200*	*660*	*870*	*1025*	*510*	*670*	*800*
M2	—	—	—	—	—	—	155	205	240	190	255	300	165	220	260	130	170	200
	—	—	—	—	—	—	*510*	*670*	*790*	*620*	*840*	*980*	*540*	*720*	*850*	*425*	*560*	*660*
M3	—	—	—	—	—	—	125	165	195	155	205	245	135	175	210	105	140	165
	—	—	—	—	—	—	*410*	*540*	*640*	*510*	*670*	*800*	*445*	*570*	*690*	*345*	*460*	*540*
M4	—	—	—	—	—	—	100	130	150	120	160	190	105	140	160	80	110	125
	—	—	—	—	—	—	*330*	*425*	*490*	*395*	*520*	*620*	*345*	*460*	*520*	*260*	*360*	*410*
M5	—	—	—	—	—	—	80	110	125	100	135	155	85	115	135	70	90	105
	—	—	—	—	—	—	*260*	*360*	*410*	*330*	*445*	*510*	*280*	*375*	*445*	*230*	*295*	*345*
K1	290	385	450	375	470	520	365	460	510	255	340	405	380	470	530	—	—	—
	950	*1275*	*1475*	*1225*	*1550*	*1700*	*1200*	*1500*	*1675*	*840*	*1125*	*1325*	*1250*	*1550*	*1750*	—	—	—
K2	260	340	405	335	410	470	330	405	465	230	300	355	340	415	465	—	—	—
	850	*1125*	*1325*	*1100*	*1350*	*1550*	*1075*	*1325*	*1525*	*750*	*980*	*1175*	*1125*	*1350*	*1525*	—	—	—
K3	220	285	345	285	350	400	275	340	390	195	255	300	285	350	395	—	—	—
	720	*940*	*1125*	*940*	*1150*	*1300*	*900*	*1125*	*1275*	*640*	*840*	*980*	*940*	*1150*	*1300*	—	—	—
K4	210	275	325	270	335	380	265	325	375	185	245	290	275	335	375	—	—	—
	690	*900*	*1075*	*890*	*1100*	*1250*	*870*	*1075*	*1225*	*610*	*800*	*950*	*900*	*1100*	*1225*	—	—	—
K5	125	170	200	165	205	230	160	200	225	115	150	175	170	205	225	—	—	—
	410	*560*	*660*	*540*	*670*	*750*	*520*	*660*	*740*	*375*	*490*	*570*	*560*	*670*	*740*	—	—	—
K6	185	240	290	240	295	335	235	285	330	160	215	255	240	295	330	—	—	—
	610	*790*	*950*	*790*	*970*	*1100*	*770*	*940*	*1075*	*520*	*710*	*840*	*790*	*970*	*1075*	—	—	—
K7	160	215	255	210	260	295	205	255	290	145	195	225	215	260	290	—	—	—
	520	*710*	*840*	*690*	*850*	*970*	*670*	*840*	*950*	*475*	*640*	*740*	*710*	*850*	*950*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	60	80	90	49	65	75	25	33	39
	—	—	—	—	—	—	—	—	—	*195*	*260*	*295*	*160*	*215*	*245*	*80*	*110*	*130*
S2	—	—	—	—	—	—	—	—	—	48	65	75	39	50	60	20	27	31
	—	—	—	—	—	—	—	—	—	*155*	*215*	*245*	*130*	*165*	*195*	*65*	*90*	*100*
S3	—	—	—	—	—	—	—	—	—	42	55	65	34	45	55	18	23	27
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*110*	*150*	*180*	*60*	*75*	*90*
S11	—	—	—	—	—	—	—	—	—	85	110	130	70	90	105	35	46	55
	—	—	—	—	—	—	—	—	—	*280*	*360*	*425*	*230*	*295*	*345*	*115*	*150*	*180*
S12	—	—	—	—	—	—	—	—	—	60	75	90	47	60	75	33	42	50
	—	—	—	—	—	—	—	—	—	*195*	*245*	*295*	*155*	*195*	*245*	*110*	*140*	*165*
S13	—	—	—	—	—	—	—	—	—	33	44	50	27	36	43	19	25	29
	—	—	—	—	—	—	—	—	—	*110*	*145*	*165*	*90*	*120*	*140*	*60*	*80*	*95*
H5	—	—	—	49	65	75	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*160*	*215*	*245*	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*180*	*230*	*260*	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	60	80	95	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*195*	*260*	*310*	—	—	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	95	125	145	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*310*	*410*	*475*	—	—	—	—	—	—	—	—	—	—	—	—

Code keys metric and inch

R	217	.	69	-	25	32	.	3S	-	042	-	10	.	4	A
1	2		3		4	5		6		7		8		9	10

R	217	.	69	-	01.50	-	3	-	01.34	-	10	-	4	A
1	2		3		5		6		7		8		9	10

1.	2.	3.
Right hand rotation Cx = For Seco-Capto	215/217=With shank 220 = For Arbor 235 = Finishing	69 = Rectangular positive 2 cutting edges 94 = Tangential 4 cutting edges 59 = Square positive 4 cutting edges 15 = Finishing
4. (Not applicable for inch designation)	**5.**	**6.**
Shank diameter (except for Arbor type)	Cutter diameter	Shank type (except for Arbor type) 0 = Cylindrical 3 = Weldon 3S = Seco Weldon RE = Combimaster
7.	**8.**	**9.**
Max. axial cutting depht	Insert size xxS = short edge xxM = Medium edge xxL = Long edge xxH = Heavy duty	Effective No. of flutes (ZEFP)
10.		
A = With through coolant supply N = Coated S = Set H = Heavy Duty K = Full effective (for .59 only) R6 = Compatible with radius 6.3 mm (for .59 only)		



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter	Insert	Material suitability					Corner radius (mm)						
		P	M	K	N	S							
Turbo	XO..06	■	■	■	■	■	0,2/0,4/0,8/1,6	■	□	■	■	◩	
	XO..10	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1	■	◩	■	■	◩	
	XO..12	■	■	■	■	■	0,2/0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	◩	■	■	■	◩	
	XO..16	■	■	■	■	■	0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	◩	■	■	■	◩	
	XO..18	■	■	■	■	■	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	□	■	■	■	◩	
Helical T4	LO..08	■	□	■	–	◩	0,4/0,8/1,2/1,6	◩	◩	◩	–	□	
	LO..12	■	◩	■	◩	◩	0,4/0,8/1,2/1,6/2,0/ 2,4/3,1/4,0/5,0/6,3	◩	◩	◩	–	□	
R215/220.59 / R215/220.59K	AC15 SC12	◩	◩	◩	□	□	1,2/3,0/3,1/6,0	_	■	□	_	□	
220.69-15	AC15	◩	◩	◩	□	□	1,2/3,0/3,1/6,0	_	■	□	_	□	
Helical solution for side-finishing operation (small radial engagement)													
235.15		■	■	■	-	■	Chamfer	■	■	◩	-	-	

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Metric

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (mm)/available depth of cut and number of teeth															See page
			12	14	16	20	25	32	40	44	50	54	63	66	80	100	125	
Turbo 06	2		10 (2)	15 (2)	20 (2)	20 (3) / 25 (3)												124
					15 (3)													
Turbo 10	2					25 (1)	25 (2)	25 (3)	34 (4)		42 (5)							129
						17 (2)	17 (3) / 25 (3) / 34 (3) / 42 (2)	34 (4) / 42 (4) / 50 (3)	34 (5) / 58 (4)	58 (5)	42 (6)							
Turbo 12	2						22 (2) / 33 (2)	33 (2)	33 (3) / 55 (3)	33 (3)	33 (4) / 44 (4) / 55 (4) / 66 (4)	44 (4)	33 (5) / 55 (5)	44 (5)				135
								22 (3) / 33 (3) / 44 (3) / 55 (3)	44 (4) / 65.5 (3)		44 (5) / 86 (5) / 106 (5)		77 (4) / 107 (5)		64 (6)			
Turbo 16	2							29 (2)	29 (3) 43 (3)		57 (3)		43 (4)		71 (5)	71 (6)		145
									71 (3)		43 (4) 57 (4) 85 (4) 98 (4)		57 (5) 85 (5)		71 (6)			
Turbo 18	2								47 (2)		47 (3) / 62 (3)	47 (3)	47 (4) / 62 (3)	47 (4)	47 (5) / 62 (5)	62 (6)		152
													62 (4) / 77 (4)		77 (4) / 93 (5)	77 (5)		
T4 08	4						29 (2) / 36 (2)	36 (3)	36 (3)		43 (4)							174
							43 (2)	43 (3) / 50 (3)	43 (4) / 50 (4)	57 (4)	57 (5)	64 (5)						
T4 12	4								35 (2)	35 (3)	35 (3) / 46 (3)		46 (4)					N/A
										58 (3)	46 (4) / 58 (4) / 81 (4)	69 (4)	58 (5) / 81 (4) / 92 (4)	81 (5)	69 (5) / 104 (5)	81 (6)		
215/220.59	2 & 4 half effective										50 (2) / 59 (2)		59 (2)		68 (2/3)	77 (3/4)		186
											77 (2) / 120 (2)		86 (2) / 120 (2) / 160 (2)		95 (2/3)			186
215/220.59K	2 & 4 full effective										63 (3) / 72 (3)		72 (4) / 110 (3)		72 (5)			186
220.69-15	2												38 (4)		38 (5) / 50 (5)	50 (6)	50 (7)	193
235.15	1							40 (2)			50 (3)				90 (3)			197

x(y) Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)

x(y) For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)

Slotting and contouring

Contouring only

Selection – Inch

Cutter	Insert	Material suitability					Corner radius (inch)					
		P	M	K	N	S						
Turbo	XO..06	■	■	■	■	■	.007/.016 .031/.063	■	□	■	■	◩
	XO..10	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122	■	◩	■	■	◩
	XO..12	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	■	■	■	◩
	XO..16	■	■	■	■	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	■	■	■	◩
	XO..18	■	■	■	■	■	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	□	■	■	■	◩
Helical T4	LO..08	■	□	■	–	◩	.016/.031 .047/.063	◩	◩	◩	–	□
	LO..12	■	◩	■	◩	◩	.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	◩	◩	◩	–	□
R215/220.59 / R215/220.59K	AC15 SC12	◩	◩	◩	□	□	.047/.122 .118/.236	–	■	□	–	□
220.69-15	AC15	◩	◩	◩	□	□	.047/.122 .118/.236	–	■	□	–	□
Helical solution for side-finishing operation (small radial engagement)												
235.15		■	■	■	-	■	Chamfer	■	■	◩	-	-

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Inch

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (inch)/available depth of cut and number of teeth								See page
			0.750	1.00	1.25	1.50	2.00	2.50	3.00	4.00	
Turbo 06	2		1.024 (3)								124
											
Turbo 10	2			1.024 (2)		1.378 (4)					129
				1.378 (3) / 1.693 (2)		1.339 (5)					
Turbo 12	2			0.870 (2) / 0.902 (2)	1.299 (2)	1.732 (3)	1.740 (4) / 2.591 (4)	2.953 (4)			135
					1.732 (3)	1.732 (4) / 2.165 (4) / 2.559 (3)	2.146 (5)				
Turbo 16	2					1.69 (3)	1.69 (3)	1.69 (4)	2.79 (5)		135
							1.69 (4) 2.24 (4) 3.89 (4)	2.24 (5) / 3.34 (5)			
Turbo 18	2					1.862 (2)	1.850 (3)	1.866 (4) / 2.409 (4) / 2.441 (4)	2.480 (5) / 3.024 (4)	3.024 (5)	152
							2.441 (3)	3.024 (4)			
Helical T4 08	4			1.417 (2)	1.417 (2)		1.693 (4)				174
				1.693 (2)		1.969 (4)					
Helical T4 12	4						1.406 (3) / 1.850 (3)				N/A
							2.283 (4) / 2.310 (4)	3.189 (4) / 3.211 (4)	3.189 (5) / 3.211 (5)		
215/220.59	2 & 4 half effective										186
							3.031 (2)				
215/220.59K	2 & 4 full effective										186
220.69-15	2						1.567 (3)				193
235.15	1						1.969 (3)		3.500 (3)		197

x(y) Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)

x(y) For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)

 Slotting and contouring

 Contouring only

Selection – Metric

Cutter	Insert	Material suitability					Corner radius (mm)					
		P	M	K	N	S						
Right Helix R217/220.82-SNXO16	XO.X16	■	■	■	□	■	0,4/0,8/1,2/ 1,6/2,0/2,4/3,1/ 4,0/5,0/6,3	–	■	–	■	◩
	SN.U13											
Right Helix R217/220.82-SNAC15-H Left Helix R217/220.81-SNAC15 R217/220.81-SNAC15-K	AC.T15	■	◩	■	□	□	1,2/3,0/3,1/6,0	–	■	◩	–	–
	SN.U13											

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Metric

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (mm)/available depth of cut and number of teeth							See page
			50	63	80	100	125	160	200	
Right Helix R2177220.82-SNXO16	2/8		47 (3)	47 (4)	68 (5)					161
				69 (5) / 79 (4)	79 (6)					
Right Helix R217/220.82-SNAC15-H	2/8			46 (4)	57 (5)	57 (6)				170
Left Helix R217/220.81-SNAC15	2/8		68 (2)	68 (2)	68 (3)	68 (4)				169
Left Helix R217/220.81-SNAC15-K	2/8									168
				68 (4)	79 (5)					

x(y) Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)

x(y) For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)

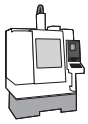
Slotting and contouring

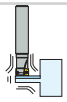
Contouring only

Selection – Inch

Cutter	Insert	Material suitability					Corner radius (inch)					
		P	M	K	N	S						
Right Helix R2177220.82-SNXO16	XO.X16 	■	■	■	□	■	.007/.016/.031 .047/.063 .079/.094 .122/.157 .197/.248	–	■	–	■	◩
	SN.U13 											

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Inch

Cutter	No. of cutting edges	Applica-tion	Cutter diameter (inch)/available depth of cut and number of teeth						See page
			1.25	1.50	2.00	2.50	3.00	4.00	
Right Helix R2177220.82-SNXO16	2/8				1.85 (3)	1.85 (4)	2.68 (5)		162
						2.75 (5) / 3.11 (4)	3.11 (6)		

x(y)	Slotting and contouring operations : x indicates the maximum depth of cut (y indicates the number of teeth)
x(y)	For contouring operations only : x indicates the maximum depth of cut (y indicates the number of teeth)

	Slotting and contouring
	Contouring only



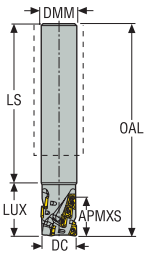
TURBO HELICAL

Seco's range of high-performance Turbo helical cutters offers high feeds, large depths of cut and high metal removal rates in contouring and profiling applications. These cutters provide a first choice for mixed production in all workpiece materials

- Insert size 06, cutter range 12-20 mm (0.75 inch)
- Insert size 10, cutter range 20-50 mm (1 inch)
- Insert size 12, cutter range 25-66 mm (1 - 2.5 inch)
- Insert size 16, cutter range 32-100 mm (1.5 - 3 inch)
- Insert size 18, cutter range 40-100 mm (1.5 - 4 inch)

Turbo 06 – R217.69-06 – Metric





- For insert selection and cutting data recommendations, see page(s) 127-128
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LS	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.69-1612.0-10-06.2N	02709311	Cylindrical	12,0	2	4	10,0	16,0	23,0	66,0	98,0	54400	0,2	XO.X06..
R217.69-1616.0-15-06.3N	02709314	Cylindrical	16,0	3	9	15,0	16,0	30,0	80,0	110,0	48000	0,2	XO.X06..
R217.69-1616.0-20-06.2N	02709316	Cylindrical	16,0	2	8	20,0	16,0	30,0	80,0	110,0	48000	0,2	XO.X06..
R217.69-2020.0-25-06.3N	02709317	Cylindrical	20,0	3	15	25,0	20,0	35,0	85,0	120,0	44000	0,4	XO.X06..

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

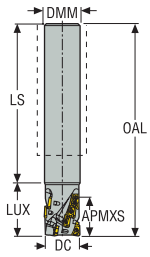
For cutter	Insert key	Insert screw
		
R217.69-..	H4B-T06P	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
	0.5NM	T00-06P05

Torque and fixed keys, see page 872

Turbo 06 – R217.69-06 – Inch





- For insert selection and cutting data recommendations, see page(s) 127-128
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LS	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.69-00.75-0-06M3N	02710568	Cylindrical	0.750	3	15	1.024	0.750	1.378	3.622	5.000	44000	0.660	XO.X06..

Modification of the cutter body needed for radii > 0.031 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	H4B-T06P	C01804-T06P

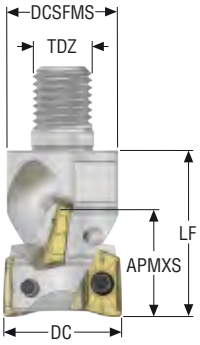
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 872

Turbo 06 – R217.69-06– Metric





- For insert selection and cutting data recommendations, see page(s) 127-128
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm		mm	mm		kg	
R217.69-0814.RE-15-06.2N	02709297	Combimaster	14,0	2	6	15,0	M8	13,2	25,0	51200	0,1	XO.X06..
R217.69-1020.RE-20-06.3AN	02709306	Combimaster	20,0	3	12	20,0	M10	18,5	35,0	44800	0,1	XO.X06..

Modification of the cutter body needed for radii > 0,8 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	H4B-T06P	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.5NM	T00-06P05

Torque and fixed keys, see page 872

R217/220.69-06 – Insert selection – mm/*Inch*

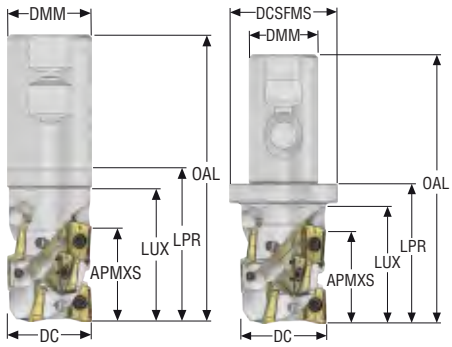
SMG		f_z		
		100%	30%	10%
P1	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*
P2	XOMX060208R-M05 F40M	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
P3	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
P4	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
P5	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,090 *0.0036*
P6	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
P7	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
P8	XOMX060208R-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
P11	XOMX060208R-M05 MP3000	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
P12	XOMX060208R-M05 MP3000	0,036 *0.0014*	0,040 *0.0016*	0,060 *0.0024*
M1	XOMX060208R-M05 MS2050	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
M2	XOMX060208R-M05 MS2050	0,050 *0.0020*	0,055 *0.0022*	0,090 *0.0036*
M3	XOMX060208R-M05 MS2050	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*
M4	XOMX060208R-M05 MS2050	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*
M5	XOMX060208R-M05 MS2050	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*
K1	XOMX060208R-M05 F40M	0,060 *0.0024*	0,065 *0.0026*	0,095 *0.0038*
K2	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,090 *0.0036*
K3	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,090 *0.0036*
K4	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,090 *0.0036*
K5	XOMX060208R-M05 F40M	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*
K6	XOMX060208R-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,090 *0.0036*
K7	XOMX060208R-M05 F40M	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*
N1	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
N2	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
N3	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
N11	XOEX060204FR-E03 H15	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
S1	XOMX060208R-M05 F40M	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*
S2	XOMX060208R-M05 F40M	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*
S3	XOMX060208R-M05 F40M	0,034 *0.0013*	0,038 *0.0015*	0,060 *0.0024*
S11	XOMX060208R-M05 MS2050	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*
S12	XOMX060208R-M05 MS2050	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*
S13	XOMX060208R-M05 MS2050	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*
H5	XOMX060208R-M05 MP3000	0,036 *0.0014*	0,040 *0.0016*	0,060 *0.0024*
H8	XOMX060208R-M05 MP3000	0,028 *0.0011*	0,030 *0.0012*	0,046 *0.0018*
H11	XOMX060208R-M05 MP3000	0,036 *0.0014*	0,040 *0.0016*	0,060 *0.0024*
H12	XOMX060208R-M05 MP3000	0,028 *0.0011*	0,030 *0.0012*	0,046 *0.0018*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M			F30M			MP3000			MS2050			F40M			H15			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	165	180	190	175	195	205	165	185	195	160	180	190	—	—	—	145	165	175
	—	—	—	*540*	*590*	*620*	*570*	*640*	*670*	*540*	*610*	*640*	*520*	*590*	*620*	—	—	—	*475*	*540*	*570*
P2	—	—	—	160	180	190	175	190	200	165	180	195	160	175	185	—	—	—	145	160	175
	—	—	—	*520*	*590*	*620*	*570*	*620*	*660*	*540*	*590*	*640*	*520*	*570*	*610*	—	—	—	*475*	*520*	*570*
P3	—	—	—	150	170	180	165	180	195	155	175	185	150	165	180	—	—	—	135	155	165
	—	—	—	*490*	*560*	*590*	*540*	*590*	*640*	*510*	*570*	*610*	*490*	*540*	*590*	—	—	—	*445*	*510*	*540*
P4	—	—	—	145	160	170	155	175	185	—	—	—	140	160	170	—	—	—	125	145	155
	—	—	—	*475*	*520*	*560*	*510*	*570*	*610*	—	—	—	*460*	*520*	*560*	—	—	—	*410*	*475*	*510*
P5	—	—	—	140	160	170	155	170	180	—	—	—	140	155	165	—	—	—	125	140	155
	—	—	—	*460*	*520*	*560*	*510*	*560*	*590*	—	—	—	*460*	*510*	*540*	—	—	—	*410*	*460*	*510*
P6	—	—	—	150	165	180	160	180	190	—	—	—	145	165	175	—	—	—	130	150	160
	—	—	—	*490*	*540*	*590*	*520*	*590*	*620*	—	—	—	*475*	*540*	*570*	—	—	—	*425*	*490*	*520*
P7	—	—	—	145	165	175	155	175	185	—	—	—	145	160	170	—	—	—	130	145	155
	—	—	—	*475*	*540*	*570*	*510*	*570*	*610*	—	—	—	*475*	*520*	*560*	—	—	—	*425*	*475*	*510*
P8	—	—	—	140	160	170	150	170	180	—	—	—	135	155	165	—	—	—	125	140	150
	—	—	—	*460*	*520*	*560*	*490*	*560*	*590*	—	—	—	*445*	*510*	*540*	—	—	—	*410*	*460*	*490*
P11	—	—	—	145	160	170	155	175	185	—	—	—	140	160	170	—	—	—	125	145	155
	—	—	—	*475*	*520*	*560*	*510*	*570*	*610*	—	—	—	*460*	*520*	*560*	—	—	—	*410*	*475*	*510*
P12	—	—	—	115	130	140	125	145	155	—	—	—	110	130	140	—	—	—	95	115	125
	—	—	—	*375*	*425*	*460*	*410*	*475*	*510*	—	—	—	*360*	*425*	*460*	—	—	—	*310*	*375*	*410*
M1	—	—	—	145	165	175	155	170	185	150	170	180	145	160	175	—	—	—	135	150	165
	—	—	—	*475*	*540*	*570*	*510*	*560*	*610*	*490*	*560*	*590*	*475*	*520*	*570*	—	—	—	*445*	*490*	*540*
M2	—	—	—	135	155	165	140	160	170	140	155	165	130	150	160	—	—	—	120	140	150
	—	—	—	*445*	*510*	*540*	*460*	*520*	*560*	*460*	*510*	*540*	*425*	*490*	*520*	—	—	—	*395*	*460*	*490*
M3	—	—	—	120	135	145	125	145	155	125	140	150	115	135	145	—	—	—	105	125	135
	—	—	—	*395*	*445*	*475*	*410*	*475*	*510*	*410*	*460*	*490*	*375*	*445*	*475*	—	—	—	*345*	*410*	*445*
M4	—	—	—	100	120	130	110	125	135	105	125	135	100	115	125	—	—	—	90	105	115
	—	—	—	*330*	*395*	*425*	*360*	*410*	*445*	*345*	*410*	*445*	*330*	*375*	*410*	—	—	—	*295*	*345*	*375*
M5	—	—	—	90	110	120	95	115	125	95	110	120	85	105	115	—	—	—	75	95	105
	—	—	—	*295*	*360*	*395*	*310*	*375*	*410*	*310*	*360*	*395*	*280*	*345*	*375*	—	—	—	*245*	*310*	*345*
K1	155	170	185	145	165	175	155	175	185	—	—	—	140	160	170	—	—	—	—	—	—
	510	*560*	*610*	*475*	*540*	*570*	*510*	*570*	*610*	—	—	—	*460*	*520*	*560*	—	—	—	—	—	—
K2	145	165	175	140	155	165	150	170	180	—	—	—	135	155	165	—	—	—	—	—	—
	475	*540*	*570*	*460*	*510*	*540*	*490*	*560*	*590*	—	—	—	*445*	*510*	*540*	—	—	—	—	—	—
K3	135	155	165	125	145	155	140	155	165	—	—	—	125	140	150	—	—	—	—	—	—
	445	*510*	*540*	*410*	*475*	*510*	*460*	*510*	*540*	—	—	—	*410*	*460*	*490*	—	—	—	—	—	—
K4	135	150	160	125	140	150	135	155	165	—	—	—	120	140	150	—	—	—	—	—	—
	445	*490*	*520*	*410*	*460*	*490*	*445*	*510*	*540*	—	—	—	*395*	*460*	*490*	—	—	—	—	—	—
K5	100	120	130	90	110	120	100	120	130	—	—	—	85	105	115	—	—	—	—	—	—
	330	*395*	*425*	*295*	*360*	*395*	*330*	*395*	*425*	—	—	—	*280*	*345*	*375*	—	—	—	—	—	—
K6	125	140	155	115	135	145	125	145	155	—	—	—	115	130	140	—	—	—	—	—	—
	410	*460*	*510*	*375*	*445*	*475*	*410*	*475*	*510*	—	—	—	*375*	*425*	*460*	—	—	—	—	—	—
K7	115	135	145	105	125	135	120	135	145	—	—	—	105	120	130	—	—	—	—	—	—
	375	*445*	*475*	*345*	*410*	*445*	*395*	*445*	*475*	—	—	—	*345*	*395*	*425*	—	—	—	—	—	—
N1	290	305	320	280	300	310	—	—	—	—	—	—	275	295	305	280	300	310	—	—	—
	950	*1000*	*1050*	*920*	*980*	*1025*	—	—	—	—	—	—	*900*	*970*	*1000*	*920*	*980*	*1025*	—	—	—
N2	230	245	260	220	240	250	—	—	—	—	—	—	215	235	245	220	240	250	—	—	—
	750	*800*	*850*	*720*	*790*	*820*	—	—	—	—	—	—	*710*	*770*	*800*	*720*	*790*	*820*	—	—	—
N3	200	220	230	190	210	220	—	—	—	—	—	—	190	210	220	190	210	220	—	—	—
	660	*720*	*750*	*620*	*690*	*720*	—	—	—	—	—	—	*620*	*690*	*720*	*620*	*690*	*720*	—	—	—
N11	210	230	240	200	220	230	—	—	—	—	—	—	200	215	225	200	220	230	—	—	—
	690	*750*	*790*	*660*	*720*	*750*	—	—	—	—	—	—	*660*	*710*	*740*	*660*	*720*	*750*	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	80	50	65	75	—	—	—	28	37	43
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*165*	*215*	*245*	—	—	—	*90*	*120*	*140*
S2	—	—	—	—	—	—	—	—	—	45	60	70	41	55	60	—	—	—	23	30	35
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*135*	*180*	*195*	—	—	—	*75*	*100*	*115*
S3	—	—	—	—	—	—	—	—	—	39	50	60	36	46	55	—	—	—	20	26	30
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*	*120*	*150*	*180*	—	—	—	*65*	*85*	*100*
S11	—	—	—	—	—	—	—	—	—	75	95	105	70	90	100	—	—	—	40	50	60
	—	—	—	—	—	—	—	—	—	*245*	*310*	*345*	*230*	*295*	*330*	—	—	—	*130*	*165*	*195*
S12	—	—	—	—	—	—	—	—	—	55	70	80	49	65	75	—	—	—	37	48	55
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*160*	*215*	*245*	—	—	—	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	31	41	47	28	37	43	—	—	—	21	28	32
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*	*90*	*120*	*140*	—	—	—	*70*	*90*	*105*
H5	—	—	—	45	60	70	50	65	75	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*150*	*195*	*230*	*165*	*215*	*245*	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	46	60	70	50	65	75	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*150*	*195*	*230*	*165*	*215*	*245*	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	55	75	85	65	80	90	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*180*	*245*	*280*	*215*	*260*	*295*	—	—	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	80	100	110	95	110	120	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	*260*	*330*	*360*	*310*	*360*	*395*	—	—	—	—	—	—	—	—	—	—	—	—

Turbo 10 – R217.69-10 – Metric





- For insert selection and cutting data recommendations, see page(s) 132-134
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LS	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.69-2020.3-017-10.2A	02827022	Weldon	20,0	2	4	17,0	20,0	35,0	50,0	85,0	26300	0,2	XO.X10..
R217.69-2020.3-025-10.1A	02827023	Weldon	20,0	1	3	25,0	20,0	45,0	50,0	95,0	26300	0,3	XO.X10..
R217.69-2525.3-025-10.2A	02827024	Weldon	25,0	2	6	25,0	25,0	44,0	50,0	100,0	23500	0,4	XO.X10..
R217.69-2025.3S-025-10.3A	02827025	Seco-Weldon	25,0	3	9	25,0	20,0	43,0	50,0	100,0	23500	0,4	XO.X10..*
R217.69-2025.3S-034-10.3A	02827026	Seco-Weldon	25,0	3	12	34,0	20,0	43,0	50,0	100,0	23500	0,3	XO.X10..*
R217.69-2525.3S-034-10.3A	02827027	Seco-Weldon	25,0	3	12	34,0	25,0	43,0	56,0	110,0	23500	0,4	XO.X10..*
R217.69-2525.3S-042-10.2A	02827028	Seco-Weldon	25,0	2	10	42,0	25,0	53,0	56,0	120,0	23500	0,5	XO.X10..
R217.69-2532.3S-034-10.4A	02827029	Seco-Weldon	32,0	4	16	34,0	25,0	43,0	56,0	110,0	20800	0,5	XO.X10..*
R217.69-2532.3S-042-10.4A	02827030	Seco-Weldon	32,0	4	20	42,0	25,0	53,0	56,0	120,0	20800	0,6	XO.X10..*
R217.69-2532.3S-050-10.3A	02827031	Seco-Weldon	32,0	3	18	50,0	25,0	63,0	56,0	130,0	20800	0,6	XO.X10..
R217.69-3240.3S-058-10.4A	02827032	Seco-Weldon	40,0	4	28	58,0	32,0	72,0	60,0	144,0	18600	1,0	XO.X10..

Modification of the cutter body needed for radii > 2,0 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

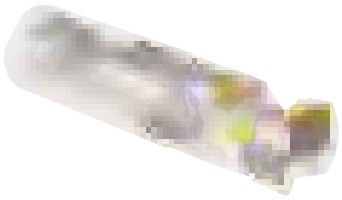
For cutter	Insert key	Insert screw
		
R217.69-..	H4B-T07P	C02506-T07P

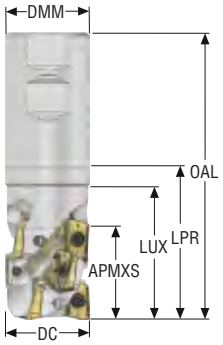
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

Turbo 10 – R217.69-10 – Inch





- For insert selection and cutting data recommendations, see page(s) 132-134
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LS	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.69-01.00-3-01.00-10-2A	02829883	Weldon	1.000	2	6	1.024	1.000	1.874	2.282	4.000	23500	0.880	XO.X10..
R217.69-01.00-3-01.34-10-3A	02865301	Weldon	1.000	3	12	1.378	1.000	1.969	2.282	4.250	23500	0.880	XO.X10..*
R217.69-01.00-3-01.65-10-2A	02865304	Weldon	1.000	2	10	1.693	1.000	2.078	2.422	4.500	23500	0.880	XO.X10..

Modification of the cutter body needed for radii > 0.079 in
* No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

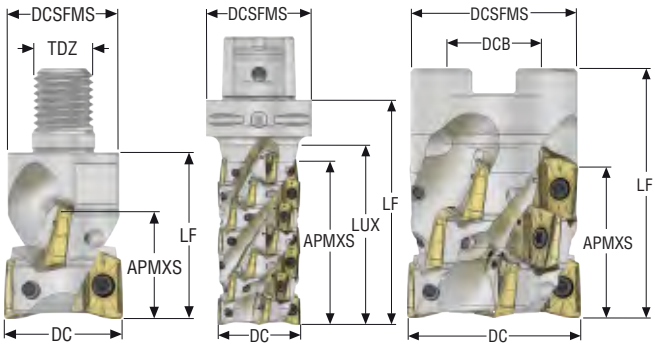
For cutter	Insert key	Insert screw
		
R217.69-..	H4B-T07P	C02506-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

Turbo 10 – R217/220.69-10 – Metric





- For insert selection and cutting data recommendations, see page(s) 132-134
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	TDZ	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm		mm	mm	mm		kg	
R217.69-1020.RE-017-10.2A	02827017	Combimaster	20,0	2	4	17,0	–	M10	18,5	28,0	–	26300	0,1	XO.X10..
R217.69-1225.RE-017-10.3A	02827018	Combimaster	25,0	3	6	17,0	–	M12	23,0	35,0	–	23500	0,2	XO.X10..*
R217.69-1225.RE-025-10.2A	02827019	Combimaster	25,0	2	6	25,0	–	M12	23,0	40,0	–	23500	0,2	XO.X10..
R217.69-1632.RE-025-10.3A	02827020	Combimaster	32,0	3	9	25,0	–	M16	30,0	45,0	–	20800	0,3	XO.X10..
R217.69-1632.RE-034-10.4A	02827021	Combimaster	32,0	4	16	34,0	–	M16	30,0	50,0	–	20800	0,3	XO.X10..*
C4-R217.69-044-058-10.5A	02827033	Seco-Capto	44,0	5	35	58,0	–	–	40,0	90,0	90,0	16600	0,8	XO.X10..*
R220.69-00040-034-10.4A	02865893	Arbor	40,0	4	16	34,0	16,0	–	35,0	55,0	–	18600	0,4	XO.X10..
R220.69-00040-034-10.5A	02827038	Arbor	40,0	5	20	34,0	16,0	–	38,0	55,0	–	18600	0,4	XO.X10..*
R220.69-00050-042-10.5A	02865895	Arbor	50,0	5	25	42,0	27,0	–	48,0	65,0	–	16600	0,5	XO.X10..
R220.69-00050-042-10.6A	02827039	Arbor	50,0	6	30	42,0	27,0	–	48,0	65,0	–	16600	0,5	XO.X10..*

For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 2,0 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-../Cx-R217.69-..	–	H4B-T07P	C02506-T07P
R220.69-00040	950D0850	H4B-T07P	C02506-T07P
R220.69-00050	MC6S12X60	H4B-T07P	C02506-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.69-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

R217/220.69-10 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	30%	10%
P1	XOMX10T308TR-ME07 MP2501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
P2	XOMX10T308TR-ME07 MP2501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
P3	XOMX10T308TR-ME07 MP2501	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
P4	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P5	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P6	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P7	XOMX10T308TR-M09 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P8	XOMX10T308TR-M09 MP2501	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*
P11	XOMX10T308TR-M09 MP3501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P12	XOMX10T308TR-M09 MS2500	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M1	XOEX10T308R-M06 MS2050	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*
M2	XOEX10T308R-M06 MS2050	0,065 *0.0026*	0,070 *0.0028*	0,10 *0.0040*
M3	XOEX10T308R-M06 MS2050	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
M4	XOMX10T308TR-ME07 MS2050	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
M5	XOMX10T304TR-ME07 MS2050	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
K1	XOMX10T308TR-M09 MK2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
K2	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K3	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K4	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K5	XOMX10T308TR-M09 MK2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
K6	XOMX10T308TR-M09 MK2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K7	XOMX10T308TR-M09 MK2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
N1	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
N2	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
N3	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
N11	XOEX10T308FR-E05 H15	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S1	XOMX10T308TR-ME07 F40M	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
S2	XOMX10T308TR-ME07 F40M	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
S3	XOMX10T308TR-ME07 F40M	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*
S11	XOEX10T308R-M06 MS2050	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
S12	XOEX10T308R-M06 MS2050	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
S13	XOEX10T308R-M06 MS2050	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0030*
H5	XOMX10T308TR-M09 MP3000	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
H8	XOMX10T308TR-M09 MP3000	0,048 *0.0019*	0,055 *0.0022*	0,080 *0.0032*
H11	XOMX10T308TR-M09 MP3000	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
H12	XOMX10T308TR-M09 MS2500	0,048 *0.0019*	0,055 *0.0022*	0,080 *0.0032*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

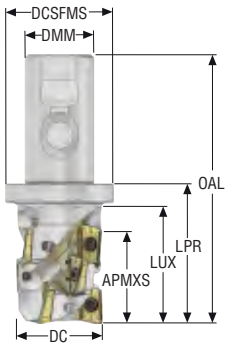
R217/220.69-10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	145 *475*	160 *520*	170 *560*	145 *475*	160 *520*	170 *560*	145 *475*	160 *520*	170 *560*	140 *460*	155 *510*	165 *540*	— —	— —	— —
P2	145 *475*	160 *520*	170 *560*	140 *460*	160 *520*	170 *560*	145 *475*	160 *520*	170 *560*	135 *445*	150 *490*	165 *540*	— —	— —	— —
P3	135 *445*	150 *490*	160 *520*	135 *445*	150 *490*	160 *520*	135 *445*	150 *490*	160 *520*	130 *425*	145 *475*	155 *510*	— —	— —	— —
P4	130 *425*	145 *475*	155 *510*	125 *410*	145 *475*	150 *490*	130 *425*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*	— —	— —	— —
P5	125 *410*	145 *475*	150 *490*	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	115 *375*	135 *445*	145 *475*	— —	— —	— —
P6	130 *425*	150 *490*	160 *520*	130 *425*	145 *475*	155 *510*	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	— —	— —	— —
P7	130 *425*	145 *475*	155 *510*	125 *410*	145 *475*	155 *510*	130 *425*	145 *475*	155 *510*	120 *395*	140 *460*	150 *490*	— —	— —	— —
P8	125 *410*	140 *460*	150 *490*	120 *395*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	115 *375*	135 *445*	145 *475*	— —	— —	— —
P11	125 *410*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	125 *410*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*	— —	— —	— —
P12	100 *330*	120 *395*	125 *410*	100 *330*	115 *375*	125 *410*	100 *330*	115 *375*	125 *410*	95 *310*	110 *360*	120 *395*	— —	— —	— —
M1	— —	— —	— —	125 *410*	140 *460*	150 *490*	130 *425*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	— —	— —	— —
M2	— —	— —	— —	110 *360*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*	110 *360*	130 *425*	140 *460*	— —	— —	— —
M3	— —	— —	— —	100 *330*	115 *375*	125 *410*	105 *345*	120 *395*	130 *425*	100 *330*	115 *375*	125 *410*	— —	— —	— —
M4	— —	— —	— —	85 *280*	100 *330*	110 *360*	90 *295*	105 *345*	115 *375*	85 *280*	100 *330*	110 *360*	— —	— —	— —
M5	— —	— —	— —	75 *245*	90 *295*	100 *330*	80 *260*	95 *310*	105 *345*	70 *230*	90 *295*	100 *330*	— —	— —	— —
K1	150 *490*	165 *540*	175 *570*	130 *425*	145 *475*	155 *510*	— —	— —	— —	120 *395*	140 *460*	150 *490*	— —	— —	— —
K2	140 *460*	160 *520*	165 *540*	120 *395*	135 *445*	145 *475*	— —	— —	— —	115 *375*	130 *425*	140 *460*	— —	— —	— —
K3	130 *425*	150 *490*	155 *510*	110 *360*	125 *410*	135 *445*	— —	— —	— —	105 *345*	120 *395*	130 *425*	— —	— —	— —
K4	130 *425*	145 *475*	155 *510*	105 *345*	125 *410*	135 *445*	— —	— —	— —	100 *330*	120 *395*	130 *425*	— —	— —	— —
K5	100 *330*	115 *375*	125 *410*	80 *260*	95 *310*	105 *345*	— —	— —	— —	70 *230*	90 *295*	100 *330*	— —	— —	— —
K6	120 *395*	140 *460*	145 *475*	100 *330*	115 *375*	125 *410*	— —	— —	— —	95 *310*	110 *360*	120 *395*	— —	— —	— —
K7	115 *375*	130 *425*	140 *460*	95 *310*	110 *360*	120 *395*	— —	— —	— —	85 *280*	105 *345*	115 *375*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	245 *800*	260 *850*	270 *890*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	190 *620*	210 *690*	220 *720*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	165 *540*	185 *610*	195 *640*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	190 *620*	200 *660*
S1	— —	— —	— —	42 *140*	55 *180*	65 *215*	47 *155*	60 *195*	70 *230*	41 *135*	55 *180*	65 *215*	— —	— —	— —
S2	— —	— —	— —	34 *110*	45 *150*	50 *165*	38 *125*	49 *160*	55 *180*	33 *110*	43 *140*	50 *165*	— —	— —	— —
S3	— —	— —	— —	30 *100*	39 *130*	46 *150*	33 *110*	43 *140*	49 *160*	29 *95*	38 *125*	44 *145*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	75 *245*	85 *280*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	46 *150*	60 *195*	70 *230*	40 *130*	50 *165*	60 *195*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	26 *85*	34 *110*	40 *130*	23 *75*	30 *100*	35 *115*	— —	— —	— —
H5	— —	— —	— —	36 *120*	47 *155*	55 *180*	— —	— —	— —	35 *115*	45 *150*	55 *180*	— —	— —	— —
H8	— —	— —	— —	38 *125*	49 *160*	60 *195*	— —	— —	— —	36 *120*	48 *155*	55 *180*	— —	— —	— —
H11	— —	— —	— —	45 *150*	60 *195*	70 *230*	— —	— —	— —	44 *145*	60 *195*	65 *215*	— —	— —	— —
H12	— —	— —	— —	70 *230*	85 *280*	100 *330*	— —	— —	— —	65 *215*	80 *260*	90 *295*	— —	— —	— —

R217/220.69-10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	170	180	185	165	180	185	160	175	185	160	175	180	125	140	150
	—	—	—	*560*	*590*	*610*	*540*	*590*	*610*	*520*	*570*	*610*	*520*	*570*	*590*	*410*	*460*	*490*
P2	—	—	—	165	180	185	165	175	185	160	175	185	160	170	180	125	140	150
	—	—	—	*540*	*590*	*610*	*540*	*570*	*610*	*520*	*570*	*610*	*520*	*560*	*590*	*410*	*460*	*490*
P3	—	—	—	160	170	175	155	170	175	150	165	175	150	160	170	115	130	140
	—	—	—	*520*	*560*	*570*	*510*	*560*	*570*	*490*	*540*	*570*	*490*	*520*	*560*	*375*	*425*	*460*
P4	—	—	—	150	165	170	150	160	170	140	160	170	145	155	160	110	125	135
	—	—	—	*490*	*540*	*560*	*490*	*520*	*560*	*460*	*520*	*560*	*475*	*510*	*520*	*360*	*410*	*445*
P5	—	—	—	150	160	165	145	160	165	140	155	165	140	155	160	105	120	130
	—	—	—	*490*	*520*	*540*	*475*	*520*	*540*	*460*	*510*	*540*	*460*	*510*	*520*	*345*	*395*	*425*
P6	—	—	—	155	165	175	155	165	170	145	165	175	145	160	165	115	130	140
	—	—	—	*510*	*540*	*570*	*510*	*540*	*560*	*475*	*540*	*570*	*475*	*520*	*540*	*375*	*425*	*460*
P7	—	—	—	150	165	170	150	160	170	145	160	170	145	155	165	110	125	135
	—	—	—	*490*	*540*	*560*	*490*	*520*	*560*	*475*	*520*	*560*	*475*	*510*	*540*	*360*	*410*	*445*
P8	—	—	—	145	160	165	145	160	165	140	155	165	140	150	160	105	120	130
	—	—	—	*475*	*520*	*540*	*475*	*520*	*540*	*460*	*510*	*540*	*460*	*490*	*520*	*345*	*395*	*425*
P11	—	—	—	150	160	170	150	160	165	140	160	170	140	155	160	110	125	135
	—	—	—	*490*	*520*	*560*	*490*	*520*	*540*	*460*	*520*	*560*	*460*	*510*	*520*	*360*	*410*	*445*
P12	—	—	—	120	130	140	120	130	140	115	130	140	115	125	130	80	95	105
	—	—	—	*395*	*425*	*460*	*395*	*425*	*460*	*375*	*425*	*460*	*375*	*410*	*425*	*260*	*310*	*345*
M1	—	—	—	—	—	—	125	140	150	140	155	165	120	135	145	115	130	140
	—	—	—	—	—	—	*410*	*460*	*490*	*460*	*510*	*540*	*395*	*445*	*475*	*375*	*425*	*460*
M2	—	—	—	—	—	—	115	130	140	125	145	155	110	125	135	100	120	130
	—	—	—	—	—	—	*375*	*425*	*460*	*410*	*475*	*510*	*360*	*410*	*445*	*330*	*395*	*425*
M3	—	—	—	—	—	—	100	115	125	115	130	140	95	115	120	90	105	115
	—	—	—	—	—	—	*330*	*375*	*410*	*375*	*425*	*460*	*310*	*375*	*395*	*295*	*345*	*375*
M4	—	—	—	—	—	—	85	100	110	100	115	125	80	100	105	75	90	100
	—	—	—	—	—	—	*280*	*330*	*360*	*330*	*375*	*410*	*260*	*330*	*345*	*245*	*295*	*330*
M5	—	—	—	—	—	—	75	90	100	85	105	115	70	85	95	65	80	90
	—	—	—	—	—	—	*245*	*295*	*330*	*280*	*345*	*375*	*230*	*280*	*310*	*215*	*260*	*295*
K1	150	170	180	165	180	185	165	180	185	145	160	170	160	170	180	—	—	—
	490	*560*	*590*	*540*	*590*	*610*	*540*	*590*	*610*	*475*	*520*	*560*	*520*	*560*	*590*	—	—	—
K2	145	160	170	160	170	180	160	170	175	135	155	165	150	165	170	—	—	—
	475	*520*	*560*	*520*	*560*	*590*	*520*	*560*	*570*	*445*	*510*	*540*	*490*	*540*	*560*	—	—	—
K3	135	150	160	150	160	170	150	160	165	125	145	155	140	155	160	—	—	—
	445	*490*	*520*	*490*	*520*	*560*	*490*	*520*	*540*	*410*	*475*	*510*	*460*	*510*	*520*	—	—	—
K4	130	150	160	145	160	165	145	160	165	125	140	150	140	150	160	—	—	—
	425	*490*	*520*	*475*	*520*	*540*	*475*	*520*	*540*	*410*	*460*	*490*	*460*	*490*	*520*	—	—	—
K5	100	120	130	115	130	135	115	125	135	95	110	120	110	120	130	—	—	—
	330	*395*	*425*	*375*	*425*	*445*	*375*	*410*	*445*	*310*	*360*	*395*	*360*	*395*	*425*	—	—	—
K6	125	140	150	140	150	155	140	150	155	115	135	145	130	145	150	—	—	—
	410	*460*	*490*	*460*	*490*	*510*	*460*	*490*	*510*	*375*	*445*	*475*	*425*	*475*	*490*	—	—	—
K7	115	135	145	130	145	150	130	140	150	110	125	135	125	135	145	—	—	—
	375	*445*	*475*	*425*	*475*	*490*	*425*	*460*	*490*	*360*	*410*	*445*	*410*	*445*	*475*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	80	40	50	60	23	30	36
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*130*	*165*	*195*	*75*	*100*	*120*
S2	—	—	—	—	—	—	—	—	—	45	60	70	32	42	49	19	25	29
	—	—	—	—	—	—	—	—	—	*150*	*195*	*230*	*105*	*140*	*160*	*60*	*80*	*95*
S3	—	—	—	—	—	—	—	—	—	39	50	60	28	37	43	16	22	25
	—	—	—	—	—	—	—	—	—	*130*	*165*	*195*	*90*	*120*	*140*	*50*	*70*	*80*
S11	—	—	—	—	—	—	—	—	—	75	90	100	55	70	80	32	42	50
	—	—	—	—	—	—	—	—	—	*245*	*295*	*330*	*180*	*230*	*260*	*105*	*140*	*165*
S12	—	—	—	—	—	—	—	—	—	55	70	80	38	50	60	30	39	46
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*125*	*165*	*195*	*100*	*130*	*150*
S13	—	—	—	—	—	—	—	—	—	31	41	48	22	29	34	17	23	27
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*	*70*	*95*	*110*	*55*	*75*	*90*
H5	—	—	—	45	60	70	—	—	—	45	60	70	35	46	55	—	—	—
	—	—	—	*150*	*195*	*230*	—	—	—	*150*	*195*	*230*	*115*	*150*	*180*	—	—	—
H8	—	—	—	48	65	75	—	—	—	47	60	70	37	48	55	—	—	—
	—	—	—	*155*	*215*	*245*	—	—	—	*155*	*195*	*230*	*120*	*155*	*180*	—	—	—
H11	—	—	—	60	75	85	—	—	—	55	75	85	44	60	70	—	—	—
	—	—	—	*195*	*245*	*280*	—	—	—	*180*	*245*	*280*	*145*	*195*	*230*	—	—	—
H12	—	—	—	80	100	110	—	—	—	85	105	110	65	80	90	—	—	—
	—	—	—	*260*	*330*	*360*	—	—	—	*280*	*345*	*360*	*215*	*260*	*295*	—	—	—

Turbo 12 – R217.69-12 – Metric





- For insert selection and cutting data recommendations, see page(s) 142-144
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LS	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.69-2025.3S-022-12.2AN	02709523	Seco-Weldon	25,0	2	4	22,0	20,0	38,0	50,0	99,5	20800	0,4	XO.X12..*
R217.69-2525.3S-033-12.2AN	02709526	Seco-Weldon	25,0	2	6	33,0	25,0	43,0	56,0	115,5	20800	0,4	XO.X12..*
R217.69-2532.3S-033-12.2AN	02709528	Seco-Weldon	32,0	2	6	33,0	25,0	47,0	56,0	115,5	18400	0,6	XO.X12..
R217.69-2532.3S-033-12.3AN	02709530	Seco-Weldon	32,0	3	9	33,0	25,0	48,0	56,0	115,5	18400	0,5	XO.X12..*
R217.69-2532.3S-044-12.3AN	02629796	Seco-Weldon	32,0	3	12	44,0	25,0	58,0	56,0	125,5	18400	0,6	XO.X12..*
R217.69-3240.3S-033-12.3AN	02709540	Seco-Weldon	40,0	3	9	33,0	32,0	49,0	60,0	119,5	16400	0,8	XO.X12..
R217.69-3240.3S-044-12.4AN	02709541	Seco-Weldon	40,0	4	16	44,0	32,0	57,0	60,0	129,5	16400	0,8	XO.X12..*
R217.69-3240.3S-055-12.3AN	02709543	Seco-Weldon	40,0	3	15	55,0	32,0	69,0	60,0	139,5	16400	1,0	XO.X12..
R217.69-3250.3S-055-12.4AN	02709546	Seco-Weldon	50,0	4	20	55,0	32,0	67,0	60,0	139,5	14800	1,2	XO.X12..

Modification of the cutter body needed for radii > 3,1 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..Ø25/R217.69-HSK	H4B-T10P	C03507-T10P
R217.69-..Ø32	H4B-T10P	C03508-T10P
R217.69-..Ø40-50	H4B-T10P	C03509-T10P

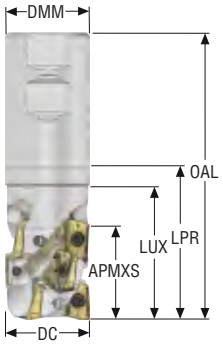
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	3.0NM	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217.69-12 – Inch





- For insert selection and cutting data recommendations, see page(s) 142-144
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.69-01.25-3-12M3AN	02710789	Weldon	1.250	3	12	1.732	1.250	2.695	2.638	5.000	18400	1.540	XO.X12..*
R217.69-01.50-3-12M4AN	02710799	Weldon	1.500	4	20	2.165	1.500	3.010	3.061	5.750	16400	2.430	XO.X12..*
R217.69-01.50-3-12L3AN	02710795	Weldon	1.500	3	18	2.559	1.500	3.262	3.636	5.998	16400	2.430	XO.X12..

Modification of the cutter body needed for radii > 0.122 in
* No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

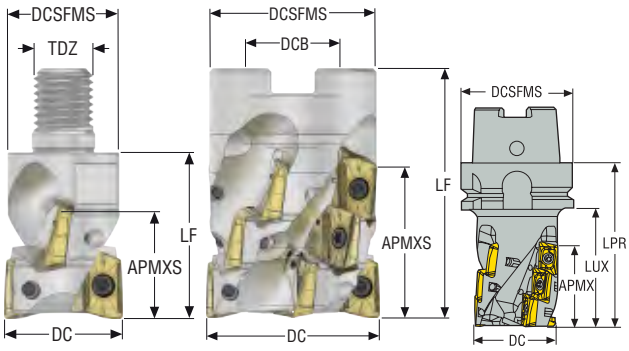
For cutter	Insert key	Insert screw
		
R217.69-01.00-01.25	H4B-T10P	C03507-T10P
R217.69-01.50-02.00	H4B-T10P	C03509-T10P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	3.0NM	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217/220.69-12 – Metric





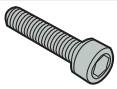
- For insert selection and cutting data recommendations, see page(s) 142-144
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	TDZ	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm		mm	mm	mm		kg	
R217.69-1225.RE-022-12.2AN	02709506	Combimaster	25,0	2	4	22,8	–	M12	23,0	35,0	–	20800	0,2	XO.X12..*
R217.69-1632.RE-022-12.3AN	02709508	Combimaster	32,0	3	6	22,5	–	M16	30,0	40,0	–	18400	0,3	XO.X12..*
R217.69-2040.RE-033-12.3AN	02972763	Combimaster	40,0	3	9	33,0	–	M20	36,5	50,0	–	16400	0,4	XO.X12..
R217.69-2040.RE-044-12.4AN	02972764	Combimaster	40,0	4	16	44,0	–	M20	36,5	61,0	–	16400	0,5	XO.X12..*
R220.69-00050-033-12.4AN	02709941	Arbor	50,0	4	12	33,0	27,0	–	48,0	55,0	–	14800	0,5	XO.X12..
R220.69-00050-044-12.4AN	02709947	Arbor	50,0	4	16	44,0	27,0	–	48,0	65,0	–	14800	0,6	XO.X12..
R220.69-00050-044-12.5AN	02709951	Arbor	50,0	5	20	44,0	27,0	–	48,0	65,0	–	14800	0,6	XO.X12..*
R220.69-00063-033-12.5AN	02709956	Arbor	63,0	5	15	33,0	27,0	–	62,0	63,0	–	13200	1,1	XO.X12..
R220.69-00063-055-12.5AN	02709965	Arbor	63,0	5	25	55,0	27,0	–	60,0	75,0	–	13200	1,1	XO.X12..
R220.69-00063-077-12.4SAN	02717797	Arbor	63,0	4	28	77,0	27,0	–	60,0	100,0	–	13200	1,5	XO.X12..
R217.69-HSK63A.32-044-12.3AN	02717942	HSK	32,0	3	12	44,0	–	–	63,0	90,0	52,0	18400	1,0	XO.X12..*

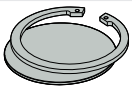
For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 3,1 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

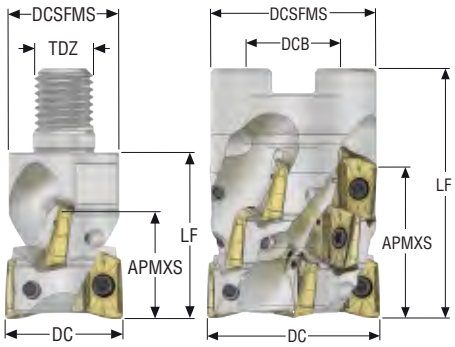
For cutter	Arbor screw	Basic body	Insert key	Insert screw	Replaceable end
					
R217.69-..Ø25	–	–	H4B-T10P	C03507-T10P	–
R217.69-../C5-R217.69-Ø32	–	–	H4B-T10P	C03508-T10P	–
R217.69-../Cx-R217.69-Ø40-66	–	–	H4B-T10P	C03509-T10P	–
R220.69-Ø50-033	MC6S12X40	–	H4B-T10P	C03509-T10P	–
R220.69-Ø50/Ø63-033-044	MC6S12X50	–	H4B-T10P	C03509-T10P	–
R220.69-Ø50/Ø63-044-055	MC6S12X60	–	H4B-T10P	C03509-T10P	–
R220.69-00063	MP6S12X80	R220.69-00063044-12.4BAN	H4B-T10P	C03509-T10P	R220.69-RE063033-12.4AN
R217.69-..Ø25/R217.69-HSK	–	–	H4B-T10P	C03507-T10P	–

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
R217/220.69-..	–	3.0NM	T00-10P30
R220.69-..SAN	LUBRICATION_SET_29	3.0NM	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217/220.69-12 – Inch





- For insert selection and cutting data recommendations, see page(s) 142-144
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			inch			inch	inch		inch	inch		lbs	
R217.69-01.50-20RE-01.73-12-4A	03003976	Combimaster	1.500	4	16	1.732	–	M20	1.437	2.402	16400	0.880	XO.X12..*
R220.69-02.00-12S4AN	02710915	Arbor	2.000	4	16	1.740	1.000	–	2.047	2.750	14800	1.540	XO.X12..
R220.69-02.00-12M5AN	02710895	Arbor	2.000	5	25	2.146	1.000	–	2.047	3.250	14800	1.760	XO.X12..*
R220.69-02.50-12L4SAN	02722266	Arbor	2.500	4	28	2.953	1.000	–	2.441	4.020	13200	4.630	XO.X12..

For Combimaster Shanks, see Machining Navigator Tooling System

Modification of the cutter body needed for radii > 0.122 in
* No axial support in the front row for radii > 0.063

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Replaceable end
					
R217.69-01.50	–	–	H4B-T10P	C03509-T10P	–
R220.69-..M5	UC6S1/2UNFX2-1/2	–	H4B-T10P	C03509-T10P	–
R220.69-..S4	UC6S1/2UNFX3	–	H4B-T10P	C03509-T10P	–
R220.69-..L4	UP6S1/2UNFX3-1/4	R220.69-02.50-12L4BAN	H4B-T10P	C03509-T10P	R220.69-02.50-RE-12.4AN

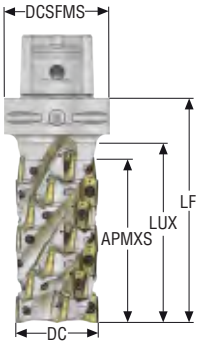
Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
R220.69-..	–	26.6IN.LBS	T00-10P30
R220.69-..L4	LUBRICATIONSET29	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

Turbo 12 – R217/220.69-12 – Metric



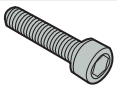


- For insert selection and cutting data recommendations, see page(s) 142-144
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16
- KAPRS 90°

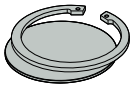
Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
C5-R217.69-032-044-12.3AN	02717844	Seco-Capto	32,0	3	12	44,0	50,0	79,0	56,0	18400	0,7	XO.X12..*
C5-R217.69-032-055-12.3AN	02829929	Seco-Capto	32,0	3	15	55,0	50,0	90,0	67,0	18400	0,7	XO.X12..*
C6-R217.69-040-055-12.3AN	02717917	Seco-Capto	40,0	3	15	55,0	63,0	92,0	67,0	16400	1,1	XO.X12..
C6-R217.69-040-066-12.3AN	02829930	Seco-Capto	40,0	3	18	65,5	63,0	103,0	79,9	16400	1,3	XO.X12..
C4-R217.69-044-033-12.3AN	02717838	Seco-Capto	44,0	3	9	33,0	40,0	68,0	48,0	15500	0,7	XO.X12..
C6-R217.69-050-055-12.4AN	02717918	Seco-Capto	50,0	4	20	55,0	63,0	92,0	67,0	14800	1,4	XO.X12..
C5-R217.69-054-044-12.4AN	02717852	Seco-Capto	54,0	4	16	44,0	50,0	79,0	59,0	13900	1,2	XO.X12..
C6-R217.69-066-044-12.5AN	02717924	Seco-Capto	66,0	5	20	44,0	63,0	81,0	59,0	12000	1,9	XO.X12..
C6-R217.69-050-066-12.4SAN	02717991	Seco-Capto	50,0	4	24	66,0	63,0	101,0	76,0	14800	1,4	XO.X12..
C6-R217.69-050-086-12.5SAN	02829935	Seco-Capto	50,0	5	40	86,0	63,0	119,0	97,0	14800	1,7	XO.X12..
C6-R217.69-050-106-12.5SAN	02829936	Seco-Capto	50,0	5	50	106,0	63,0	140,0	118,0	12000	1,7	XO.X12..
C6-R217.69-063-107-12.5SAN	02829940	Seco-Capto	63,0	5	50	107,0	63,0	140,0	118,0	12000	2,4	XO.X12..

Modification of the cutter body needed for radii > 3,1 mm
* No axial support in the front row for radii > 1,6 mm

Spare Parts, included in delivery

For cutter	Assembly screw	Basic body	Insert key	Insert screw	Replaceable end
					
Cx-R217.69-Ø32	–	–	H4B-T10P	C03508-T10P	–
Cx-R217.69-Ø40-66	–	–	H4B-T10P	C03509-T10P	–
C6-R217.69-050-066-4SAN	MC6S10X40	C6-R217.69-050-044-12.4BAN	H4B-T10P	C03509-T10P	R220.69-RE050022-12.4AN
C6-R217.69-050-086-5SAN	MC6S10X40	C6-R217.69-050-064-12.5BAN	H4B-T10P	C03509-T10P	R220.69-RE050022-12.5AN
C6-R217.69-050-106-5SAN	MC6S10X40	C6-R217.69-050-084-12.5BAN	H4B-T10P	C03509-T10P	R220.69-RE050022-12.5AN
C6-R217.69-063-5SAN	MC6S10X40	C6-R217.69-063-074-12.5BAN	H4B-T10P	C03509-T10P	R220.69-RE063033-12.5AN

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
Cx-R217.69-032-066	–	3.0NM	T00-10P30
C6-R217.69-050-SAN	LUBRICATION_SET_19	3.0NM	T00-10P30
C6-R217.69-063-SAN	–	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217/220.69-12 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	30%	10%
P1	XOMX120408TR-ME08 MP2501	0,095 *0.0038*	0,11 *0.0044*	0,16 *0.0065*
P2	XOMX120408TR-ME08 MP2501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
P3	XOMX120408TR-ME08 MP2501	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P4	XOMX120408TR-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0095*
P5	XOMX120408TR-M12 MP2501	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*
P6	XOMX120408TR-M12 MP2501	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*
P7	XOMX120408TR-M12 MP2501	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*
P8	XOMX120408TR-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P11	XOMX120408TR-M12 MP3501	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*
P12	XOMX120408TR-M12 MP3501	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
M1	XOEX120408R-M07 MS2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
M2	XOEX120408R-M07 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	XOEX120408R-M07 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
M4	XOMX120408TR-ME08 MS2050	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M5	XOMX120408TR-ME08 MS2050	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
K1	XOMX120408TR-MD13 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
K2	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K4	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K5	XOMX120408TR-MD13 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K6	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K7	XOMX120408TR-MD13 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N1	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
N2	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
N3	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
N11	XOEX120408FR-E06 H15	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
S1	XOEX120408R-M07 F40M	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*
S2	XOEX120408R-M07 F40M	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*
S3	XOEX120408R-M07 F40M	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
S11	XOEX120408R-M07 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
S12	XOEX120408R-M07 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
S13	XOEX120408R-M07 MS2050	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*
H5	XOMX120408TR-MD13 MP3000	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
H8	XOMX120408TR-MD13 MP3000	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
H11	XOMX120412TR-MD13 MP3000	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
H12	XOMX120408TR-MD13 MP3000	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

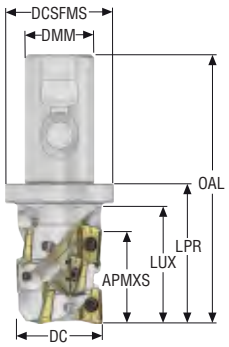
R217/220.69-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050			H15		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	150 *490*	170 *560*	180 *590*	140 *460*	155 *510*	165 *540*	140 *460*	160 *520*	170 *560*	125 *410*	140 *460*	150 *490*	150 *490*	165 *540*	175 *570*	— —	— —	— —
P2	150 *490*	165 *540*	175 *570*	135 *445*	155 *510*	165 *540*	140 *460*	155 *510*	165 *540*	125 *410*	140 *460*	150 *490*	150 *490*	165 *540*	175 *570*	— —	— —	— —
P3	140 *460*	160 *520*	170 *560*	130 *425*	145 *475*	155 *510*	130 *425*	150 *490*	160 *520*	115 *375*	130 *425*	140 *460*	140 *460*	155 *510*	165 *540*	— —	— —	— —
P4	135 *445*	150 *490*	160 *520*	120 *395*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	105 *345*	125 *410*	135 *445*	130 *425*	150 *490*	160 *520*	— —	— —	— —
P5	130 *425*	150 *490*	160 *520*	120 *395*	135 *445*	145 *475*	120 *395*	140 *460*	145 *475*	105 *345*	120 *395*	135 *445*	130 *425*	145 *475*	155 *510*	— —	— —	— —
P6	140 *460*	155 *510*	165 *540*	125 *410*	145 *475*	155 *510*	130 *425*	145 *475*	155 *510*	115 *375*	130 *425*	140 *460*	135 *445*	155 *510*	165 *540*	— —	— —	— —
P7	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	135 *445*	150 *490*	160 *520*	— —	— —	— —
P8	130 *425*	150 *490*	160 *520*	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	105 *345*	120 *395*	130 *425*	130 *425*	145 *475*	155 *510*	— —	— —	— —
P11	135 *445*	150 *490*	160 *520*	120 *395*	135 *445*	150 *490*	125 *410*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	130 *425*	150 *490*	160 *520*	— —	— —	— —
P12	110 *360*	125 *410*	135 *445*	95 *310*	110 *360*	125 *410*	100 *330*	115 *375*	125 *410*	80 *260*	100 *330*	110 *360*	105 *345*	120 *395*	130 *425*	— —	— —	— —
M1	— —	— —	— —	120 *395*	135 *445*	145 *475*	125 *410*	145 *475*	155 *510*	110 *360*	125 *410*	140 *460*	130 *425*	145 *475*	155 *510*	— —	— —	— —
M2	— —	— —	— —	110 *360*	125 *410*	135 *445*	115 *375*	130 *425*	140 *460*	100 *330*	115 *375*	125 *410*	115 *375*	135 *445*	145 *475*	— —	— —	— —
M3	— —	— —	— —	95 *310*	110 *360*	125 *410*	105 *345*	120 *395*	130 *425*	85 *280*	105 *345*	115 *375*	105 *345*	120 *395*	130 *425*	— —	— —	— —
M4	— —	— —	— —	80 *260*	100 *330*	105 *345*	90 *295*	105 *345*	115 *375*	70 *230*	90 *295*	95 *310*	90 *295*	105 *345*	115 *375*	— —	— —	— —
M5	— —	— —	— —	70 *230*	85 *280*	95 *310*	80 *260*	95 *310*	100 *330*	60 *195*	75 *245*	85 *280*	75 *245*	95 *310*	105 *345*	— —	— —	— —
K1	155 *510*	170 *560*	180 *590*	125 *410*	140 *460*	150 *490*	— —	— —	— —	110 *360*	125 *410*	135 *445*	— —	— —	— —	— —	— —	— —
K2	145 *475*	165 *540*	175 *570*	115 *375*	135 *445*	145 *475*	— —	— —	— —	105 *345*	120 *395*	130 *425*	— —	— —	— —	— —	— —	— —
K3	135 *445*	155 *510*	165 *540*	105 *345*	125 *410*	135 *445*	— —	— —	— —	95 *310*	110 *360*	120 *395*	— —	— —	— —	— —	— —	— —
K4	135 *445*	150 *490*	160 *520*	100 *330*	120 *395*	130 *425*	— —	— —	— —	90 *295*	105 *345*	115 *375*	— —	— —	— —	— —	— —	— —
K5	105 *345*	120 *395*	130 *425*	75 *245*	90 *295*	100 *330*	— —	— —	— —	60 *195*	75 *245*	85 *280*	— —	— —	— —	— —	— —	— —
K6	125 *410*	145 *475*	155 *510*	95 *310*	110 *360*	125 *410*	— —	— —	— —	80 *260*	100 *330*	110 *360*	— —	— —	— —	— —	— —	— —
K7	120 *395*	135 *445*	145 *475*	90 *295*	105 *345*	115 *375*	— —	— —	— —	75 *245*	90 *295*	100 *330*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	245 *800*	260 *850*	270 *890*	— —	— —	— —	230 *750*	245 *800*	255 *840*	— —	— —	— —	245 *800*	260 *850*	270 *890*
N2	— —	— —	— —	190 *620*	205 *670*	215 *710*	— —	— —	— —	175 *570*	190 *620*	200 *660*	— —	— —	— —	190 *620*	205 *670*	215 *710*
N3	— —	— —	— —	165 *540*	180 *590*	190 *620*	— —	— —	— —	150 *490*	165 *540*	175 *570*	— —	— —	— —	165 *540*	180 *590*	190 *620*
N11	— —	— —	— —	170 *560*	190 *620*	200 *660*	— —	— —	— —	160 *520*	175 *570*	185 *610*	— —	— —	— —	170 *560*	190 *620*	200 *660*
S1	— —	— —	— —	40 *130*	55 *180*	60 *195*	45 *150*	60 *195*	65 *215*	34 *110*	45 *150*	50 *165*	47 *155*	60 *195*	70 *230*	— —	— —	— —
S2	— —	— —	— —	32 *105*	42 *140*	49 *160*	36 *120*	47 *155*	55 *180*	27 *90*	36 *120*	42 *140*	38 *125*	50 *165*	60 *195*	— —	— —	— —
S3	— —	— —	— —	28 *90*	37 *120*	43 *140*	32 *105*	41 *135*	48 *155*	24 *80*	31 *100*	37 *120*	33 *110*	44 *145*	50 *165*	— —	— —	— —
S11	— —	— —	— —	55 *180*	70 *230*	80 *260*	60 *195*	80 *260*	85 *280*	47 *155*	60 *195*	70 *230*	65 *215*	80 *260*	90 *295*	— —	— —	— —
S12	— —	— —	— —	38 *125*	50 *165*	60 *195*	43 *140*	55 *180*	65 *215*	33 *110*	43 *140*	50 *165*	45 *150*	60 *195*	70 *230*	— —	— —	— —
S13	— —	— —	— —	22 *70*	30 *100*	34 *110*	25 *80*	33 *110*	38 *125*	19 *60*	25 *80*	29 *95*	26 *85*	35 *115*	41 *135*	— —	— —	— —
H5	— —	— —	— —	34 *110*	45 *150*	55 *180*	— —	— —	— —	29 *95*	37 *120*	44 *145*	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	36 *120*	48 *155*	55 *180*	— —	— —	— —	31 *100*	40 *130*	47 *155*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	43 *140*	55 *180*	65 *215*	— —	— —	— —	36 *120*	48 *155*	55 *180*	49 *160*	65 *215*	75 *245*	— —	— —	— —
H12	— —	— —	— —	70 *230*	85 *280*	95 *310*	— —	— —	— —	55 *180*	70 *230*	80 *260*	80 *260*	95 *310*	105 *345*	— —	— —	— —

R217/220.69-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	175	190	195	175	185	195	165	185	195	165	180	190
	—	—	—	*570*	*620*	*640*	*570*	*610*	*640*	*540*	*610*	*640*	*540*	*590*	*620*
P2	—	—	—	170	185	195	170	185	195	165	185	195	165	180	185
	—	—	—	*560*	*610*	*640*	*560*	*610*	*640*	*540*	*610*	*640*	*540*	*590*	*610*
P3	—	—	—	165	180	185	160	175	185	155	175	185	155	170	175
	—	—	—	*540*	*590*	*610*	*520*	*570*	*610*	*510*	*570*	*610*	*510*	*560*	*570*
P4	—	—	—	155	170	175	155	170	175	145	165	175	145	160	170
	—	—	—	*510*	*560*	*570*	*510*	*560*	*570*	*475*	*540*	*570*	*475*	*520*	*560*
P5	—	—	—	155	165	175	150	165	175	145	165	175	145	160	165
	—	—	—	*510*	*540*	*570*	*490*	*540*	*570*	*475*	*540*	*570*	*475*	*520*	*540*
P6	—	—	—	160	175	185	160	175	180	150	170	180	155	165	175
	—	—	—	*520*	*570*	*610*	*520*	*570*	*590*	*490*	*560*	*590*	*510*	*540*	*570*
P7	—	—	—	155	170	180	155	170	180	150	165	175	150	165	170
	—	—	—	*510*	*560*	*590*	*510*	*560*	*590*	*490*	*540*	*570*	*490*	*540*	*560*
P8	—	—	—	150	165	175	150	165	175	145	160	175	145	160	165
	—	—	—	*490*	*540*	*570*	*490*	*540*	*570*	*475*	*520*	*570*	*475*	*520*	*540*
P11	—	—	—	155	170	175	155	170	175	145	165	175	145	160	170
	—	—	—	*510*	*560*	*570*	*510*	*560*	*570*	*475*	*540*	*570*	*475*	*520*	*560*
P12	—	—	—	125	140	145	125	135	145	115	135	145	120	130	140
	—	—	—	*410*	*460*	*475*	*410*	*445*	*475*	*375*	*445*	*475*	*395*	*425*	*460*
M1	—	—	—	—	—	—	125	145	155	140	160	170	120	140	150
	—	—	—	—	—	—	*410*	*475*	*510*	*460*	*520*	*560*	*395*	*460*	*490*
M2	—	—	—	—	—	—	115	130	145	130	150	160	110	125	140
	—	—	—	—	—	—	*375*	*425*	*475*	*425*	*490*	*520*	*360*	*410*	*460*
M3	—	—	—	—	—	—	100	120	130	115	135	145	95	115	125
	—	—	—	—	—	—	*330*	*395*	*425*	*375*	*445*	*475*	*310*	*375*	*410*
M4	—	—	—	—	—	—	85	100	110	100	115	125	80	95	105
	—	—	—	—	—	—	*280*	*330*	*360*	*330*	*375*	*410*	*260*	*310*	*345*
M5	—	—	—	—	—	—	70	90	100	85	105	115	65	85	95
	—	—	—	—	—	—	*230*	*295*	*330*	*280*	*345*	*375*	*215*	*280*	*310*
K1	155	175	185	175	185	195	170	185	195	150	165	180	165	180	185
	510	*570*	*610*	*570*	*610*	*640*	*560*	*610*	*640*	*490*	*540*	*590*	*540*	*590*	*610*
K2	150	165	180	165	180	190	165	180	185	140	160	170	160	170	180
	490	*540*	*590*	*540*	*590*	*620*	*540*	*590*	*610*	*460*	*520*	*560*	*520*	*560*	*590*
K3	135	155	170	155	170	175	155	165	175	130	150	160	145	160	170
	445	*510*	*560*	*510*	*560*	*570*	*510*	*540*	*570*	*425*	*490*	*520*	*475*	*520*	*560*
K4	135	155	165	150	165	175	150	165	175	125	145	155	145	155	165
	445	*510*	*540*	*490*	*540*	*570*	*490*	*540*	*570*	*410*	*475*	*510*	*475*	*510*	*540*
K5	100	120	130	120	130	140	120	130	140	95	110	125	110	125	130
	330	*395*	*425*	*395*	*425*	*460*	*395*	*425*	*460*	*310*	*360*	*410*	*360*	*410*	*425*
K6	125	145	155	145	155	165	140	155	165	120	135	145	135	150	155
	410	*475*	*510*	*475*	*510*	*540*	*460*	*510*	*540*	*395*	*445*	*475*	*445*	*490*	*510*
K7	120	135	150	135	150	155	135	150	155	110	130	140	125	140	150
	395	*445*	*490*	*445*	*490*	*510*	*445*	*490*	*510*	*360*	*425*	*460*	*410*	*460*	*490*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	50	70	80	37	49	55
	—	—	—	—	—	—	—	—	—	*165*	*230*	*260*	*120*	*160*	*180*
S2	—	—	—	—	—	—	—	—	—	42	55	65	30	40	46
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*100*	*130*	*150*
S3	—	—	—	—	—	—	—	—	—	37	49	55	27	35	40
	—	—	—	—	—	—	—	—	—	*120*	*160*	*180*	*90*	*115*	*130*
S11	—	—	—	—	—	—	—	—	—	75	90	100	50	70	80
	—	—	—	—	—	—	—	—	—	*245*	*295*	*330*	*165*	*230*	*260*
S12	—	—	—	—	—	—	—	—	—	50	65	75	36	47	55
	—	—	—	—	—	—	—	—	—	*165*	*215*	*245*	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	29	39	45	21	28	32
	—	—	—	—	—	—	—	—	—	*95*	*130*	*150*	*70*	*90*	*105*
H5	—	—	—	43	55	65	—	—	—	—	—	—	33	43	50
	—	—	—	*140*	*180*	*215*	—	—	—	—	—	—	*110*	*140*	*165*
H8	—	—	—	46	60	70	—	—	—	—	—	—	35	46	55
	—	—	—	*150*	*195*	*230*	—	—	—	—	—	—	*115*	*150*	*180*
H11	—	—	—	55	70	80	—	—	—	—	—	—	42	55	65
	—	—	—	*180*	*230*	*260*	—	—	—	—	—	—	*140*	*180*	*215*
H12	—	—	—	80	100	110	—	—	—	—	—	—	65	80	90
	—	—	—	*260*	*330*	*360*	—	—	—	—	—	—	*215*	*260*	*295*

Turbo 16 – R217.69-16 – Metric





- For insert selection and cutting data recommendations, see page(s) 149-151
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	DCSFMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.69-3240.3S-043-XO16.3A	10067004	Seco-Weldon	40,0	3	9	43,0	32,0	50,0	54,9	65,0	125,0	13200	0,8	XO.X16
R217.69-3240.3S-071-XO16.3A	10067005	Seco-Weldon	40,0	3	15	71,0	32,0	50,0	85,4	95,0	155,0	13200	1,0	XO.X16
R217.69-3250.3S-057-XO16.3A	10067006	Seco-Weldon	50,0	3	12	57,0	32,0	50,0	70,8	80,0	140,0	11800	1,1	XO.X16
R217.69-3250.3S-057-XO16.4A	10067007	Seco-Weldon	50,0	4	16	57,0	32,0	50,0	70,8	80,0	140,0	11800	1,1	XO.X16
R217.69-3250.3S-085-XO16.4A	10067008	Seco-Weldon	50,0	4	24	85,0	32,0	50,0	95,8	105,0	165,0	11800	1,3	XO.X16

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-3240	H4B-T15P	C04009-T15P
R217.69-3250	H4B-T15P	C04011-T15P

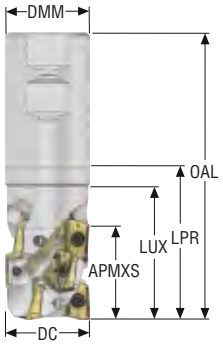
Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217.69-..	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 872

Turbo 16 – R217.69-16 – Inch





- For insert selection and cutting data recommendations, see page(s) 149-151
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.69-01.50-3-1.69-XO16-3A	10067015	Weldon	1.500	3	9	1.693	1.500	2.417	2.441	5.169	13200	2.200	XO.X16
R217.69-02.00-3-1.69-XO16-3A	10067016	Weldon	2.000	3	9	1.693	2.000	2.512	2.535	5.823	13200	4.190	XO.X16
R217.69-02.00-3-2.24-XO16-4A	10067017	Weldon	2.000	4	16	2.244	2.000	3.130	3.035	6.323	11800	4.410	XO.X16

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

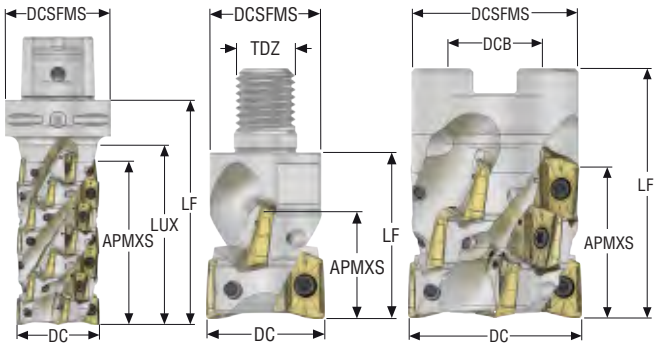
For cutter	Insert key	Insert screw
		
R217.69-01.50	H4B-T15P	C04009-T15P
R217.69-02.00.3A	H4B-T15P	C04009-T15P
R217.69-02.00.4A	H4B-T15P	C04011-T15P

Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217.69-..	31.0IN.LBS	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 872

Turbo 16 – R217/220.69-16 – Metric



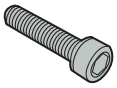
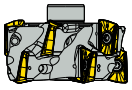


- For insert selection and cutting data recommendations, see page(s) 149-151
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
C6-R217.69-050-098-XO16.4A	10067022	Seco-Capto	50,0	4	28	98,0	–	63,0	135,0	110,4	11800	1,6	XO.X16
R217.69-1632.RE-029-XO16.2A	10067002	Combimaster	32,0	2	4	29,0	–	30,0	45,0	–	14800	0,2	XO.X16
R217.69-2040.RE-029-XO16.3A	10067003	Combimaster	40,0	3	6	29,0	–	36,5	55,0	–	13200	0,4	XO.X16
R220.69-0050-043-XO16.4A	10067009	Arbor	50,0	4	12	43,0	27,0	46,0	72,0	–	11800	0,7	XO.X16
R220.69-0063-043-XO16.4A	10067010	Arbor	63,0	4	12	43,0	27,0	58,0	70,0	–	10500	1,0	XO.X16
R220.69-0063-057-XO16.5A	10067011	Arbor	63,0	5	20	57,0	27,0	58,0	80,0	–	10500	1,2	XO.X16
R220.69-0063-085-XO16.5SA	10067024	Arbor	63,0	5	30	85,0	27,0	58,0	108,9	–	10500	1,6	XO.X16
R220.69-0080-071-XO16.5A	10067012	Arbor	80,0	5	25	71,0	32,0	75,0	95,0	–	9300	2,5	XO.X16
R220.69-0080-071-XO16.6A	10067013	Arbor	80,0	6	30	71,0	32,0	75,0	95,0	–	9300	2,3	XO.X16
R220.69-0100-071-XO16.6A	10067014	Arbor	100,0	6	30	71,0	40,0	88,0	95,0	–	8300	3,7	XO.X16

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Replaceable end
						
Cx-R217.69-..	–	–	–	H4B-T15P	C04011-T15P	–
R217.69-1632-2040	–	–	–	H4B-T15P	C04009-T15P	–
R220.69-0050	MC6S12X60	–	–	H4B-T15P	C04009-T15P	–
R220.69-0063.4A	MC6S12X60	–	–	H4B-T15P	C04011-T15P	–
R220.69-0063.5A	MC6S12X70	–	–	H4B-T15P	C04011-T15P	–
R220.69-0063SA	MC6S12X40	MC6S5X35	R220.69-0063-057-XO16.5BA	H4B-T15P	C04011-T15P	R220.69-RE063-029-XO16.5A
R220.69-0080	MP6S16X80	–	–	H4B-T15PL	C04011-T15P	–
R220.69-0100	MP6S20X80	–	–	H4B-T15PL	C04011-T15P	–

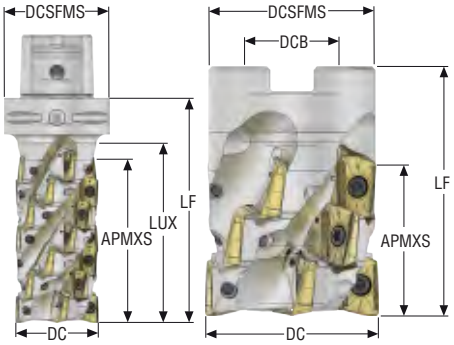
Accessories

For cutter	Insert clamping torque	Key	Screw	Torque key
				
R217/220.69-..	3.5NM	T05P-2	SX2035-T05P	T00-15P35

Torque and fixed keys, see page 872

Turbo 16 – 220.69-16 – Inch





- For insert selection and cutting data recommendations, see page(s) 149-151
- For complete insert programme, see page(s) 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
C6-R217.69-02.00-3.89-XO16-4A	10067023	Seco-Capto	2.000	4	28	3.858	–	2.480	5.350	4.382	11800	3.530	XO.X16
R220.69-02.00-1.69-XO16-4A	10067018	Arbor	2.000	4	12	1.693	1.000	1.850	2.750	–	11800	1.320	XO.X16
R220.69-02.50-1.69-XO16-4A	10067019	Arbor	2.500	4	12	1.693	1.000	2.283	2.750	–	10500	1.100	XO.X16
R220.69-02.50-2.24-XO16-5A	10067020	Arbor	2.500	5	20	2.244	1.000	2.283	3.250	–	10500	2.650	XO.X16
R220.69-02.50-3.34-XO16-5SA	10155391	Arbor	2.500	5	30	3.346	1.000	2.283	4.280	–	10500	3.090	XO.X16
R220.69-03.00-2.79-XO16-5A	10067021	Arbor	3.000	5	25	2.795	1.250	2.795	3.750	–	9300	2.200	XO.X16

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Replaceable end
						
C6-R217.69-..	–	–	–	H4B-T15P	C04011-T15P	–
R220.69-02.00	UC6S1/2UNFX2-1/2	–	–	H4B-T15P	C04009-T15P	–
R220.69-02.50.4A	UC6S1/2UNFX2-1/2	–	–	H4B-T15P	C04011-T15P	–
R220.69-02.50.5A	UC6S1/2UNFX3	–	–	H4B-T15P	C04011-T15P	–
R220.69-02.50-3.34	UC6S1/2UNFX1-1/2M	UC6S10UNFX1-1/2	R220.69-02.50-2.24-XO16-5BA	1/4HEX-T15PX50	C04011-T15P	R220.69-RE02.50-1.14-XO16-5A
R220.69-03.00	UP6S5/8UNFX3-1/4	–	–	H4B-T15PL	C04011-T15P	–

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Key	Screw	Torque key
					
C6-R217/220.69-02.00-03.00	–	31.0IN.LBS	T05P-2	SX2035-T05P	T00-15P35
C6-R217/220.69-02.50-SA	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T05P-2	SX2035-T05P	–

Torque and fixed keys, see page 872

R217/220.69-16 – Insert selection – Metric / *Inch*

SMG		f_z		
		100%	30%	10%
P1	XOMX160508TR-ME11 MP2501	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*
P2	XOMX160508TR-ME11 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
P3	XOMX160508TR-M13 MP2501	0,15 *0.0060*	0,17 *0.0065*	0,25 *0.010*
P4	XOMX160508TR-M13 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
P5	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P6	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P7	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
P8	XOMX160508TR-MD14 MP1501	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P11	XOMX160508TR-ME11 MP2050	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P12	XOMX160508TR-ME11 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M1	XOMX160508R-M09 MS2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
M2	XOMX160508R-M09 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	XOMX160508R-M09 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M4	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
M5	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
K1	XOMX160508TR-M13 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K2	XOMX160508TR-M13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	XOMX160508TR-MD14 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K4	XOMX160508TR-MD14 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K5	XOMX160508TR-MD14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
K6	XOMX160508TR-MD14 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K7	XOMX160508TR-MD14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
N1	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
N2	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
N3	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
N11	XOEX160508FR-E07 H25	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
S1	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
S2	XOMX160508TR-ME11 MP2050	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
S3	XOMX160508TR-ME11 MP2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S11	XOMX160508TR-ME11 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
S12	XOMX160508TR-ME11 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
S13	XOMX160508TR-ME11 MS2050	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
H5	XOMX160508TR-MD14 MP3000	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
H11	XOMX160508TR-MD14 MP3000	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
H12	XOMX160508TR-ME11 MP2050	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

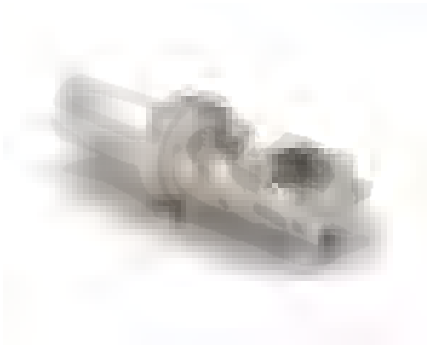
R217/220.69-16 – Cutting data v_c = (m/min)/*(sf/min)*

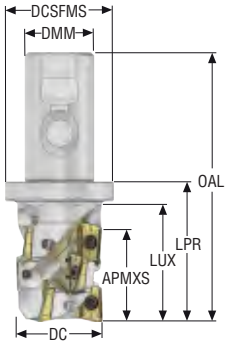
SMG	MK2050			MP3000			MS2050			F40M			MP2050			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	155 *510*	180 *590*	190 *620*	155 *510*	180 *590*	190 *620*	160 *520*	180 *590*	190 *620*	140 *460*	160 *520*	175 *570*	170 *560*	190 *620*	205 *670*	— —	— —	— —
P2	155 *510*	175 *570*	190 *620*	155 *510*	175 *570*	190 *620*	155 *510*	175 *570*	190 *620*	140 *460*	160 *520*	175 *570*	165 *540*	190 *620*	200 *660*	— —	— —	— —
P3	145 *475*	165 *540*	180 *590*	145 *475*	165 *540*	180 *590*	145 *475*	165 *540*	180 *590*	130 *425*	150 *490*	165 *540*	160 *520*	180 *590*	190 *620*	— —	— —	— —
P4	135 *445*	155 *510*	170 *560*	135 *445*	160 *520*	170 *560*	135 *445*	155 *510*	170 *560*	120 *395*	140 *460*	155 *510*	150 *490*	170 *560*	180 *590*	— —	— —	— —
P5	130 *425*	155 *510*	165 *540*	135 *445*	155 *510*	165 *540*	135 *445*	155 *510*	165 *540*	115 *375*	140 *460*	150 *490*	145 *475*	165 *540*	180 *590*	— —	— —	— —
P6	140 *460*	160 *520*	175 *570*	145 *475*	165 *540*	175 *570*	145 *475*	165 *540*	175 *570*	125 *410*	145 *475*	160 *520*	155 *510*	175 *570*	190 *620*	— —	— —	— —
P7	135 *445*	160 *520*	170 *560*	140 *460*	160 *520*	170 *560*	140 *460*	160 *520*	170 *560*	120 *395*	140 *460*	155 *510*	150 *490*	170 *560*	185 *610*	— —	— —	— —
P8	130 *425*	150 *490*	165 *540*	135 *445*	155 *510*	165 *540*	130 *425*	155 *510*	165 *540*	115 *375*	135 *445*	150 *490*	145 *475*	165 *540*	180 *590*	— —	— —	— —
P11	135 *445*	155 *510*	170 *560*	135 *445*	155 *510*	170 *560*	135 *445*	155 *510*	170 *560*	120 *395*	140 *460*	155 *510*	150 *490*	170 *560*	180 *590*	— —	— —	— —
P12	105 *345*	125 *410*	135 *445*	105 *345*	125 *410*	135 *445*	105 *345*	125 *410*	135 *445*	85 *280*	110 *360*	120 *395*	115 *375*	135 *445*	150 *490*	— —	— —	— —
M1	— —	— —	— —	135 *445*	155 *510*	170 *560*	140 *460*	160 *520*	175 *570*	125 *410*	145 *475*	155 *510*	140 *460*	165 *540*	175 *570*	— —	— —	— —
M2	— —	— —	— —	120 *395*	140 *460*	155 *510*	125 *410*	145 *475*	160 *520*	110 *360*	130 *425*	145 *475*	130 *425*	150 *490*	165 *540*	— —	— —	— —
M3	— —	— —	— —	105 *345*	125 *410*	140 *460*	110 *360*	130 *425*	145 *475*	95 *310*	115 *375*	125 *410*	115 *375*	135 *445*	145 *475*	— —	— —	— —
M4	— —	— —	— —	85 *280*	105 *345*	120 *395*	90 *295*	110 *360*	125 *410*	75 *245*	95 *310*	110 *360*	95 *310*	115 *375*	130 *425*	— —	— —	— —
M5	— —	— —	— —	75 *245*	95 *310*	105 *345*	80 *260*	100 *330*	110 *360*	65 *215*	80 *260*	95 *310*	80 *260*	100 *330*	115 *375*	— —	— —	— —
K1	160 *520*	180 *590*	195 *640*	140 *460*	160 *520*	170 *560*	— —	— —	— —	120 *395*	145 *475*	155 *510*	— —	— —	— —	— —	— —	— —
K2	150 *490*	175 *570*	185 *610*	130 *425*	150 *490*	165 *540*	— —	— —	— —	110 *360*	135 *445*	145 *475*	— —	— —	— —	— —	— —	— —
K3	140 *460*	160 *520*	175 *570*	115 *375*	140 *460*	150 *490*	— —	— —	— —	100 *330*	120 *395*	135 *445*	— —	— —	— —	— —	— —	— —
K4	135 *445*	155 *510*	170 *560*	115 *375*	135 *445*	145 *475*	— —	— —	— —	95 *310*	120 *395*	130 *425*	— —	— —	— —	— —	— —	— —
K5	100 *330*	120 *395*	130 *425*	75 *245*	100 *330*	110 *360*	— —	— —	— —	60 *195*	80 *260*	95 *310*	— —	— —	— —	— —	— —	— —
K6	125 *410*	145 *475*	160 *520*	105 *345*	125 *410*	140 *460*	— —	— —	— —	85 *280*	110 *360*	120 *395*	— —	— —	— —	— —	— —	— —
K7	120 *395*	140 *460*	150 *490*	95 *310*	115 *375*	130 *425*	— —	— —	— —	80 *260*	100 *330*	110 *360*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	270 *890*	290 *950*	305 *1000*	— —	— —	— —	290 *950*	310 *1025*	320 *1050*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	205 *670*	225 *740*	235 *770*	— —	— —	— —	220 *720*	240 *790*	255 *840*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	195 *640*	205 *670*	— —	— —	— —	190 *620*	210 *690*	225 *740*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	185 *610*	205 *670*	215 *710*	— —	— —	— —	200 *660*	220 *720*	235 *770*
S1	— —	— —	— —	41 *135*	55 *180*	65 *215*	44 *145*	55 *180*	70 *230*	35 *115*	46 *150*	55 *180*	48 *155*	60 *195*	75 *245*	— —	— —	— —
S2	— —	— —	— —	33 *110*	43 *140*	50 *165*	35 *115*	46 *150*	55 *180*	28 *90*	37 *120*	44 *145*	39 *130*	50 *165*	60 *195*	— —	— —	— —
S3	— —	— —	— —	29 *95*	38 *125*	44 *145*	31 *100*	41 *135*	48 *155*	25 *80*	33 *110*	38 *125*	34 *110*	45 *150*	50 *165*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	60 *195*	80 *260*	90 *295*	48 *155*	65 *215*	75 *245*	65 *215*	85 *280*	100 *330*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	42 *140*	55 *180*	65 *215*	33 *110*	44 *145*	55 *180*	46 *150*	60 *195*	70 *230*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	25 *80*	32 *105*	38 *125*	20 *65*	26 *85*	30 *100*	27 *90*	35 *115*	42 *140*	— —	— —	— —
H5	— —	— —	— —	34 *110*	45 *150*	55 *180*	— —	— —	— —	29 *95*	39 *130*	45 *150*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	44 *145*	60 *195*	70 *230*	— —	— —	— —	37 *120*	49 *160*	60 *195*	49 *160*	65 *215*	75 *245*	— —	— —	— —
H12	— —	— —	— —	70 *230*	90 *295*	105 *345*	— —	— —	— —	55 *180*	75 *245*	85 *280*	80 *260*	105 *345*	115 *375*	— —	— —	— —

R217/220.69-16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	190	205	215	185	205	215	180	200	215	180	195	205
	—	—	—	*620*	*670*	*710*	*610*	*670*	*710*	*590*	*660*	*710*	*590*	*640*	*670*
P2	—	—	—	185	205	215	185	200	210	180	200	210	175	195	205
	—	—	—	*610*	*670*	*710*	*610*	*660*	*690*	*590*	*660*	*690*	*570*	*640*	*670*
P3	—	—	—	175	190	205	175	190	200	170	190	200	165	185	195
	—	—	—	*570*	*620*	*670*	*570*	*620*	*660*	*560*	*620*	*660*	*540*	*610*	*640*
P4	—	—	—	170	185	195	165	185	190	160	180	190	160	175	185
	—	—	—	*560*	*610*	*640*	*540*	*610*	*620*	*520*	*590*	*620*	*520*	*570*	*610*
P5	—	—	—	165	180	190	165	180	190	155	175	190	155	170	180
	—	—	—	*540*	*590*	*620*	*540*	*590*	*620*	*510*	*570*	*620*	*510*	*560*	*590*
P6	—	—	—	175	190	200	175	190	200	165	185	195	165	180	190
	—	—	—	*570*	*620*	*660*	*570*	*620*	*660*	*540*	*610*	*640*	*540*	*590*	*620*
P7	—	—	—	170	185	195	170	185	195	160	180	190	160	175	185
	—	—	—	*560*	*610*	*640*	*560*	*610*	*640*	*520*	*590*	*620*	*520*	*570*	*610*
P8	—	—	—	165	180	190	165	180	190	155	175	185	155	170	180
	—	—	—	*540*	*590*	*620*	*540*	*590*	*620*	*510*	*570*	*610*	*510*	*560*	*590*
P11	—	—	—	170	185	190	165	180	190	155	180	190	160	175	185
	—	—	—	*560*	*610*	*620*	*540*	*590*	*620*	*510*	*590*	*620*	*520*	*570*	*610*
P12	—	—	—	135	150	160	135	150	155	125	145	160	125	140	150
	—	—	—	*445*	*490*	*520*	*445*	*490*	*510*	*410*	*475*	*520*	*410*	*460*	*490*
M1	—	—	—	—	—	—	135	155	170	155	175	185	130	150	165
	—	—	—	—	—	—	*445*	*510*	*560*	*510*	*570*	*610*	*425*	*490*	*540*
M2	—	—	—	—	—	—	120	140	155	140	160	170	115	135	150
	—	—	—	—	—	—	*395*	*460*	*510*	*460*	*520*	*560*	*375*	*445*	*490*
M3	—	—	—	—	—	—	105	125	140	125	145	155	100	120	135
	—	—	—	—	—	—	*345*	*410*	*460*	*410*	*475*	*510*	*330*	*395*	*445*
M4	—	—	—	—	—	—	90	110	120	105	125	135	80	105	115
	—	—	—	—	—	—	*295*	*360*	*395*	*345*	*410*	*445*	*260*	*345*	*375*
M5	—	—	—	—	—	—	75	95	105	90	110	120	70	90	100
	—	—	—	—	—	—	*245*	*310*	*345*	*295*	*360*	*395*	*230*	*295*	*330*
K1	170	190	205	190	205	215	185	205	215	160	180	195	175	195	205
	560	*620*	*670*	*620*	*670*	*710*	*610*	*670*	*710*	*520*	*590*	*640*	*570*	*640*	*670*
K2	160	180	195	180	195	205	175	195	205	150	170	185	170	185	195
	520	*590*	*640*	*590*	*640*	*670*	*570*	*640*	*670*	*490*	*560*	*610*	*560*	*610*	*640*
K3	145	170	180	165	180	190	165	180	190	140	160	170	155	175	185
	475	*560*	*590*	*540*	*590*	*620*	*540*	*590*	*620*	*460*	*520*	*560*	*510*	*570*	*610*
K4	145	165	180	160	180	190	160	180	185	135	155	170	150	170	180
	475	*540*	*590*	*520*	*590*	*620*	*520*	*590*	*610*	*445*	*510*	*560*	*490*	*560*	*590*
K5	105	130	140	125	140	150	125	140	150	100	120	130	115	135	140
	345	*425*	*460*	*410*	*460*	*490*	*410*	*460*	*490*	*330*	*395*	*425*	*375*	*445*	*460*
K6	135	155	170	155	170	180	150	170	180	125	145	160	145	160	170
	445	*510*	*560*	*510*	*560*	*590*	*490*	*560*	*590*	*410*	*475*	*520*	*475*	*520*	*560*
K7	125	145	160	145	160	170	145	160	170	115	135	150	135	150	160
	410	*475*	*520*	*475*	*520*	*560*	*475*	*520*	*560*	*375*	*445*	*490*	*445*	*490*	*520*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	55	70	80	39	50	60
	—	—	—	—	—	—	—	—	—	*180*	*230*	*260*	*130*	*165*	*195*
S2	—	—	—	—	—	—	—	—	—	43	55	65	31	41	48
	—	—	—	—	—	—	—	—	—	*140*	*180*	*215*	*100*	*135*	*155*
S3	—	—	—	—	—	—	—	—	—	38	50	60	27	36	42
	—	—	—	—	—	—	—	—	—	*125*	*165*	*195*	*90*	*120*	*140*
S11	—	—	—	—	—	—	—	—	—	75	95	110	55	70	85
	—	—	—	—	—	—	—	—	—	*245*	*310*	*360*	*180*	*230*	*280*
S12	—	—	—	—	—	—	—	—	—	50	70	80	37	48	60
	—	—	—	—	—	—	—	—	—	*165*	*230*	*260*	*120*	*155*	*195*
S13	—	—	—	—	—	—	—	—	—	30	40	46	22	29	33
	—	—	—	—	—	—	—	—	—	*100*	*130*	*150*	*70*	*95*	*110*
H5	—	—	—	44	60	70	—	—	—	—	—	—	34	44	50
	—	—	—	*145*	*195*	*230*	—	—	—	—	—	—	*110*	*145*	*165*
H11	—	—	—	55	75	85	—	—	—	—	—	—	43	55	65
	—	—	—	*180*	*245*	*280*	—	—	—	—	—	—	*140*	*180*	*215*
H12	—	—	—	85	105	115	—	—	—	—	—	—	65	85	95
	—	—	—	*280*	*345*	*375*	—	—	—	—	—	—	*215*	*280*	*310*

Turbo 18 – R217.69-18 – Metric



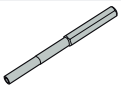


- For insert selection and cutting data recommendations, see page(s) 157-159
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LS	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.69-3240.3S-047-18.2AN	02710003	Seco-Weldon	40,0	2	6	47,0	32,0	57,0	60,0	130,0	9900	0,8	XO.X18..
R217.69-3250.3S-047-18.3AN	02710010	Seco-Weldon	50,0	3	9	47,0	32,0	65,0	60,0	134,5	8900	1,2	XO.X18..

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

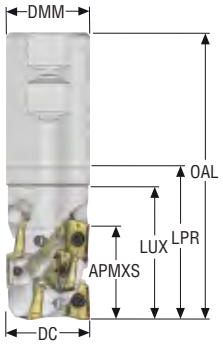
For cutter	Insert key	Insert screw
		
R217.69-..	H6B-T20P	C04510-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Turbo 18 – R217.69-18 – Inch



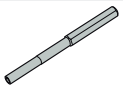


- For insert selection and cutting data recommendations, see page(s) 157-159
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.69-01.50-3-18S2AN	02710923	Weldon	1.500	2	6	1.862	1.500	2.618	2.750	5.439	9900	2.200	XO.X18
R217.69-02.00-3-18S3AN	02710934	Weldon	2.000	3	9	1.850	1.500	2.802	2.802	5.491	8900	2.870	XO.X18

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.69-..	H6B-T20P	C04510-T20P

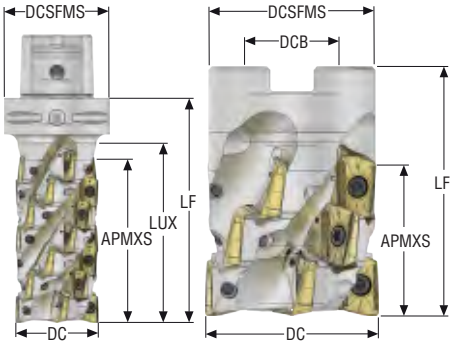
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.69-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

Turbo 18 – R217/220.69-18 – Metric



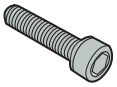
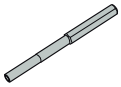


- For insert selection and cutting data recommendations, see page(s) 157-159
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

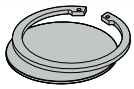
Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
C5-R217.69-040-047-18.2AN	02717849	Seco-Capto	40,0	2	6	47,0	–	50,0	82,0	58,0	9900	0,8	XO.X18..
C6-R217.69-050-062-18.3AN	02717919	Seco-Capto	50,0	3	12	62,0	–	63,0	99,0	73,0	8900	1,5	XO.X18..
C5-R217.69-054-047-18.3AN	02717916	Seco-Capto	54,0	3	9	47,0	–	50,0	82,0	62,0	8600	1,1	XO.X18..
C6-R217.69-066-047-18.4AN	02717933	Seco-Capto	66,0	4	12	47,0	–	63,0	84,0	62,0	7700	1,7	XO.X18..
C8-R217.69-080-093-18.5SAN	02829948	Seco-Capto	80,0	5	30	93,0	–	80,0	140,0	110,0	7000	4,2	XO.X18..
R220.69-00063-047-18.4AN	02710017	Arbor	63,0	4	12	47,0	27,0	60,0	70,0	–	7900	0,9	XO.X18..
R220.69-00063-047-18.5AN	10178497	Arbor	63,0	5	15	47,0	27,0	59,0	70,0	–	7900	1,0	XO.X18..
R220.69-00063-062-18.3AN	02710032	Arbor	63,0	3	12	62,0	27,0	60,0	85,0	–	7900	1,2	XO.X18..
R220.69-00063-062-18.4AN	02710034	Arbor	63,0	4	16	62,0	27,0	60,0	85,0	–	7900	1,1	XO.X18..
R220.69-00063-077-18.4SAN	02717825	Arbor	63,0	4	20	77,0	27,0	60,0	100,0	–	7900	1,3	XO.X18..
R220.69-00080-047-18.5AN	02710037	Arbor	80,0	5	15	47,0	32,0	77,0	70,0	–	7000	1,7	XO.X18..
R220.69-00080-062-18.5AN	02710039	Arbor	80,0	5	20	62,0	32,0	77,0	85,0	–	7000	2,1	XO.X18..
R220.69-00080-077-18.4SAN	02717831	Arbor	80,0	4	20	77,0	32,0	77,0	100,0	–	7000	2,4	XO.X18..
R220.69-00100-062-18.6AN	02710042	Arbor	100,0	6	24	62,0	40,0	90,0	85,0	–	6300	3,4	XO.X18..
R220.69-00100-077-18.5SAN	02717833	Arbor	100,0	5	25	77,0	40,0	90,0	100,0	–	6300	4,0	XO.X18..

Modification of the cutter body needed for radii > 3,1 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Replaceable end
						
Cx-R217.69-..	–	–	–	H6B-T20P	C04510-T20P	–
C8-R217.69-080	–	MC6S16X40	C8-R217.69-080-062-18.5BAN	H6B-T20PL	C04510-T20P	R220.69-RE080031-18.5AN
R220.69-00063	MC6S12X60	–	–	H6B-T20P	C04510-T20P	–
R220.69-00063	MC6S12X60	–	–	1/4HEX-T20PX50	C04510-T20P	–
R220.69-00063-SAN	MP6S12X80	–	R220.69-00063046-18.4BAN	H6B-T20P	C04510-T20P	R220.69-RE063031-18.4AN
R220.69-00080	MC6S16X70	–	–	H6B-T20P	C04510-T20P	–
R220.69-00080-SAN	MP6S16X80	–	R220.69-00080046-18.4BAN	H6B-T20PL	C04510-T20P	R220.69-RE080031-18.4AN
R220.69-00100	MC6S20X70	–	–	H6B-T20PL	C04510-T20P	–
R220.69-00100-SAN	MP6S20X80	–	R220.69-00100046-18.5BAN	H6B-T20PL	C04510-T20P	R220.69-RE100031-18.5AN

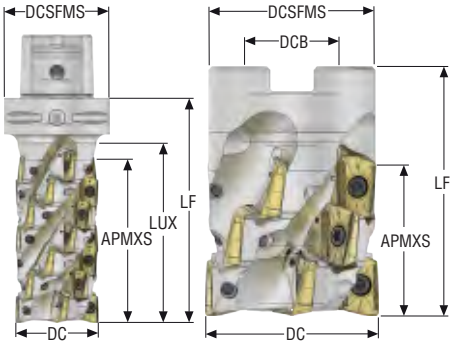
Accessories

For cutter	Adjustable Torque key	Coolant kit	Insert clamping torque	Torque key
				
Cx-R217/220.69-..	–	–	5.0NM	T00-20P50
Cx-R217/220.69-..	1/4HEX-S-HANDLE-0.8-5.0NM	–	5.0NM	T00-20P50
R220.69-00063-SAN	–	LUBRICATION_SET_29	5.0NM	T00-20P50
R220.69-00080-SAN	–	LUBRICATION_SET_36	5.0NM	T00-20P50
R220.69-00100-SAN	–	LUBRICATION_SET_44	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Turbo 18 – R217/220.69-18 – Inch



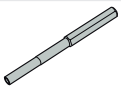


- For insert selection and cutting data recommendations, see page(s) 157-159
- For complete insert programme, see page(s) 850, 851
- For ISO attribute explanation, see page 16
- KAPRS 90°

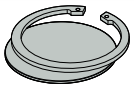
Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
C6-R217.69-02.00-18M3AN	02721715	Seco-Capto	2.000	3	12	2.441	–	2.480	3.898	3.031	8900	2.430	XO.X18
C6-R217.69-02.50-18M4AN	02721716	Seco-Capto	2.500	4	16	2.409	–	2.480	3.898	3.898	7900	4.190	XO.X18
R220.69-02.50-18S4AN	02710940	Arbor	2.500	4	12	1.866	1.000	2.441	2.750	–	7900	2.200	XO.X18
R220.69-02.50-18M4AN	02710937	Arbor	2.500	4	16	2.441	1.000	2.441	3.346	–	7900	2.200	XO.X18
R220.69-02.50-18L4SAN	02722279	Arbor	2.500	4	20	3.024	1.000	2.441	3.937	–	7900	3.090	XO.X18
R220.69-03.00-18M5AN	02710942	Arbor	3.000	5	20	2.480	1.250	2.890	3.500	–	7000	4.410	XO.X18
R220.69-03.00-18L4SAN	02722281	Arbor	3.000	4	20	3.024	1.250	2.890	3.937	–	7000	4.630	XO.X18
R220.69-04.00-18L5SAN	02722282	Arbor	4.000	5	25	3.024	1.500	3.543	3.937	–	6300	8.820	XO.X18

Modification of the cutter body needed for radii > 0.122 in

Spare Parts, included in delivery

For cutter	Arbor screw	Basic body	Insert key	Insert screw	Replaceable end
					
Cx-R217.69-..	–	–	H6B-T20P	C04510-T20P	–
R220.69-02.50S	UC6S1/2UNFX2-1/2	–	H6B-T20P	C04510-T20P	–
R220.69-02.50M	UC6S1/2UNFX3	–	H6B-T20P	C04510-T20P	–
R220.69-02.50L	UP6S1/2UNFX3-1/4	R220.69-02.50-18L4BAN	H6B-T20P	C04510-T20P	R220.69-02.50-RE-18.4AN
R220.69-03.00M	UC6S5/8UNFX3	–	H6B-T20P	C04510-T20P	–
R220.69-03.00S	UP6S5/8UNFX3-1/4	R220.69-03.00-18L4BAN	H6B-T20PL	C04510-T20P	R220.69-03.00-RE-18.4AN
R220.69-04.00S	UP6S3/4UNFX3-1/4	R220.69-04.00-18L5BAN	H6B-T20PL	C04510-T20P	R220.69-04.00-RE-18.5AN

Accessories

For cutter	Coolant kit	Insert clamping torque	Torque key
			
Cx-R217/220.69-..	–	44.3IN.LBS	T00-20P50
R220.69-02.50-SAN	LUBRICATIONSET29	44.3IN.LBS	T00-20P50
R220.69-03.00-SAN	LUBRICATIONSET36	44.3IN.LBS	T00-20P50
R220.69-04.00-SAN	LUBRICATIONSET44	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R217/220.69-18 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	30%	10%
P1	XOMX180608TR-ME13 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
P2	XOMX180608TR-ME13 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
P3	XOMX180608TR-ME13 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P4	XOMX180608TR-M14 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
P5	XOMX180608TR-M14 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
P6	XOMX180608TR-M14 MP2501	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P7	XOMX180608TR-M14 MP2501	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P8	XOMX180608TR-M14 MP2501	0,15 *0.0060*	0,17 *0.0065*	0,25 *0.010*
P11	XOMX180608TR-M14 MP3501	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P12	XOMX180608TR-M14 MP3000	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M1	XOMX180608R-M10 MS2050	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
M2	XOMX180608R-M10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	XOMX180608R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	XOMX180608TR-M14 MP3501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M5	XOMX180608TR-M14 MP3501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
K1	XOMX180608TR-MD15 MK2050	0,17 *0.0065*	0,19 *0.0075*	0,28 *0.011*
K2	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K3	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K4	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K5	XOMX180608TR-MD15 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
K6	XOMX180608TR-MD15 MK2050	0,16 *0.0065*	0,17 *0.0065*	0,26 *0.010*
K7	XOMX180608TR-MD15 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
N1	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
N2	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
N3	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
N11	XOEX180608FR-E10 H25	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
S1	XOMX180608R-M10 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S2	XOMX180608R-M10 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S3	XOMX180608R-M10 F40M	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*
S11	XOMX180608R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	XOMX180608R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	XOMX180608R-M10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H5	XOMX180608TR-MD15 MP3000	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
H8	XOMX180608TR-MD15 MP3000	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
H11	XOMX180608TR-MD15 MP3000	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
H12	XOMX180608TR-M14 MP3000	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.69-18 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			F30M			MP3000			MS2050			F40M			H25		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	140 *460*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*	140 *460*	155 *510*	165 *540*	140 *460*	155 *510*	165 *540*	125 *410*	140 *460*	155 *510*	— —	— —	— —
P2	140 *460*	155 *510*	165 *540*	125 *410*	145 *475*	155 *510*	135 *445*	155 *510*	165 *540*	140 *460*	155 *510*	165 *540*	125 *410*	140 *460*	150 *490*	— —	— —	— —
P3	130 *425*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*	130 *425*	145 *475*	155 *510*	130 *425*	145 *475*	155 *510*	115 *375*	130 *425*	145 *475*	— —	— —	— —
P4	120 *395*	140 *460*	150 *490*	110 *360*	130 *425*	140 *460*	120 *395*	140 *460*	150 *490*	120 *395*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —
P5	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	105 *345*	120 *395*	135 *445*	— —	— —	— —
P6	130 *425*	145 *475*	155 *510*	115 *375*	130 *425*	145 *475*	125 *410*	145 *475*	155 *510*	125 *410*	145 *475*	155 *510*	115 *375*	130 *425*	140 *460*	— —	— —	— —
P7	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —
P8	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	105 *345*	120 *395*	130 *425*	— —	— —	— —
P11	120 *395*	140 *460*	150 *490*	110 *360*	125 *410*	140 *460*	120 *395*	140 *460*	150 *490*	120 *395*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —
P12	95 *310*	115 *375*	125 *410*	85 *280*	100 *330*	110 *360*	95 *310*	110 *360*	120 *395*	95 *310*	110 *360*	120 *395*	80 *260*	100 *330*	110 *360*	— —	— —	— —
M1	— —	— —	— —	115 *375*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*	125 *410*	140 *460*	150 *490*	110 *360*	130 *425*	140 *460*	— —	— —	— —
M2	— —	— —	— —	100 *330*	120 *395*	130 *425*	110 *360*	125 *410*	135 *445*	115 *375*	130 *425*	140 *460*	100 *330*	115 *375*	125 *410*	— —	— —	— —
M3	— —	— —	— —	90 *295*	105 *345*	115 *375*	95 *310*	110 *360*	125 *410*	100 *330*	115 *375*	125 *410*	85 *280*	105 *345*	115 *375*	— —	— —	— —
M4	— —	— —	— —	75 *245*	90 *295*	100 *330*	80 *260*	100 *330*	110 *360*	85 *280*	100 *330*	110 *360*	70 *230*	90 *295*	100 *330*	— —	— —	— —
M5	— —	— —	— —	65 *215*	80 *260*	90 *295*	70 *230*	85 *280*	95 *310*	75 *245*	90 *295*	100 *330*	60 *195*	80 *260*	90 *295*	— —	— —	— —
K1	140 *460*	160 *520*	170 *560*	110 *360*	130 *425*	140 *460*	125 *410*	140 *460*	150 *490*	— —	— —	— —	110 *360*	125 *410*	135 *445*	— —	— —	— —
K2	135 *445*	150 *490*	165 *540*	105 *345*	120 *395*	135 *445*	115 *375*	135 *445*	145 *475*	— —	— —	— —	100 *330*	120 *395*	130 *425*	— —	— —	— —
K3	125 *410*	140 *460*	155 *510*	95 *310*	110 *360*	125 *410*	105 *345*	125 *410*	135 *445*	— —	— —	— —	90 *295*	110 *360*	120 *395*	— —	— —	— —
K4	120 *395*	140 *460*	150 *490*	90 *295*	110 *360*	120 *395*	100 *330*	120 *395*	130 *425*	— —	— —	— —	90 *295*	105 *345*	115 *375*	— —	— —	— —
K5	95 *310*	110 *360*	120 *395*	65 *215*	80 *260*	90 *295*	75 *245*	90 *295*	100 *330*	— —	— —	— —	60 *195*	80 *260*	85 *280*	— —	— —	— —
K6	115 *375*	130 *425*	140 *460*	85 *280*	100 *330*	110 *360*	95 *310*	110 *360*	125 *410*	— —	— —	— —	80 *260*	100 *330*	110 *360*	— —	— —	— —
K7	110 *360*	125 *410*	135 *445*	80 *260*	95 *310*	105 *345*	90 *295*	105 *345*	115 *375*	— —	— —	— —	75 *245*	90 *295*	100 *330*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	230 *750*	245 *800*	255 *840*	235 *770*	255 *840*	265 *870*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	190 *620*	200 *660*	185 *610*	200 *660*	210 *690*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	170 *560*	180 *590*	160 *520*	175 *570*	185 *610*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	160 *520*	175 *570*	185 *610*	165 *540*	185 *610*	195 *640*
S1	— —	— —	— —	36 *120*	47 *155*	55 *180*	40 *130*	50 *165*	60 *195*	42 *140*	55 *180*	65 *215*	34 *110*	45 *150*	55 *180*	— —	— —	— —
S2	— —	— —	— —	29 *95*	38 *125*	45 *150*	32 *105*	42 *140*	50 *165*	34 *110*	45 *150*	55 *180*	28 *90*	36 *120*	43 *140*	— —	— —	— —
S3	— —	— —	— —	25 *80*	34 *110*	39 *130*	28 *90*	37 *120*	44 *145*	30 *100*	39 *130*	46 *150*	24 *80*	32 *105*	38 *125*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	75 *245*	85 *280*	47 *155*	60 *195*	75 *245*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	55 *180*	65 *215*	33 *110*	43 *140*	50 *165*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	24 *80*	31 *100*	37 *120*	19 *60*	25 *80*	30 *100*	— —	— —	— —
H5	— —	— —	— —	30 *100*	40 *130*	47 *155*	34 *110*	44 *145*	50 *165*	— —	— —	— —	29 *95*	38 *125*	45 *150*	— —	— —	— —
H8	— —	— —	— —	33 *110*	42 *140*	50 *165*	36 *120*	47 *155*	55 *180*	— —	— —	— —	31 *100*	40 *130*	48 *155*	— —	— —	— —
H11	— —	— —	— —	38 *125*	50 *165*	60 *195*	43 *140*	55 *180*	65 *215*	— —	— —	— —	37 *120*	48 *155*	55 *180*	— —	— —	— —
H12	— —	— —	— —	60 *195*	75 *245*	85 *280*	70 *230*	85 *280*	95 *310*	— —	— —	— —	55 *180*	70 *230*	80 *260*	— —	— —	— —

R217/220.69-18 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	165	175	185	160	175	185	155	170	175
	—	—	—	*540*	*570*	*610*	*520*	*570*	*610*	*510*	*560*	*570*
P2	—	—	—	160	175	185	160	175	180	155	170	175
	—	—	—	*520*	*570*	*610*	*520*	*570*	*590*	*510*	*560*	*570*
P3	—	—	—	155	165	175	155	165	175	145	160	165
	—	—	—	*510*	*540*	*570*	*510*	*540*	*570*	*475*	*520*	*540*
P4	—	—	—	145	160	165	145	160	165	140	150	160
	—	—	—	*475*	*520*	*540*	*475*	*520*	*540*	*460*	*490*	*520*
P5	—	—	—	145	155	165	140	155	165	135	150	155
	—	—	—	*475*	*510*	*540*	*460*	*510*	*540*	*445*	*490*	*510*
P6	—	—	—	150	165	170	150	165	170	145	155	165
	—	—	—	*490*	*540*	*560*	*490*	*540*	*560*	*475*	*510*	*540*
P7	—	—	—	150	160	170	145	160	165	140	155	160
	—	—	—	*490*	*520*	*560*	*475*	*520*	*540*	*460*	*510*	*520*
P8	—	—	—	145	155	165	140	155	165	135	150	155
	—	—	—	*475*	*510*	*540*	*460*	*510*	*540*	*445*	*490*	*510*
P11	—	—	—	145	160	165	145	160	165	140	150	160
	—	—	—	*475*	*520*	*540*	*475*	*520*	*540*	*460*	*490*	*520*
P12	—	—	—	120	130	140	120	130	140	115	125	130
	—	—	—	*395*	*425*	*460*	*395*	*425*	*460*	*375*	*410*	*425*
M1	—	—	—	—	—	—	120	140	150	115	135	145
	—	—	—	—	—	—	*395*	*460*	*490*	*375*	*445*	*475*
M2	—	—	—	—	—	—	110	125	135	105	120	130
	—	—	—	—	—	—	*360*	*410*	*445*	*345*	*395*	*425*
M3	—	—	—	—	—	—	95	115	125	90	110	120
	—	—	—	—	—	—	*310*	*375*	*410*	*295*	*360*	*395*
M4	—	—	—	—	—	—	80	100	110	80	95	105
	—	—	—	—	—	—	*260*	*330*	*360*	*260*	*310*	*345*
M5	—	—	—	—	—	—	70	90	100	65	85	95
	—	—	—	—	—	—	*230*	*295*	*330*	*215*	*280*	*310*
K1	145	160	175	160	175	185	160	175	185	155	170	175
	475	*520*	*570*	*520*	*570*	*610*	*520*	*570*	*610*	*510*	*560*	*570*
K2	140	155	165	155	170	175	155	165	175	145	160	170
	460	*510*	*540*	*510*	*560*	*570*	*510*	*540*	*570*	*475*	*520*	*560*
K3	130	145	155	145	160	165	145	155	165	135	150	160
	425	*475*	*510*	*475*	*520*	*540*	*475*	*510*	*540*	*445*	*490*	*520*
K4	125	145	155	140	155	165	140	155	165	135	150	155
	410	*475*	*510*	*460*	*510*	*540*	*460*	*510*	*540*	*445*	*490*	*510*
K5	95	115	125	115	125	135	115	125	135	105	120	125
	310	*375*	*410*	*375*	*410*	*445*	*375*	*410*	*445*	*345*	*395*	*410*
K6	120	135	145	135	150	155	135	145	155	125	140	150
	395	*445*	*475*	*445*	*490*	*510*	*445*	*475*	*510*	*410*	*460*	*490*
K7	110	130	140	130	140	150	125	140	145	120	135	140
	360	*425*	*460*	*425*	*460*	*490*	*410*	*460*	*475*	*395*	*445*	*460*
N1	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	38	50	60
	—	—	—	—	—	—	—	—	—	*125*	*165*	*195*
S2	—	—	—	—	—	—	—	—	—	30	40	47
	—	—	—	—	—	—	—	—	—	*100*	*130*	*155*
S3	—	—	—	—	—	—	—	—	—	27	35	41
	—	—	—	—	—	—	—	—	—	*90*	*115*	*135*
S11	—	—	—	—	—	—	—	—	—	50	70	80
	—	—	—	—	—	—	—	—	—	*165*	*230*	*260*
S12	—	—	—	—	—	—	—	—	—	36	48	55
	—	—	—	—	—	—	—	—	—	*120*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	21	28	33
	—	—	—	—	—	—	—	—	—	*70*	*90*	*110*
H5	—	—	—	43	55	65	—	—	—	33	44	50
	—	—	—	*140*	*180*	*215*	—	—	—	*110*	*145*	*165*
H8	—	—	—	46	60	70	—	—	—	36	47	55
	—	—	—	*150*	*195*	*230*	—	—	—	*120*	*155*	*180*
H11	—	—	—	55	70	80	—	—	—	42	55	65
	—	—	—	*180*	*230*	*260*	—	—	—	*140*	*180*	*215*
H12	—	—	—	80	95	105	—	—	—	65	80	90
	—	—	—	*260*	*310*	*345*	—	—	—	*215*	*260*	*295*

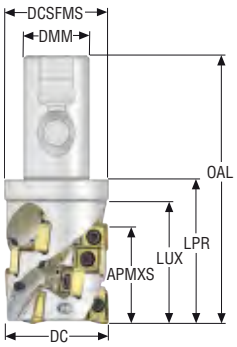


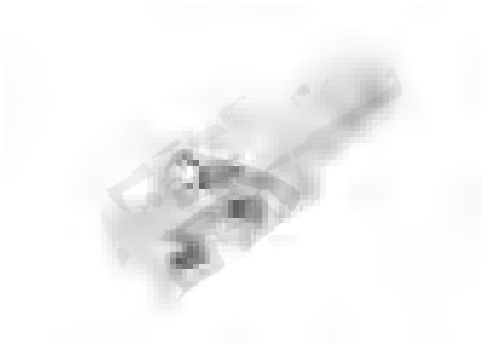
HELICAL SN8-13

Keep up with customer demand for lower part prices. The Seco Helical SN8-13 features double-sided helix inserts with eight cutting edges that significantly lower cost per edge to boost slotting, side milling and circular rough milling efficiency. Built for difficult applications involving ISO P, M, K and S materials, the cutters offer application-specific sub-family designs featuring left or right-hand helixes, half or full effective teeth options, two front insert and many radii choices for long tool life and maximum chip evacuation. Reliable and user-friendly, the Helical SN8-13 also eliminates incorrect indexing of front and helix inserts, reducing operator error.

- Range is built with 4 sub families built with SN13 helix insert:
- SN.U13 insert offering 8 cutting edges in 3 geometries and several grades
- R217/220.82: XO16 lead insert = First choice
- R217/220.82-H: AC15 lead insert = Heavy Duty, R220.69-15H replacement
- R217/220.81: AC15 lead insert = Low Power, R215/220.59 replacement
- R217/220.81-K: AC15 lead insert = Long reach, R215/220.59 replacement

R217.82-SNXO16 – Metric

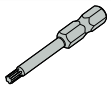




- For insert selection and cutting data recommendations, see page(s) 165-166
- For complete insert programme, see page(s) 825, 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	DCSFMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.82-3250.3S-047-SNXO16.3A	10127480	Seco-Weldon	50,0	3	12	47,0	32,0	50,0	60,0	70,0	130,0	11800	1,0	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

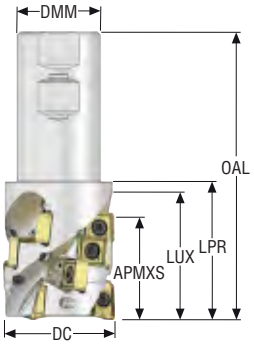
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
					
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 872

R217.82-SNXO16 – inch

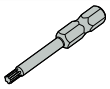




- For insert selection and cutting data recommendations, see page(s) 165-166
- For complete insert programme, see page(s) 825, 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.82-02.00-3-1.85-SNXO16.3A	10127485	Weldon	2.000	3	12	1.850	1.500	2.362	2.441	5.169	11800	2.650	XO.X1605 / SN.U1306

Spare Parts, included in delivery

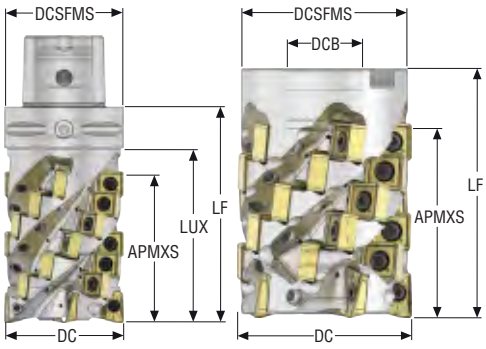
For cutter	Insert key	Insert screw	Insert screw 2
			
R217.82-..	1/4HEX-T15PX50	C55011-T15P	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
					
R217.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	44.3IN.LBS	31.0IN.LBS	T00-15P50	T00-15P35

Torque and fixed keys, see page 872

R220.82-SNXO16 – Metric





- For insert selection and cutting data recommendations, see page(s) 165-166
- For complete insert programme, see page(s) 825, 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
C6-R217.82-063-079-SNXO16.4SA	10127467	Seco-Capto	63,0	4	28	79,0	–	63,0	115,0	92,2	7400	2,0	XO.X1605 / SN.U1306
R220.82-0063-047-SNXO16.4A	10127481	Arbor	63,0	4	16	47,0	27,0	59,0	70,0	–	10500	0,9	XO.X1605 / SN.U1306
R220.82-0063-069-SNXO16.5A	10127482	Arbor	63,0	5	30	69,0	27,0	59,0	90,0	–	10500	1,2	XO.X1605 / SN.U1306
R220.82-0080-068-SNXO16.5A	10127483	Arbor	80,0	5	30	68,0	32,0	75,0	90,0	–	6500	1,9	XO.X1605 / SN.U1306
R220.82-0080-079-SNXO16.6A	10127484	Arbor	80,0	6	42	79,0	32,0	75,0	100,0	–	6500	2,2	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable end
							
Cx-R217.82	–	MC6S5X35	C6-R217.82-063-043-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE063-036-SNXO16.4A
R220.82-0063-047	MC6S12X60	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0063-069	MC6S12X80	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-0080	MP6S16X80	–	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–

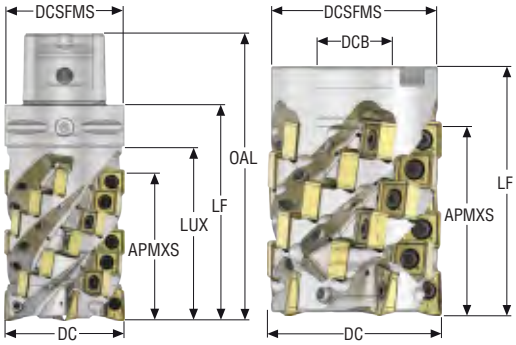
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
					
Cx-R217/220.82	1/4HEX-S-HANDLE-0.8-5.0NM	5.0NM	3.5NM	T00-15P50	T00-15P35

Torque and fixed keys, see page 872

R220.82-SNXO16 – inch

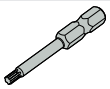
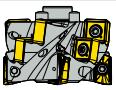




- For insert selection and cutting data recommendations, see page(s) 165-166
- For complete insert programme, see page(s) 825, 848, 849
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch			inch	inch	inch	inch		lbs	
C6-R217.82-2.5-3.11-SNXO16.4SA	10128065	Seco-Capto	2.500	4	28	3.110	–	2.480	4.528	7400	3.970	XO.X1605 / SN.U1306
R220.82-02.50-1.85-SNXO16.4A	10127486	Arbor	2.500	4	16	1.850	1.000	2.323	2.750	10500	1.980	XO.X1605 / SN.U1306
R220.82-02.50-2.75-SNXO16.5A	10127487	Arbor	2.500	5	30	2.717	1.000	2.323	3.500	10500	2.650	XO.X1605 / SN.U1306
R220.82-03.00-2.68-SNXO16.5A	10127488	Arbor	3.000	5	30	2.677	1.250	2.795	3.500	6500	3.750	XO.X1605 / SN.U1306
R220.82-03.00-3.11-SNXO16.6A	10127489	Arbor	3.000	6	42	3.110	1.250	2.795	3.938	6500	4.190	XO.X1605 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Insert screw 2	Replaceable end
							
Cx-R217.82	–	UC6S10UNFX1-1/2	C6-R217.82-2.5-1.69-SN.4BA	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	R220.82-RE02.50-1.42-SNXO16.4A
R220.82-02.50.4A	UC6S1/2UNFX2-1/4	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-02.50.5A	UC6S1/2UNFX3	–	–	1/4HEX-T15PX50	C55011-T15P	C04011-T15P	–
R220.82-03.00	UP6S5/8UNFX3-1/4	–	–	1/4HEX-T15PX90	C55011-T15P	C04011-T15P	–

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
					
Cx-R217/220.82-..	1/4HEX-S-HANDLE-0.8-5.0NM	44.3IN.LBS	31.0IN.LBS	T00-15P50	T00-15P35

Torque and fixed keys, see page 872

R217/220.82-SNXO16 – Insert selection – mm/*Inch*

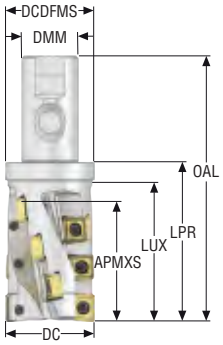
SMG			f_z		
			100%	30%	10%
P1	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
P2	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
P3	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P4	XOMX160508TR-M13 MP2501	SNXU130612TN-M12 MP2501	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*
P5	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
P6	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P7	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,14 *0.0055*	0,16 *0.0065*	0,24 *0.0095*
P8	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,15 *0.0060*	0,17 *0.0065*	0,25 *0.010*
P11	XOMX160508TR-ME11 MP3501	SNXU130612TN-M12 MP3501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P12	XOMX160508TR-ME11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M1	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M2	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
M3	XOMX160508R-M09 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0050*
M4	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M5	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K1	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*
K2	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K3	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K4	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K5	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K6	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*
K7	XOMX160508TR-M13 MK2050	SNGU130612TN-M14 MK2050	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
S1	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S2	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S3	XOMX160508TR-ME11 F40M	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S11	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
S12	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
S13	XOMX160508TR-ME11 MS2050	SNGU130612EN-ME10 MS2050	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
H5	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
H11	XOMX160508TR-MD14 MP1501	SNGU130612TN-M14 MP1501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
H12	XOMX160508TR-ME11 MP2050	SNGU130612EN-ME10 MP2050	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*

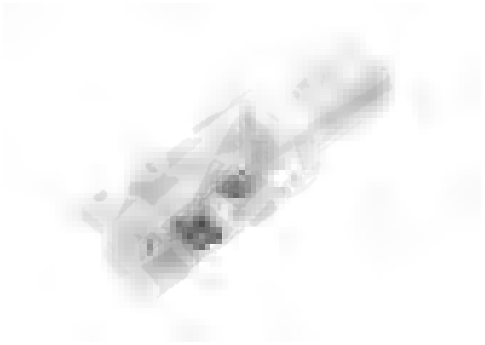
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.82-SNXO16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	145 *475*	140 *460*	155 *510*	165 *540*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	170 *560*	140 *460*	155 *510*	165 *540*	150 *490*	160 *520*	170 *560*
P2	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	145 *475*	140 *460*	155 *510*	165 *540*	150 *490*	165 *540*	170 *560*	150 *490*	165 *540*	170 *560*	140 *460*	155 *510*	165 *540*	145 *475*	160 *520*	165 *540*
P3	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	145 *475*	155 *510*	165 *540*	145 *475*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*	140 *460*	150 *490*	160 *520*
P4	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	150 *490*
P5	120 *395*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	135 *445*	150 *490*	155 *510*	135 *445*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	130 *425*	140 *460*	150 *490*
P6	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	145 *475*	155 *510*	160 *520*	140 *460*	155 *510*	160 *520*	130 *425*	145 *475*	155 *510*	140 *460*	150 *490*	155 *510*
P7	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	155 *510*
P8	115 *375*	130 *425*	140 *460*	105 *345*	125 *410*	130 *425*	100 *330*	120 *395*	125 *410*	120 *395*	140 *460*	145 *475*	135 *445*	145 *475*	155 *510*	135 *445*	145 *475*	155 *510*	120 *395*	140 *460*	145 *475*	130 *425*	140 *460*	150 *490*
P11	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	150 *490*
P12	95 *310*	110 *360*	120 *395*	85 *280*	100 *330*	110 *360*	80 *260*	95 *310*	105 *345*	100 *330*	115 *375*	125 *410*	115 *375*	125 *410*	130 *425*	115 *375*	125 *410*	130 *425*	100 *330*	115 *375*	125 *410*	110 *360*	120 *395*	125 *410*
M1	— —	— —	— —	110 *360*	130 *425*	140 *460*	105 *345*	120 *395*	130 *425*	120 *395*	135 *445*	145 *475*	— —	— —	— —	115 *375*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*	110 *360*	130 *425*	140 *460*
M2	— —	— —	— —	105 *345*	115 *375*	125 *410*	100 *330*	110 *360*	120 *395*	110 *360*	125 *410*	135 *445*	— —	— —	— —	105 *345*	120 *395*	130 *425*	110 *360*	125 *410*	135 *445*	105 *345*	115 *375*	125 *410*
M3	— —	— —	— —	90 *295*	105 *345*	115 *375*	85 *280*	100 *330*	110 *360*	100 *330*	115 *375*	125 *410*	— —	— —	— —	95 *310*	110 *360*	115 *375*	100 *330*	115 *375*	125 *410*	90 *295*	105 *345*	115 *375*
M4	— —	— —	— —	75 *245*	90 *295*	100 *330*	70 *230*	85 *280*	95 *310*	85 *280*	100 *330*	110 *360*	— —	— —	— —	80 *260*	95 *310*	105 *345*	85 *280*	100 *330*	110 *360*	75 *245*	90 *295*	100 *330*
M5	— —	— —	— —	65 *215*	80 *260*	90 *295*	60 *195*	75 *245*	85 *280*	75 *245*	90 *295*	100 *330*	— —	— —	— —	70 *230*	85 *280*	95 *310*	75 *245*	90 *295*	100 *330*	65 *215*	80 *260*	90 *295*
K1	135 *445*	155 *510*	165 *540*	— —	— —	— —	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	155 *510*	165 *540*	170 *560*	150 *490*	165 *540*	170 *560*	125 *410*	140 *460*	150 *490*	145 *475*	160 *520*	165 *540*
K2	130 *425*	145 *475*	155 *510*	— —	— —	— —	100 *330*	115 *375*	125 *410*	120 *395*	135 *445*	145 *475*	145 *475*	160 *520*	165 *540*	145 *475*	155 *510*	165 *540*	120 *395*	135 *445*	145 *475*	140 *460*	155 *510*	160 *520*
K3	125 *410*	135 *445*	145 *475*	— —	— —	— —	90 *295*	105 *345*	115 *375*	110 *360*	125 *410*	135 *445*	135 *445*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	110 *360*	125 *410*	135 *445*	135 *445*	145 *475*	150 *490*
K4	120 *395*	135 *445*	145 *475*	— —	— —	— —	90 *295*	105 *345*	115 *375*	110 *360*	125 *410*	135 *445*	135 *445*	145 *475*	155 *510*	135 *445*	145 *475*	155 *510*	110 *360*	125 *410*	135 *445*	130 *425*	140 *460*	150 *490*
K5	95 *310*	110 *360*	115 *375*	— —	— —	— —	60 *195*	75 *245*	85 *280*	80 *260*	95 *310*	105 *345*	110 *360*	120 *395*	125 *410*	105 *345*	120 *395*	125 *410*	80 *260*	95 *310*	105 *345*	105 *345*	115 *375*	120 *395*
K6	115 *375*	125 *410*	140 *460*	— —	— —	— —	80 *260*	95 *310*	105 *345*	100 *330*	115 *375*	125 *410*	130 *425*	140 *460*	145 *475*	125 *410*	140 *460*	145 *475*	100 *330*	115 *375*	125 *410*	125 *410*	135 *445*	140 *460*
K7	105 *345*	120 *395*	130 *425*	— —	— —	— —	75 *245*	90 *295*	100 *330*	95 *310*	110 *360*	120 *395*	120 *395*	135 *445*	140 *460*	120 *395*	135 *445*	140 *460*	95 *310*	110 *360*	120 *395*	115 *375*	130 *425*	135 *445*
S1	— —	— —	— —	38 *125*	50 *165*	60 *195*	35 *115*	46 *150*	55 *180*	47 *155*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	47 *155*	60 *195*	70 *230*	38 *125*	50 *165*	60 *195*
S2	— —	— —	— —	31 *100*	41 *135*	48 *155*	28 *90*	37 *120*	43 *140*	37 *120*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	37 *120*	50 *165*	60 *195*	31 *100*	41 *135*	48 *155*
S3	— —	— —	— —	27 *90*	36 *120*	42 *140*	25 *80*	32 *105*	38 *125*	33 *110*	43 *140*	50 *165*	— —	— —	— —	— —	— —	— —	33 *110*	43 *140*	50 *165*	27 *90*	36 *120*	42 *140*
S11	— —	— —	— —	55 *180*	70 *230*	75 *245*	49 *160*	65 *215*	70 *230*	65 *215*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	70 *230*	75 *245*
S12	— —	— —	— —	37 *120*	49 *160*	55 *180*	34 *110*	44 *145*	50 *165*	45 *150*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	45 *150*	60 *195*	70 *230*	37 *120*	49 *160*	55 *180*
S13	— —	— —	— —	21 *70*	28 *90*	33 *110*	20 *65*	26 *85*	30 *100*	26 *85*	35 *115*	40 *130*	— —	— —	— —	— —	— —	— —	26 *85*	35 *115*	40 *130*	21 *70*	28 *90*	33 *110*
H5	— —	— —	— —	— —	— —	— —	29 *95*	39 *130*	46 *150*	38 *125*	50 *165*	60 *195*	43 *140*	55 *180*	65 *215*	— —	— —	— —	38 *125*	50 *165*	60 *195*	34 *110*	44 *145*	55 *180*
H8	— —	— —	— —	— —	— —	— —	31 *100*	41 *135*	48 *155*	41 *135*	55 *180*	60 *195*	46 *150*	60 *195*	70 *230*	— —	— —	— —	41 *135*	55 *180*	60 *195*	36 *120*	48 *155*	55 *180*
H11	— —	— —	— —	— —	— —	— —	37 *120*	49 *160*	60 *195*	49 *160*	65 *215*	75 *245*	55 *180*	70 *230*	80 *260*	— —	— —	— —	49 *160*	65 *215*	75 *245*	43 *140*	55 *180*	65 *215*
H12	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	80 *260*	75 *245*	90 *295*	100 *330*	75 *245*	90 *295*	100 *330*	— —	— —	— —	75 *245*	90 *295*	100 *330*	65 *215*	80 *260*	90 *295*

R217.81-SNAC15 Left Helix Troubleshooter – Metric

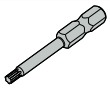




- For insert selection and cutting data recommendations, see page(s) 171-172
- For complete insert programme, see page(s) 807, 825
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	DCSFMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.81-3250.3S-068-SNAC15.2	10127496	Seco-Weldon	50,0	2	12	68,0	32,0	50,0	79,0	90,0	150,0	8300	1,1	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.81-..	1/4HEX-T15PX50	C55011-T15P

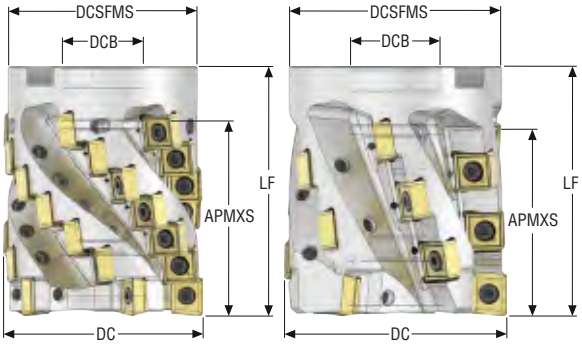
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.81-..	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	T00-15P50

Torque and fixed keys, see page 872

R220.81-SNAC15 – Left Helix Troubleshooter - Metric

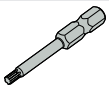




- For insert selection and cutting data recommendations, see page(s) 171-172
- For complete insert programme, see page(s) 807, 825
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
R220.81-0063-068-SNAC15.2A	10127497	Arbor	63,0	2	12	68,0	27,0	59,0	90,0	7400	1,2	AC.T1506 / SN.U1306
R220.81-0063-068-SNAC15.4KA	10127494	Arbor	63,0	4	24	68,0	27,0	59,0	90,0	7400	1,2	AC.T1506 / SN.U1306
R220.81-0080-068-SNAC15.3A	10127498	Arbor	80,0	3	18	68,0	32,0	75,5	90,0	6500	2,1	AC.T1506 / SN.U1306
R220.81-0080-079-SNAC15.5KA	10127495	Arbor	80,0	5	35	79,0	32,0	75,0	100,0	6500	2,2	AC.T1506 / SN.U1306
R220.81-0100-068-SNAC15.4A	10127499	Arbor	100,0	4	24	68,0	40,0	91,0	90,0	5800	3,5	AC.T1506 / SN.U1306

Spare Parts, included in delivery

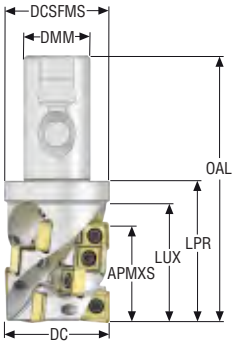
For cutter	Arbor screw	Insert key	Insert screw
			
R220.81-0063	MP6S12X80	1/4HEX-T15PX50	C55011-T15P
R220.81-0080	MP6S16X80	1/4HEX-T15PX90	C55011-T15P
R220.81-0100	MP6S20X80	1/4HEX-T15PX90	C55011-T15P

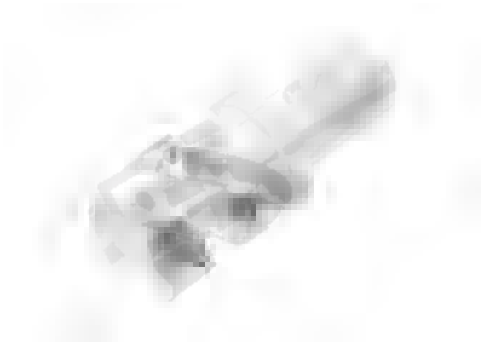
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.81-..	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	T00-15P50

Torque and fixed keys, see page 872

R217.82-SNAC15 – Right Helix for Heavy Duty – Metric

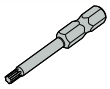




- For insert selection and cutting data recommendations, see page(s) 157-159
- For complete insert programme, see page(s) 807, 825
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	DCSFMS	LUX	LPR	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm		kg	
R217.82-3250.3S-046-SNAC15.3HA	10127490	Seco-Weldon	50,0	3	12	47,0	32,0	50,0	57,0	68,0	128,0	8300	1,0	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.82-..	1/4HEX-T15PX50	C55011-T15P

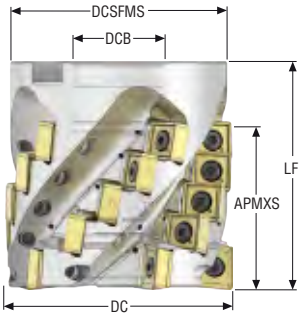
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.82-..	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	T00-15P50

Torque and fixed keys, see page 872

R220-82-SNAC15 Right Helix for Heavy Duty – Metric

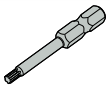




- For insert selection and cutting data recommendations, see page(s) 171-172
- For complete insert programme, see page(s) 807, 825
- For ISO attribute explanation, see page 16
- KAPRS 90°

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
R220.82-0063-046-SNAC15.4HA	10127491	Arbor	63,0	4	16	46,0	27,0	59,0	70,0	7400	0,9	AC.T1506 / SN.U1306
R220.82-0080-057-SNAC15.5HA	10127492	Arbor	80,0	5	25	57,0	32,0	75,0	80,0	6500	1,7	AC.T1506 / SN.U1306
R220.82-0100-057-SNAC15.6HA	10127493	Arbor	100,0	6	30	57,0	40,0	90,0	75,0	5800	2,6	AC.T1506 / SN.U1306

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.82-0063	MC6S12X60	1/4HEX-T15PX50	C55011-T15P
R220.82-0080	MC6S16X70	1/4HEX-T15PX90	C55011-T15P
R220.82-0100	MC6S20X50	1/4HEX-T15PX90	C55011-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R220.82-0063-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	T00-15P50
R220.82-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5.0NM	T00-15P50

Torque and fixed keys, see page 872

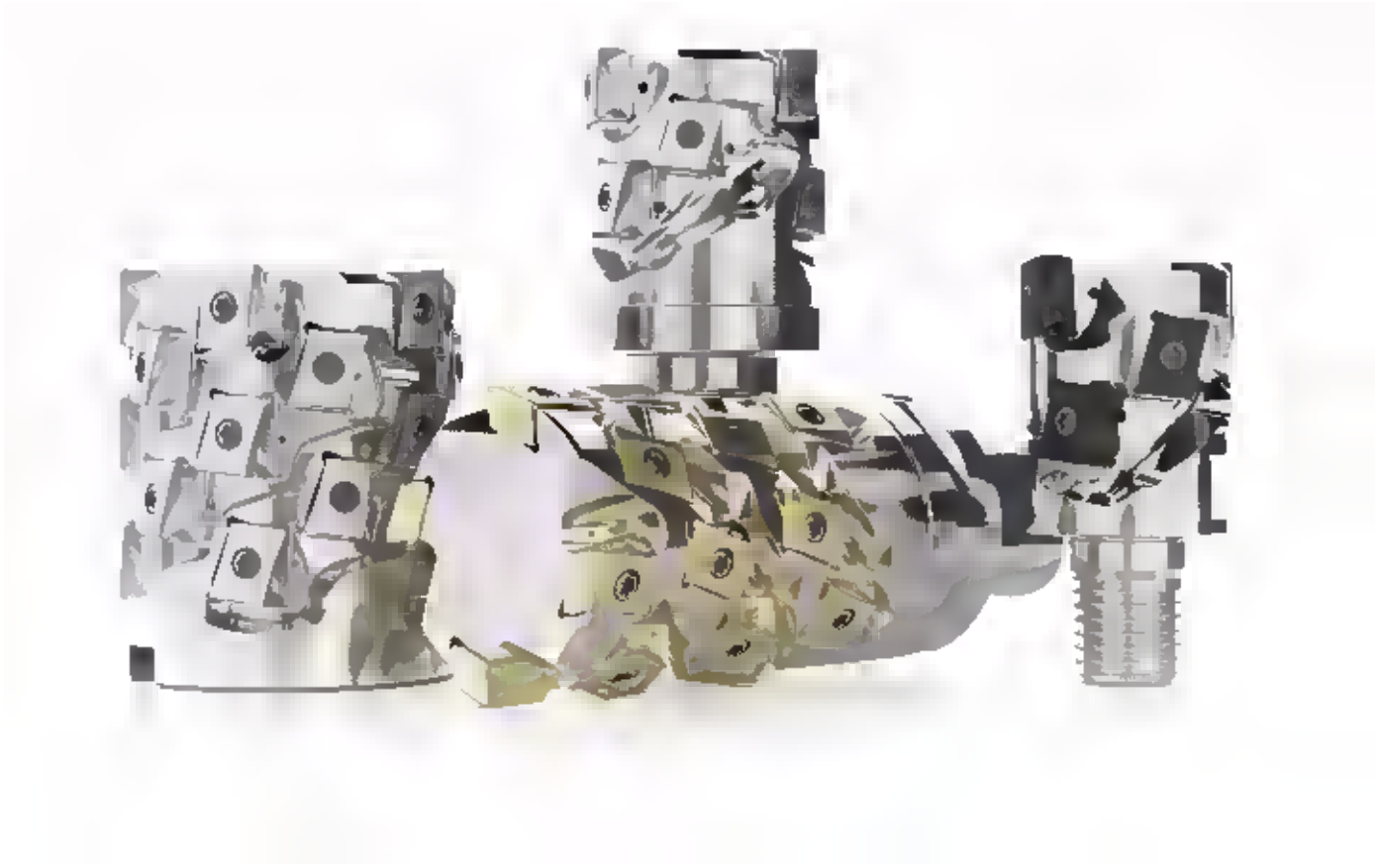
R217/220.82-SNAC15 – Insert selection – mm/*Inch*

SMG			f_z		
			100%	30%	10%
P1	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P2	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P3	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P4	ACET150612TR-M11 MP2501	SNXU130612TN-M12 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P5	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
P6	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P7	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P8	ACET150612TR-M11 MP2501	SNGU130612TN-M14 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P11	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P12	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M1	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
M2	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M5	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K1	ACET150612TR-M14 MK1500	SNGU130612TN-M14 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
K2	ACET150612TR-M14 MK1500	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	ACET150612TR-M14 MK1500	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K4	ACET150612TR-M14 MK1500	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K5	ACET150612TR-M14 MK1500	SNGU130612TN-M14 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K6	ACET150612TR-M14 MK1500	SNGU130612TN-M14 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K7	ACET150612TR-M14 MK1500	SNGU130612TN-M14 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
S1	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S2	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S3	ACET150612TR-M11 F40M	SNXU130612TN-M12 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S11	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	ACET150612TR-ME10 MS2050	SNGU130612EN-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H5	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H8	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
H11	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H12	ACET150612TR-M11 MP3501	SNXU130612TN-M12 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.82-SNAC15 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MS2050			F40M			MS2500			MP1501			MP2501			MS2500			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	140 *460*	150 *490*	160 *520*	130 *425*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	145 *475*	160 *520*	170 *560*	155 *510*	170 *560*	175 *570*	155 *510*	165 *540*	175 *570*	145 *475*	160 *520*	170 *560*	150 *490*	165 *540*	170 *560*
P2	135 *445*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	145 *475*	140 *460*	155 *510*	165 *540*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	175 *570*	140 *460*	155 *510*	165 *540*	150 *490*	160 *520*	170 *560*
P3	130 *425*	145 *475*	155 *510*	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	135 *445*	150 *490*	160 *520*	145 *475*	160 *520*	165 *540*	145 *475*	160 *520*	165 *540*	135 *445*	150 *490*	160 *520*	140 *460*	155 *510*	160 *520*
P4	120 *395*	135 *445*	145 *475*	110 *360*	130 *425*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	155 *510*	160 *520*	140 *460*	150 *490*	160 *520*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	155 *510*
P5	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	135 *445*	145 *475*	150 *490*
P6	125 *410*	140 *460*	150 *490*	115 *375*	135 *445*	140 *460*	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	145 *475*	155 *510*	165 *540*	145 *475*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*	140 *460*	150 *490*	160 *520*
P7	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	140 *460*	155 *510*	160 *520*	140 *460*	150 *490*	160 *520*	130 *425*	145 *475*	155 *510*	135 *445*	150 *490*	155 *510*
P8	120 *395*	135 *445*	145 *475*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	125 *410*	140 *460*	150 *490*	140 *460*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	125 *410*	140 *460*	150 *490*	130 *425*	145 *475*	150 *490*
P11	120 *395*	135 *445*	145 *475*	110 *360*	130 *425*	135 *445*	105 *345*	125 *410*	130 *425*	125 *410*	145 *475*	150 *490*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	125 *410*	145 *475*	150 *490*	135 *445*	145 *475*	155 *510*
P12	100 *330*	110 *360*	120 *395*	90 *295*	105 *345*	115 *375*	85 *280*	100 *330*	110 *360*	105 *345*	120 *395*	130 *425*	115 *375*	125 *410*	135 *445*	115 *375*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	110 *360*	120 *395*	130 *425*
M1	— —	— —	— —	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	120 *395*	140 *460*	150 *490*	— —	— —	— —	115 *375*	135 *445*	140 *460*	120 *395*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*
M2	— —	— —	— —	105 *345*	120 *395*	130 *425*	100 *330*	115 *375*	125 *410*	115 *375*	130 *425*	140 *460*	— —	— —	— —	105 *345*	120 *395*	130 *425*	115 *375*	130 *425*	140 *460*	105 *345*	120 *395*	130 *425*
M3	— —	— —	— —	95 *310*	110 *360*	115 *375*	90 *295*	105 *345*	110 *360*	100 *330*	115 *375*	125 *410*	— —	— —	— —	95 *310*	110 *360*	120 *395*	100 *330*	115 *375*	125 *410*	95 *310*	110 *360*	115 *375*
M4	— —	— —	— —	80 *260*	95 *310*	105 *345*	75 *245*	90 *295*	100 *330*	85 *280*	105 *345*	110 *360*	— —	— —	— —	80 *260*	95 *310*	105 *345*	85 *280*	105 *345*	110 *360*	80 *260*	95 *310*	105 *345*
M5	— —	— —	— —	70 *230*	85 *280*	95 *310*	65 *215*	80 *260*	90 *295*	75 *245*	95 *310*	100 *330*	— —	— —	— —	70 *230*	85 *280*	95 *310*	75 *245*	95 *310*	100 *330*	70 *230*	85 *280*	95 *310*
K1	140 *460*	155 *510*	165 *540*	— —	— —	— —	110 *360*	125 *410*	135 *445*	130 *425*	145 *475*	155 *510*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	175 *570*	130 *425*	145 *475*	155 *510*	150 *490*	160 *520*	170 *560*
K2	135 *445*	150 *490*	160 *520*	— —	— —	— —	105 *345*	115 *375*	125 *410*	125 *410*	135 *445*	145 *475*	150 *490*	160 *520*	170 *560*	145 *475*	160 *520*	165 *540*	125 *410*	135 *445*	145 *475*	145 *475*	155 *510*	160 *520*
K3	125 *410*	140 *460*	150 *490*	— —	— —	— —	95 *310*	110 *360*	120 *395*	115 *375*	130 *425*	140 *460*	140 *460*	150 *490*	160 *520*	140 *460*	150 *490*	160 *520*	115 *375*	130 *425*	140 *460*	135 *445*	145 *475*	155 *510*
K4	120 *395*	135 *445*	145 *475*	— —	— —	— —	90 *295*	105 *345*	115 *375*	110 *360*	125 *410*	135 *445*	135 *445*	150 *490*	155 *510*	135 *445*	150 *490*	155 *510*	110 *360*	125 *410*	135 *445*	135 *445*	145 *475*	150 *490*
K5	95 *310*	110 *360*	120 *395*	— —	— —	— —	65 *215*	80 *260*	90 *295*	85 *280*	100 *330*	110 *360*	110 *360*	120 *395*	130 *425*	110 *360*	120 *395*	130 *425*	85 *280*	100 *330*	110 *360*	105 *345*	115 *375*	125 *410*
K6	115 *375*	130 *425*	140 *460*	— —	— —	— —	85 *280*	100 *330*	110 *360*	105 *345*	120 *395*	130 *425*	130 *425*	140 *460*	150 *490*	130 *425*	140 *460*	150 *490*	105 *345*	120 *395*	130 *425*	125 *410*	135 *445*	145 *475*
K7	110 *360*	125 *410*	135 *445*	— —	— —	— —	75 *245*	95 *310*	100 *330*	95 *310*	115 *375*	120 *395*	125 *410*	135 *445*	140 *460*	125 *410*	135 *445*	140 *460*	95 *310*	115 *375*	120 *395*	120 *395*	130 *425*	135 *445*
S1	— —	— —	— —	39 *130*	55 *180*	60 *195*	36 *120*	48 *155*	55 *180*	48 *155*	65 *215*	70 *230*	— —	— —	— —	— —	— —	— —	48 *155*	65 *215*	70 *230*	39 *130*	55 *180*	60 *195*
S2	— —	— —	— —	32 *105*	42 *140*	50 *165*	29 *95*	38 *125*	45 *150*	39 *130*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	39 *130*	50 *165*	60 *195*	32 *105*	42 *140*	50 *165*
S3	— —	— —	— —	28 *90*	37 *120*	43 *140*	26 *85*	34 *110*	39 *130*	34 *110*	45 *150*	55 *180*	— —	— —	— —	— —	— —	— —	34 *110*	45 *150*	55 *180*	28 *90*	37 *120*	43 *140*
S11	— —	— —	— —	55 *180*	70 *230*	80 *260*	50 *165*	65 *215*	75 *245*	65 *215*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	70 *230*	80 *260*
S12	— —	— —	— —	38 *125*	50 *165*	60 *195*	35 *115*	46 *150*	55 *180*	47 *155*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	47 *155*	60 *195*	70 *230*	38 *125*	50 *165*	60 *195*
S13	— —	— —	— —	22 *70*	30 *100*	35 *115*	20 *65*	27 *90*	31 *100*	27 *90*	36 *120*	42 *140*	— —	— —	— —	— —	— —	— —	27 *90*	36 *120*	42 *140*	22 *70*	30 *100*	35 *115*
H5	— —	— —	— —	— —	— —	— —	31 *100*	40 *130*	48 *155*	40 *130*	50 *165*	60 *195*	44 *145*	60 *195*	65 *215*	— —	— —	— —	40 *130*	50 *165*	60 *195*	35 *115*	46 *150*	55 *180*
H8	— —	— —	— —	— —	— —	— —	33 *110*	43 *140*	50 *165*	42 *140*	55 *180*	65 *215*	48 *155*	60 *195*	70 *230*	— —	— —	— —	42 *140*	55 *180*	65 *215*	38 *125*	49 *160*	60 *195*
H11	— —	— —	— —	— —	— —	— —	39 *130*	50 *165*	60 *195*	50 *165*	65 *215*	75 *245*	55 *180*	70 *230*	80 *260*	— —	— —	— —	50 *165*	65 *215*	75 *245*	45 *150*	60 *195*	70 *230*
H12	— —	— —	— —	— —	— —	— —	60 *195*	75 *245*	80 *260*	80 *260*	95 *310*	100 *330*	80 *260*	95 *310*	105 *345*	— —	— —	— —	80 *260*	95 *310*	100 *330*	65 *215*	80 *260*	90 *295*



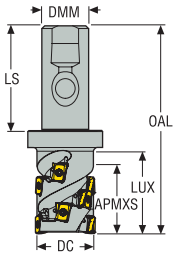
SQUARE T4 HELICAL

The Square T4 Helical cutter range takes our diverse milling portfolio to the next level with tools that features tangentially mounted inserts, each having 4 cutting edges.

- T4 Helical Insert size 08, cutter range 25-54mm (1 inch)
- T4 Helical Insert size 12, cutter range 40-100mm (2 - 3 inch)

T4 – R217.94-08 – Metric





- For insert selection and cutting data recommendations, see page(s) 177-178
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LS	OAL	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm		kg	
R217.94-2025.3S-029-08.2A	02926806	Seco-Weldon	25,0	2	8	29,0	20,0	44,0	50,0	100,0	20800	0,3	LOEX08..
R217.94-2025.3S-036-08.2A	02926807	Seco-Weldon	25,0	2	10	36,0	20,0	44,0	50,0	100,0	20800	0,3	LOEX08..
R217.94-2532.3S-043-08.3A	02926813	Seco-Weldon	32,0	3	18	43,0	25,0	55,0	56,0	121,0	18400	0,6	LOEX08..
R217.94-2532.3S-050-08.3A	02926814	Seco-Weldon	32,0	3	21	50,0	25,0	59,0	56,0	125,0	18400	0,5	LOEX08..
R217.94-3240.3S-050-08.4A	02926816	Seco-Weldon	40,0	4	28	50,0	32,0	60,0	60,0	130,0	16400	0,9	LOEX08..

Spare Parts, included in delivery

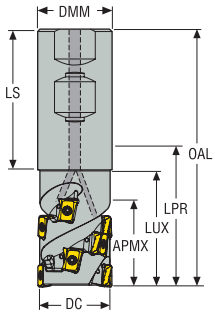
For cutter	Insert key	Insert screw
		
R217.94-..	H4B-T08P	C02708B-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.94-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

T4 – R217.94-08 – Inch





- For insert selection and cutting data recommendations, see page(s) 177-178
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LUX	LPR	OAL	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch		lbs	
R217.94-01.00-3-01.40-08-2A	02941522	Weldon	0.996	2	10	1.417	1.000	1.870	1.772	4.252	20800	0.880	LOEX08..
R217.94-01.00-3-01.70-08-2A	02941527	Weldon	0.996	2	12	1.693	1.000	2.106	1.772	4.488	20800	0.880	LOEX08..

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R127.94-..	H4B-T08P	C02708B-T08P

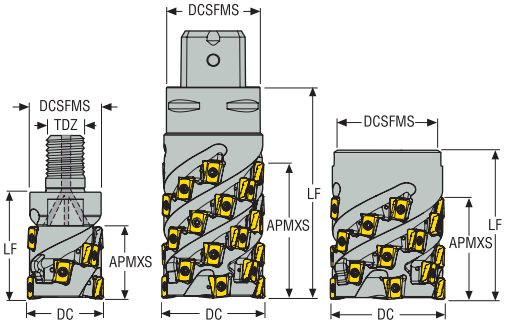
Accessories

For size	Insert clamping torque	Torque key
		
R127.94-..	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

T4 – R217/220.94-08 – Metric





- For insert selection and cutting data recommendations, see page(s) 177-178
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	TDZ	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm		mm	mm	mm		kg	
R217.94-1632.RE-036-08.3A	02926805	Combimaster	32,0	3	15	36,0	–	M16	30,0	55,0	–	18400	0,3	LOEX08..
R217.94-2040.RE-043-08.4A	02972768	Combimaster	40,0	4	24	43,0	–	M20	36,5	60,0	–	16400	0,45	LOEX08..
C4-R217.94-044-057-08.4A	02926819	Seco-Capto	44,0	4	32	57,0	–	–	40,0	90,0	70,0	15500	0,9	LOEX08..
R220.94-00050-043-08.4A	02926817	Arbor	50,0	4	24	43,0	27,0	–	48,0	65,0	–	14800	0,7	LOEX08..
R220.94-00050-057-08.5A	02926818	Arbor	50,0	5	40	57,0	27,0	–	48,0	70,0	–	14800	0,7	LOEX08..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-../Cx-217.94-..	–	H4B-T08P	C02708B-T08P
R220.94-..	MC6S12X60	H4B-T08P	C02708B-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
Cx-R217/220.69-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

R217/220.94-08 – Insert selection – mm/*Inch*

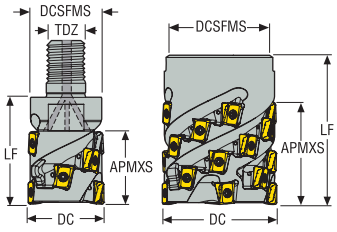
SMG		f_z		
		100%	30%	10%
P1	LOEX080408TR-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
P2	LOEX080408TR-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
P3	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0055*
P4	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
P5	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
P6	LOEX080408TR-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
P7	LOEX080408TR-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
P8	LOEX080408TR-M08 F40M	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0055*
P11	LOEX080408TR-M08 MP2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
P12	LOEX080408TR-M08 MP2050	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
M1	LOEX080408TR-M08 MS2050	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
M2	LOEX080408TR-M08 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M3	LOEX080408TR-M08 MS2050	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*
M4	LOEX080408TR-M08 MS2050	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
M5	LOEX080408TR-M08 MS2050	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
K1	LOEX080408TR-MD08 MK2050	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
K2	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
K3	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
K4	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
K5	LOEX080408TR-MD08 MK2050	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0050*
K6	LOEX080408TR-MD08 MK2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
K7	LOEX080408TR-MD08 MK2050	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0050*
N1	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
N2	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
N3	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
N11	LOEX080408TR-M08 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
S1	LOEX080408TR-M08 F40M	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
S2	LOEX080408TR-M08 F40M	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
S3	LOEX080408TR-M08 F40M	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*
S11	LOEX080408TR-M08 MS2050	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*
S12	LOEX080408TR-M08 MS2050	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*
S13	LOEX080408TR-M08 MS2050	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
H5	LOEX080408TR-M08 MP3000	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*
H8	LOEX080408TR-M08 MP3000	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0028*
H11	LOEX080408TR-M08 MP3000	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*
H12	LOEX080408TR-M08 MP2050	0,048 *0.0019*	0,055 *0.0022*	0,080 *0.0032*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.94-08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	140 *460*	155 *510*	165 *540*	140 *460*	155 *510*	165 *540*	135 *445*	150 *490*	155 *510*	130 *425*	140 *460*	150 *490*	140 *460*	155 *510*	165 *540*
P2	140 *460*	155 *510*	165 *540*	140 *460*	155 *510*	165 *540*	130 *425*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	140 *460*	155 *510*	165 *540*
P3	130 *425*	145 *475*	155 *510*	130 *425*	145 *475*	155 *510*	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	145 *475*	130 *425*	145 *475*	155 *510*
P4	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	125 *410*	140 *460*	150 *490*
P5	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	120 *395*	135 *445*	145 *475*
P6	130 *425*	145 *475*	150 *490*	130 *425*	145 *475*	150 *490*	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	130 *425*	145 *475*	150 *490*
P7	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	120 *395*	135 *445*	140 *460*	115 *375*	130 *425*	135 *445*	125 *410*	140 *460*	150 *490*
P8	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	120 *395*	135 *445*	145 *475*
P11	125 *410*	140 *460*	150 *490*	125 *410*	140 *460*	145 *475*	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	125 *410*	140 *460*	150 *490*
P12	100 *330*	115 *375*	125 *410*	100 *330*	115 *375*	125 *410*	95 *310*	110 *360*	115 *375*	85 *280*	100 *330*	110 *360*	100 *330*	115 *375*	125 *410*
M1	— —	— —	— —	120 *395*	135 *445*	145 *475*	120 *395*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*
M2	— —	— —	— —	110 *360*	125 *410*	135 *445*	110 *360*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	110 *360*	125 *410*	135 *445*
M3	— —	— —	— —	100 *330*	115 *375*	125 *410*	95 *310*	110 *360*	120 *395*	90 *295*	105 *345*	115 *375*	100 *330*	115 *375*	120 *395*
M4	— —	— —	— —	85 *280*	100 *330*	110 *360*	85 *280*	100 *330*	105 *345*	80 *260*	90 *295*	100 *330*	85 *280*	100 *330*	110 *360*
M5	— —	— —	— —	75 *245*	90 *295*	100 *330*	75 *245*	90 *295*	95 *310*	70 *230*	80 *260*	90 *295*	75 *245*	90 *295*	100 *330*
K1	145 *475*	160 *520*	165 *540*	125 *410*	140 *460*	150 *490*	— —	— —	— —	115 *375*	130 *425*	140 *460*	— —	— —	— —
K2	135 *445*	150 *490*	160 *520*	120 *395*	135 *445*	145 *475*	— —	— —	— —	105 *345*	120 *395*	130 *425*	— —	— —	— —
K3	125 *410*	140 *460*	150 *490*	110 *360*	125 *410*	135 *445*	— —	— —	— —	95 *310*	115 *375*	120 *395*	— —	— —	— —
K4	125 *410*	140 *460*	150 *490*	105 *345*	120 *395*	130 *425*	— —	— —	— —	95 *310*	110 *360*	120 *395*	— —	— —	— —
K5	95 *310*	115 *375*	120 *395*	80 *260*	95 *310*	105 *345*	— —	— —	— —	70 *230*	85 *280*	90 *295*	— —	— —	— —
K6	115 *375*	135 *445*	140 *460*	100 *330*	115 *375*	125 *410*	— —	— —	— —	90 *295*	105 *345*	110 *360*	— —	— —	— —
K7	110 *360*	125 *410*	135 *445*	95 *310*	110 *360*	115 *375*	— —	— —	— —	80 *260*	95 *310*	105 *345*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	220 *720*	240 *790*	245 *800*	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	190 *620*	195 *640*	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	165 *540*	175 *570*	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	160 *520*	175 *570*	180 *590*	— —	— —	— —
S1	— —	— —	— —	45 *150*	60 *195*	70 *230*	43 *140*	55 *180*	65 *215*	39 *130*	50 *165*	60 *195*	46 *150*	60 *195*	70 *230*
S2	— —	— —	— —	36 *120*	47 *155*	55 *180*	34 *110*	45 *150*	55 *180*	31 *100*	41 *135*	48 *155*	37 *120*	49 *160*	55 *180*
S3	— —	— —	— —	32 *105*	42 *140*	49 *160*	30 *100*	39 *130*	46 *150*	27 *90*	36 *120*	42 *140*	32 *105*	43 *140*	50 *165*
S11	— —	— —	— —	— —	— —	— —	60 *195*	75 *245*	85 *280*	55 *180*	70 *230*	80 *260*	65 *215*	80 *260*	85 *280*
S12	— —	— —	— —	— —	— —	— —	42 *140*	55 *180*	65 *215*	38 *125*	49 *160*	60 *195*	44 *145*	60 *195*	65 *215*
S13	— —	— —	— —	— —	— —	— —	24 *80*	31 *100*	37 *120*	22 *70*	29 *95*	34 *110*	26 *85*	34 *110*	40 *130*
H5	— —	— —	— —	39 *130*	50 *165*	60 *195*	— —	— —	— —	33 *110*	43 *140*	50 *165*	— —	— —	— —
H8	— —	— —	— —	41 *135*	55 *180*	60 *195*	— —	— —	— —	35 *115*	45 *150*	55 *180*	— —	— —	— —
H11	— —	— —	— —	49 *160*	65 *215*	70 *230*	— —	— —	— —	42 *140*	55 *180*	65 *215*	47 *155*	60 *195*	70 *230*
H12	— —	— —	— —	75 *245*	90 *295*	100 *330*	— —	— —	— —	60 *195*	75 *245*	85 *280*	75 *245*	90 *295*	100 *330*

T4 – R217/220.94-12 – Metric



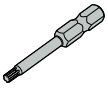


- For insert selection and cutting data recommendations, see page(s) 182-184
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm		mm	mm		kg	
R217.94-2040.RE-035-LO12.2A	10215197	Combimaster	40,0	2	6	35,0	–	M20	36,5	50,0	11000	0,4	LOEX1207
R220.94-0050-046-LO12.3A	10215181	Arbor	50,0	3	12	46,0	27,0	–	46,4	70,0	9900	0,5	LOEX1207
R220.94-0050-046-LO12.4A	10215182	Arbor	50,0	4	16	46,0	27,0	–	46,4	65,0	9900	0,2	LOEX1207
R220.94-0050-058-LO12.4A	10215183	Arbor	50,0	4	20	58,0	27,0	–	46,4	80,0	9900	0,6	LOEX1207
R220.94-0063-046-LO12.4A	10215184	Arbor	63,0	4	16	46,0	27,0	–	59,6	65,0	8800	0,9	LOEX1207
R220.94-0063-058-LO12.5A	10215185	Arbor	63,0	5	25	58,0	27,0	–	59,6	75,0	8800	1,1	LOEX1207
R220.94-0063-081-LO12.4A	10215186	Arbor	63,0	4	28	81,0	27,0	–	59,6	93,0	8800	1,2	LOEX1207
R220.94-0080-069-LO12.5A	10215187	Arbor	80,0	5	30	69,0	32,0	–	76,6	90,0	7800	2,2	LOEX1207

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.94-2040	–	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050/0063-046	MC6S12X60	1/4HEX-T15PX50	C04012B-T15P
R220.94-0050/0063-058	MC6S12X70	1/4HEX-T15PX50	C04012B-T15P
R220.94-0063-081	MP6S12X80	1/4HEX-T15PX50	C04012B-T15P
R220.94-0080-069	MP6S16X80	1/4HEX-T15PX50	C04012B-T15P

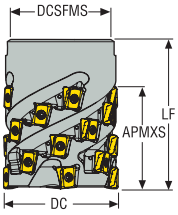
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

T4 – R217/220.94-12 – Inch

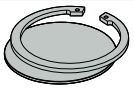
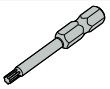




- For insert selection and cutting data recommendations, see page(s) 182-184
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch			inch	inch	inch	inch		lbs	
R220.94-02.00-1.81-LO12-3A	10215190	Arbor	2.000	3	12	1.850	1.000	1.862	2.756	9900	1.320	LOEX1207
R220.94-02.00-2.28-LO12-4A	10215191	Arbor	2.000	4	20	2.283	1.000	1.862	3.150	9900	1.320	LOEX1207
R220.94-02.50-3.18-LO12-4A	10215192	Arbor	2.500	4	28	3.189	1.000	2.366	3.661	8800	2.870	LOEX1207
R220.94-02.50-3.18-LO12-4SA	10226053	Arbor	2.500	4	28	3.189	1.000	2.366	3.937	8800	3.090	LOEX1207
R220.94-03.00-3.18-LO12-5A	10215193	Arbor	3.000	5	35	3.189	1.250	2.870	3.740	8000	4.410	LOEX1207

Spare Parts, included in delivery

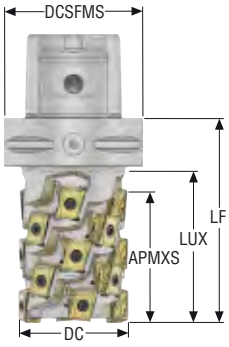
For cutter	Arbor screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable End
						
R220.94-02.00-3A	UC6S1/2UNFX2-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.00-4A	UC6S1/2UNFX2-1/2	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.50-4A	UP6S1/2UNFX3-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–
R220.94-02.50-4SA	UP6S1/2UNFX3-1/4	R220.94-02.50-1.76-LO12.4BA	LUBRICATION_SET_19	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE2.50-1.42-LO12.4A
R220.94-03.00	UP6S5/8UNFX3-1/4	–	–	1/4HEX-T15PX50	C04012B-T15P	–

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R220.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

T4 – R217/220.94-12 – Metric

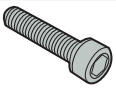
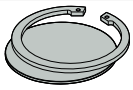
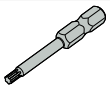




- For insert selection and cutting data recommendations, see page(s) 182-184
- For complete insert programme, see page(s) 809, 810
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCSFMS	LF	LUX	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
C5-R217.94-044-058-LO12.3A	10215194	Seco-Capto	44,0	3	15	58,0	50,0	95,0	73,0	10600	0,9	LOEX1207
C6-R217.94-050-081-LO12.4SA	10226054	Seco-Capto	50,0	4	28	81,0	63,0	115,0	91,0	10000	1,6	LOEX1207
C5-R217.94-054-069-LO12.4A	10215195	Seco-Capto	54,0	4	24	69,0	50,0	69,0	84,1	9700	1,3	LOEX1207
C6-R217.94-063-092-LO12.4SA	10226052	Seco-Capto	63,0	4	32	92,0	63,0	125,0	101,5	9000	2,2	LOEX1207
C6-R217.94-066-081-LO12.5A	10215196	Seco-Capto	66,0	5	35	81,0	63,0	115,0	101,5	8700	2,2	LOEX1207

Spare Parts, included in delivery

For cutter	Assembly screw	Basic body	Coolant kit	Insert key	Insert screw	Replaceable end
						
C5-R217.94-044/055	–	–	–	1/4HEX-T15PX50	C04012B-T15P	–
C6-R217.94-050	220.17-692M	C6-R217.94-050-058-LO12.4BA	LUBRICATION_SET_19	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE050023-LO12.4A
C6-R217.94-063	MC6S12X35	C6-R217.94-063-056-LO12.4BA	LUBRICATION_SET_29	1/4HEX-T15PX50	C04012B-T15P	R220.94-RE063036-LO12.4A
C6-R217.94-066	–	–	–	1/4HEX-T15PX50	C04012B-T15P	–

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
Cx-R217.94-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R217/220.94-12 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	30%	10%
P1	LOEX120708R-T4-M09 MP2501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
P2	LOEX120708R-T4-M09 MP2501	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
P3	LOEX120708R-T4-M09 MP2501	0,095 *0.0038*	0,11 *0.0044*	0,16 *0.0065*
P4	LOEX120708TR-T4-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P5	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P6	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P7	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P8	LOEX120708TR-T4-M12 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P11	LOEX120708TR-T4-M12 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P12	LOEX120708TR-T4-M12 MP2501	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*
M1	LOEX120708R-T4-M09 MS2050	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
M2	LOEX120708R-T4-M09 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	LOEX120708R-T4-M09 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	LOEX120708TR-T4-M12 MS2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
M5	LOEX120708TR-T4-M12 MS2050	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
K1	LOEX120708TR-T4-MD13 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
K2	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K4	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K5	LOEX120708TR-T4-MD13 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K6	LOEX120708TR-T4-MD13 MK2050	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K7	LOEX120708TR-T4-MD13 MK2050	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
N1	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
N2	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
N3	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
N11	LOEX120708R-T4-M09 F40M	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
S1	LOEX120708TR-T4-M12 F40M	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S2	LOEX120708TR-T4-M12 F40M	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*
S3	LOEX120708TR-T4-M12 F40M	0,090 *0.0036*	0,095 *0.0038*	0,15 *0.0060*
S11	LOEX120708R-T4-M09 F40M	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	LOEX120708R-T4-M09 F40M	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	LOEX120708R-T4-M09 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H5	LOEX120708TR-T4-MD13 MP1501	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
H8	LOEX120708TR-T4-MD13 MP1501	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*
H11	LOEX120708TR-T4-MD13 MP1501	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*
H12	LOEX120708TR-T4-M12 MS2500	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.94-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	155 *510*	170 *560*	185 *610*	155 *510*	175 *570*	185 *610*	150 *490*	170 *560*	180 *590*	140 *460*	160 *520*	170 *560*	155 *510*	175 *570*	185 *610*
P2	150 *490*	170 *560*	180 *590*	150 *490*	170 *560*	180 *590*	150 *490*	170 *560*	180 *590*	135 *445*	155 *510*	165 *540*	155 *510*	175 *570*	185 *610*
P3	140 *460*	160 *520*	170 *560*	145 *475*	165 *540*	175 *570*	140 *460*	160 *520*	170 *560*	130 *425*	150 *490*	160 *520*	145 *475*	165 *540*	175 *570*
P4	135 *445*	155 *510*	165 *540*	135 *445*	155 *510*	165 *540*	130 *425*	150 *490*	160 *520*	120 *395*	140 *460*	150 *490*	135 *445*	155 *510*	165 *540*
P5	130 *425*	150 *490*	160 *520*	130 *425*	150 *490*	165 *540*	130 *425*	150 *490*	160 *520*	115 *375*	135 *445*	150 *490*	135 *445*	155 *510*	165 *540*
P6	140 *460*	160 *520*	170 *560*	140 *460*	160 *520*	170 *560*	140 *460*	155 *510*	165 *540*	125 *410*	145 *475*	155 *510*	145 *475*	160 *520*	175 *570*
P7	135 *445*	155 *510*	165 *540*	135 *445*	155 *510*	165 *540*	135 *445*	150 *490*	165 *540*	120 *395*	140 *460*	150 *490*	140 *460*	155 *510*	170 *560*
P8	130 *425*	150 *490*	160 *520*	130 *425*	150 *490*	160 *520*	130 *425*	145 *475*	160 *520*	115 *375*	135 *445*	145 *475*	135 *445*	155 *510*	165 *540*
P11	135 *445*	150 *490*	165 *540*	135 *445*	155 *510*	165 *540*	130 *425*	150 *490*	160 *520*	120 *395*	140 *460*	150 *490*	140 *460*	155 *510*	165 *540*
P12	105 *345*	125 *410*	135 *445*	105 *345*	125 *410*	135 *445*	105 *345*	120 *395*	130 *425*	90 *295*	110 *360*	120 *395*	110 *360*	125 *410*	140 *460*
M1	— —	— —	— —	135 *445*	150 *490*	165 *540*	135 *445*	155 *510*	165 *540*	125 *410*	140 *460*	155 *510*	130 *425*	150 *490*	160 *520*
M2	— —	— —	— —	120 *395*	140 *460*	150 *490*	125 *410*	140 *460*	150 *490*	110 *360*	130 *425*	140 *460*	120 *395*	140 *460*	150 *490*
M3	— —	— —	— —	105 *345*	125 *410*	135 *445*	110 *360*	125 *410*	135 *445*	95 *310*	115 *375*	125 *410*	105 *345*	125 *410*	135 *445*
M4	— —	— —	— —	90 *295*	110 *360*	120 *395*	90 *295*	110 *360*	120 *395*	80 *260*	100 *330*	110 *360*	90 *295*	110 *360*	120 *395*
M5	— —	— —	— —	80 *260*	95 *310*	105 *345*	80 *260*	95 *310*	110 *360*	70 *230*	85 *280*	95 *310*	80 *260*	95 *310*	105 *345*
K1	155 *510*	175 *570*	185 *610*	135 *445*	155 *510*	165 *540*	— —	— —	— —	120 *395*	140 *460*	150 *490*	— —	— —	— —
K2	150 *490*	165 *540*	180 *590*	130 *425*	145 *475*	160 *520*	— —	— —	— —	115 *375*	135 *445*	145 *475*	— —	— —	— —
K3	135 *445*	155 *510*	170 *560*	115 *375*	135 *445*	150 *490*	— —	— —	— —	100 *330*	120 *395*	135 *445*	— —	— —	— —
K4	135 *445*	155 *510*	165 *540*	115 *375*	135 *445*	145 *475*	— —	— —	— —	100 *330*	120 *395*	130 *425*	— —	— —	— —
K5	100 *330*	120 *395*	130 *425*	85 *280*	100 *330*	110 *360*	— —	— —	— —	70 *230*	85 *280*	100 *330*	— —	— —	— —
K6	125 *410*	145 *475*	155 *510*	105 *345*	125 *410*	135 *445*	— —	— —	— —	90 *295*	110 *360*	120 *395*	— —	— —	— —
K7	120 *395*	135 *445*	150 *490*	100 *330*	120 *395*	130 *425*	— —	— —	— —	85 *280*	105 *345*	115 *375*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	255 *840*	275 *900*	285 *940*	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	195 *640*	215 *710*	225 *740*	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	165 *540*	185 *610*	195 *640*	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	175 *570*	195 *640*	205 *670*	— —	— —	— —
S1	— —	— —	— —	44 *145*	60 *195*	70 *230*	45 *150*	60 *195*	70 *230*	38 *125*	50 *165*	60 *195*	46 *150*	60 *195*	70 *230*
S2	— —	— —	— —	36 *120*	47 *155*	55 *180*	36 *120*	48 *155*	55 *180*	31 *100*	41 *135*	48 *155*	37 *120*	49 *160*	55 *180*
S3	— —	— —	— —	31 *100*	41 *135*	48 *155*	32 *105*	42 *140*	50 *165*	27 *90*	36 *120*	42 *140*	32 *105*	43 *140*	50 *165*
S11	— —	— —	— —	— —	— —	— —	65 *215*	80 *260*	90 *295*	55 *180*	70 *230*	80 *260*	65 *215*	80 *260*	95 *310*
S12	— —	— —	— —	— —	— —	— —	43 *140*	60 *195*	70 *230*	37 *120*	48 *155*	55 *180*	44 *145*	60 *195*	70 *230*
S13	— —	— —	— —	— —	— —	— —	25 *80*	33 *110*	39 *130*	21 *70*	29 *95*	33 *110*	26 *85*	34 *110*	40 *130*
H5	— —	— —	— —	38 *125*	50 *165*	60 *195*	— —	— —	— —	32 *105*	43 *140*	50 *165*	— —	— —	— —
H8	— —	— —	— —	40 *130*	55 *180*	60 *195*	— —	— —	— —	34 *110*	46 *150*	55 *180*	— —	— —	— —
H11	— —	— —	— —	48 *155*	65 *215*	75 *245*	— —	— —	— —	41 *135*	55 *180*	65 *215*	48 *155*	65 *215*	75 *245*
H12	— —	— —	— —	75 *245*	95 *310*	105 *345*	— —	— —	— —	60 *195*	80 *260*	90 *295*	80 *260*	100 *330*	110 *360*

R217/220.94-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MP3000			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	—	—	—	180	195	200	185	195	205	155	175	185	175	190	195
	—	—	—	*590*	*640*	*660*	*610*	*640*	*670*	*510*	*570*	*610*	*570*	*620*	*640*
P2	—	—	—	180	190	200	180	195	200	150	170	180	170	185	195
	—	—	—	*590*	*620*	*660*	*590*	*640*	*660*	*490*	*560*	*590*	*560*	*610*	*640*
P3	—	—	—	170	185	190	170	185	195	145	165	175	165	175	185
	—	—	—	*560*	*610*	*620*	*560*	*610*	*640*	*475*	*540*	*570*	*540*	*570*	*610*
P4	—	—	—	160	175	185	165	175	185	135	155	165	155	170	175
	—	—	—	*520*	*570*	*610*	*540*	*570*	*610*	*445*	*510*	*540*	*510*	*560*	*570*
P5	—	—	—	155	170	180	160	175	185	130	150	165	150	165	175
	—	—	—	*510*	*560*	*590*	*520*	*570*	*610*	*425*	*490*	*540*	*490*	*540*	*570*
P6	—	—	—	165	180	190	170	185	190	140	160	170	160	175	185
	—	—	—	*540*	*590*	*620*	*560*	*610*	*620*	*460*	*520*	*560*	*520*	*570*	*610*
P7	—	—	—	165	175	185	165	180	185	135	155	165	155	170	180
	—	—	—	*540*	*570*	*610*	*540*	*590*	*610*	*445*	*510*	*540*	*510*	*560*	*590*
P8	—	—	—	155	170	180	160	175	180	130	150	160	150	165	175
	—	—	—	*510*	*560*	*590*	*520*	*570*	*590*	*425*	*490*	*520*	*490*	*540*	*570*
P11	—	—	—	160	175	185	165	175	185	135	155	165	155	170	175
	—	—	—	*520*	*570*	*610*	*540*	*570*	*610*	*445*	*510*	*540*	*510*	*560*	*570*
P12	—	—	—	130	145	150	135	145	155	105	125	135	125	140	145
	—	—	—	*425*	*475*	*490*	*445*	*475*	*510*	*345*	*410*	*445*	*410*	*460*	*475*
M1	—	—	—	—	—	—	135	155	165	135	150	165	130	150	160
	—	—	—	—	—	—	*445*	*510*	*540*	*445*	*490*	*540*	*425*	*490*	*520*
M2	—	—	—	—	—	—	125	140	155	120	140	150	115	135	145
	—	—	—	—	—	—	*410*	*460*	*510*	*395*	*460*	*490*	*375*	*445*	*475*
M3	—	—	—	—	—	—	110	130	140	105	125	135	105	120	135
	—	—	—	—	—	—	*360*	*425*	*460*	*345*	*410*	*445*	*345*	*395*	*445*
M4	—	—	—	—	—	—	90	110	120	90	110	120	85	105	115
	—	—	—	—	—	—	*295*	*360*	*395*	*295*	*360*	*395*	*280*	*345*	*375*
M5	—	—	—	—	—	—	80	100	110	80	95	105	75	95	105
	—	—	—	—	—	—	*260*	*330*	*360*	*260*	*310*	*345*	*245*	*310*	*345*
K1	160	180	190	180	195	200	180	195	205	135	155	165	170	185	195
	520	*590*	*620*	*590*	*640*	*660*	*590*	*640*	*670*	*445*	*510*	*540*	*560*	*610*	*640*
K2	150	170	180	170	185	195	175	185	195	130	145	160	165	180	190
	490	*560*	*590*	*560*	*610*	*640*	*570*	*610*	*640*	*425*	*475*	*520*	*540*	*590*	*620*
K3	140	160	170	160	175	180	165	175	185	115	135	150	155	165	175
	460	*520*	*560*	*520*	*570*	*590*	*540*	*570*	*610*	*375*	*445*	*490*	*510*	*540*	*570*
K4	135	155	170	155	170	180	160	175	180	115	135	145	150	165	175
	445	*510*	*560*	*510*	*560*	*590*	*520*	*570*	*590*	*375*	*445*	*475*	*490*	*540*	*570*
K5	105	125	135	125	140	145	125	140	150	85	100	110	120	130	140
	345	*410*	*445*	*410*	*460*	*475*	*410*	*460*	*490*	*280*	*330*	*360*	*395*	*425*	*460*
K6	130	150	160	145	160	170	150	165	175	105	125	135	140	155	165
	425	*490*	*520*	*475*	*520*	*560*	*490*	*540*	*570*	*345*	*410*	*445*	*460*	*510*	*540*
K7	120	140	150	140	155	160	145	155	165	100	120	130	135	150	155
	395	*460*	*490*	*460*	*510*	*520*	*475*	*510*	*540*	*330*	*395*	*425*	*445*	*490*	*510*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	44	60	70	42	55	65
	—	—	—	—	—	—	—	—	—	*145*	*195*	*230*	*140*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	36	47	55	34	45	50
	—	—	—	—	—	—	—	—	—	*120*	*155*	*180*	*110*	*150*	*165*
S3	—	—	—	—	—	—	—	—	—	31	41	48	30	39	46
	—	—	—	—	—	—	—	—	—	*100*	*135*	*155*	*100*	*130*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	75	90
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	40	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*180*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	31	37
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*100*	*120*
H5	—	—	—	47	60	70	—	—	—	38	50	60	37	49	60
	—	—	—	*155*	*195*	*230*	—	—	—	*125*	*165*	*195*	*120*	*160*	*195*
H8	—	—	—	50	65	75	—	—	—	40	55	60	40	50	60
	—	—	—	*165*	*215*	*245*	—	—	—	*130*	*180*	*195*	*130*	*165*	*195*
H11	—	—	—	60	75	90	—	—	—	48	65	75	47	60	75
	—	—	—	*195*	*245*	*295*	—	—	—	*155*	*215*	*245*	*155*	*195*	*245*
H12	—	—	—	85	105	115	—	—	—	75	95	105	70	90	100
	—	—	—	*280*	*345*	*375*	—	—	—	*245*	*310*	*345*	*230*	*295*	*330*



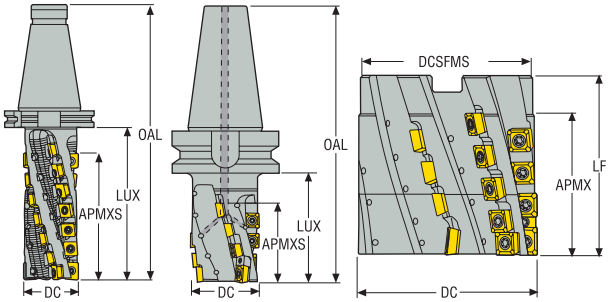
R215/220.59 HELICAL

Our comprehensive selection of high-performance helical milling cutters incorporate the latest geometries and grades to achieve high feed rates, large depths of cut and aggressive metal removal in contouring and profiling operations. The helix angle allows the cutter to absorb most of the end load so it smoothly enter and exit the workpiece.

- Cutter range 50-100 mm (2 inch)
- Many options for different types of mounting

R215.59-12.4 – Half effective – Metric



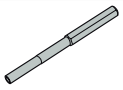
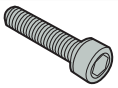


- For insert selection and cutting data recommendations, see page(s) 190-191
- For complete insert programme, see page(s) 807,821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	RPMX	Weight	SC.T	AC.T
			mm			mm	mm	mm	mm	mm		kg		
R215.59-BT50.050.077-12.4A	75066231	BT50	50,0	2	18	77,0	–	100,0	148,0	110,0	8300	4,5	18	2
R215.59-BT50.063.086-12.4S	75034445	BT50	63,0	2	18	86,0	–	100,0	162,9	125,0	7400	6,8	18	2
R215.59-BT50.080.095-12.4S	75034446	BT50	80,0	2	22	96,0	–	100,0	173,0	135,0	6500	6,6	20	2
R215.59-50063120-12.4S	00026979	DIN2080	63,0	2	28	122,8	–	97,45	200,0	165,0	7400	5,6	26	2
R220.59-00080.068-12.6	75000109	Arbor	80,0	3	24	68,0	32,0	77,0	85,0	–	6500	1,9	21	3
R220.59-00100077-12.6S	75000112	Arbor	100,0	3	27	77,0	40,0	90,0	100,0	–	5800	3,7	24	3
R220.59-00100077-12.6SR6	75000247	Arbor	100,0	3	24	77,0	40,0	90,0	100,0	–	5800	4,4	21*	3*
R220.59-00100077-12.8S	75000113	Arbor	100,0	4	36	77,0	40,0	90,0	100,0	–	5800	3,9	32	3
R220.59-00100077-12.8SR6	75000248	Arbor	100,0	4	32	77,0	40,0	90,0	100,0	–	5800	4,5	28	4

Modification of the cutter body needed for radii > 3,0 mm
*Compatible with radii 6.0 mm only

Spare Parts, included in delivery

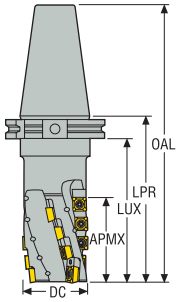
For cutter	Arbor screw	Assembly screw	Basic body	Insert key	Insert screw	Replaceable end	Tenon	Tenon screw
								
R215.59-050	–	–	–	H6B-T20P	C45011-T20P	–	–	–
R215.59-060	–	215.59-691	R215.59-BT50.063.062-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4	–	–
R220.59-080	–	215.59-692S	R215.59-BT50.080.061-12.4B	H6B-T20PL	C45011-T20P	R220.59-RE080034-12.4	DK1010	TCEI0412
R215.59-50-4S	–	215.59-691	R215.59-CV50/50063096-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4	–	–
R220.59-00080	MC6S16X70	–	–	H6B-T20P	C45011-T20P	–	–	–
R220.59-00100..6S	215.59-693S	–	R220.59-00100043-12.6B	H6B-T20PL	C45011-T20P	R220.59-RE100034-12.6	DK1210	TCEI0412
R220.59-00100..6SR	215.59-693S	–	R220.59-00100043-12.6B	H6B-T20PL	C45011-T20P	R220.59-RE100034-12.6R6	DK1210	TCEI0412
R220.59-00100..8S	215.59-693S	–	R220.59-00100043-12.8B	H6B-T20PL	C45011-T20P	R220.59-RE100034-12.8	DK1210	TCEI0412
R220.59-00100..8SR	215.59-693S	–	R220.59-00100043-12.8B	H6B-T20PL	C45011-T20P	R220.59-RE100034-12.8R6	DK1210	TCEI0412

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R215.59-12.4 – Half effective – Metric



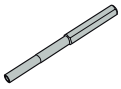
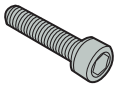


- For insert selection and cutting data recommendations, see page(s) 190-191
- For complete insert programme, see page(s) 807,821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	LF	LUX	RPMX	Weight	SC.T	AC.T
			mm			mm	mm	mm		kg		
R215.59-CV50050120-12.4	00026978	CV50	50,0	2	28	122,9	180,0	145,0	8300	4,5	26	2
R215.59-CV50063086-12.4S	75003346	CV50	63,0	2	20	86,0	160,0	120,0	7400	5,0	18	2
R215.59-CV50063086-12.4SR6	75000244	CV50	63,0	2	20	86,0	160,0	120,0	7400	5,1	16*	2*
R215.59-CV50063120-12.4S	00026980	CV50	63,0	2	28	122,8	200,0	165,0	7400	5,6	26	2
R215.59-CV50063120-12.4SR6	00027074	CV50	63,0	2	28	122,8	199,9	165,0	7400	5,8	24	2
R215.59-CV50063160-12.4S	00095805	CV50	63,0	2	36	158,7	234,9	200,0	7400	6,2	34	2
R215.59-CV50063160-12.4SR6	00095807	CV50	63,0	2	36	158,7	234,9	200,0	7400	6,2	32	2
R215.59-CV50080095-12.4S	75007713	CV50	80,0	2	22	96,0	150,0	131,0	6500	5,5	20	2
R215.59-CV50080095-12.6S	75003347	CV50	80,0	3	33	96,0	150,0	131,0	6500	5,9	30	3

Modification of the cutter body needed for radii > 3,0 mm
*Compatible with radii 6.0 mm only

Spare Parts, included in delivery

For cutter	Assembly screw	Basic body	Insert key	Insert screw	Replaceable end	Tenon	Tenon screw
							
R215.59-CV50-12.4	–	–	H6B-T20P	C45011-T20P	–	–	–
R215.59-CV5006-12.4S	215.59-691	R215.59-CV50063062-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4	–	–
R215.59-CV50-12.4SR	215.59-691	R215.59-CV50063062-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4R6	–	–
R215.59-63-120-12.4S	215.59-691	R215.59-CV50/50063096-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4	–	–
R215.59-63-120-12.4SR	215.59-691	R215.59-CV50/50063096-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4R6	–	–
R215.59-63-160-12.4S	215.59-691	R215.59-CV50/50063134-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4	–	–
R215.59-63-160-12.4SR	215.59-691	R215.59-CV50/50063134-12.4B	H6B-T20P	C45011-T20P	R220.59-RE063024-12.4R6	–	–
R215.59-CV5008-12.4S	215.59-692S	R215.59-CV50080061-12.4B	H6B-T20PL	C45011-T20P	R220.59-RE080034-12.4	DK1010	TCEI0412
R220.59-080-12.6S	215.59-692S	R215.59-CV50080061-12.6B	H6B-T20PL	C45011-T20P	R220.59-RE080034-12.6	DK1010	TCEI0412

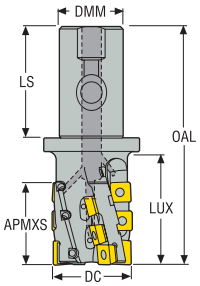
Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R215.59-12.4..K – Full effective – Metric



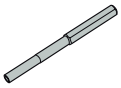


- For insert selection and cutting data recommendations, see page(s) 190-191
- For complete insert programme, see page(s) 807,821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DMM	LS	LUX	OAL	RPMX	Weight	SC.T	AC.T
			mm			mm	mm	mm	mm	mm		kg		
R215.59-4050.3S-063-12.3K	00092248	Seco-Weldon	50,0	3	18	63,0	40,0	70,0	78,0	160,0	8300	1,5	15	3

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

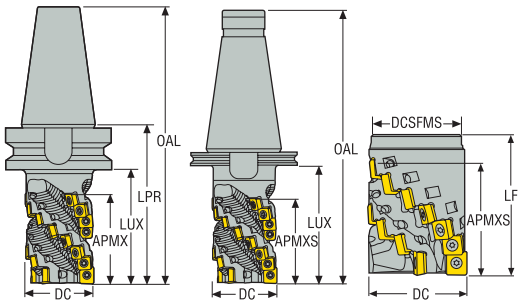
For cutter	Insert key	Insert screw
		
R215.59-..	H6B-T20P	C45011-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R215/220.59-12.4 – Full effective – Metric



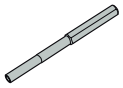


- For insert selection and cutting data recommendations, see page(s) 190-191
- For complete insert programme, see page(s) 807,821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	LUX	RPMX	Weight	SC.T	AC.T
			mm			mm	mm	mm	mm	mm		kg		
R215.59-BT50050072-12.3K	00008459	BT50	50,0	3	21	73,0	–	100,0	145,0	103,0	8300	4,9	18	3
R215.59-BT50063110-12.3K	00008466	BT50	63,0	3	33	111,8	–	100,0	180,0	137,0	7400	5,7	30	3
R220.59-00080.072-12.5K	00008462	Arbor	80,0	5	35	72,0	32,0	74,7	100,0	–	6500	2,3	30	5

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R215.59-..	–	H6B-T20P	C45011-T20P
R220.59-00080	MC6S16X80	H6B-T20P	C45011-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R215.59-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R215/220.59-12 – Insert selection – mm/*Inch*

SMG			f_z		
			100%	30%	10%
P1	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P2	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P3	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P4	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P5	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
P6	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P7	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P8	ACET150612TR-M11 MP2501	SCET120612T-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P11	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P12	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M1	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
M2	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M5	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K1	ACET150612TR-M14 MK1500	SCET120612T-M14 MK1500	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
K2	ACET150612TR-M14 MK1500	SCET120612T-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	ACET150612TR-M14 MK1500	SCET120612T-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K4	ACET150612TR-M14 MK1500	SCET120612T-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K5	ACET150612TR-M14 MK1500	SCET120612T-M14 MK1500	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K6	ACET150612TR-M14 MK1500	SCET120612T-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K7	ACET150612TR-M14 MK1500	SCET120612T-M14 MK1500	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
S1	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S2	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S3	ACET150612TR-M11 F40M	SCET120612T-M11 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
S11	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	ACET150612TR-ME10 MS2050	SCET120612R-M10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H5	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H8	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
H11	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H12	ACET150612TR-M11 MP3501	SCET120612T-M11 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R215/220.59-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP3000			MS2050			F40M			MK1500			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	120 *395*	130 *425*	140 *460*	120 *395*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*	— —	— —	— —	140 *460*	150 *490*	155 *510*	140 *460*	150 *490*	155 *510*	135 *445*	145 *475*	150 *490*
P2	115 *375*	130 *425*	140 *460*	120 *395*	130 *425*	140 *460*	110 *360*	125 *410*	130 *425*	— —	— —	— —	140 *460*	150 *490*	155 *510*	140 *460*	150 *490*	155 *510*	135 *445*	145 *475*	150 *490*
P3	110 *360*	125 *410*	130 *425*	110 *360*	125 *410*	130 *425*	105 *345*	115 *375*	125 *410*	— —	— —	— —	135 *445*	145 *475*	150 *490*	135 *445*	145 *475*	150 *490*	130 *425*	140 *460*	145 *475*
P4	105 *345*	120 *395*	125 *410*	105 *345*	120 *395*	125 *410*	100 *330*	110 *360*	120 *395*	— —	— —	— —	130 *425*	135 *445*	145 *475*	125 *410*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*
P5	100 *330*	115 *375*	125 *410*	105 *345*	115 *375*	125 *410*	95 *310*	110 *360*	115 *375*	— —	— —	— —	125 *410*	135 *445*	140 *460*	125 *410*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*
P6	110 *360*	120 *395*	130 *425*	110 *360*	125 *410*	130 *425*	100 *330*	115 *375*	125 *410*	— —	— —	— —	130 *425*	140 *460*	145 *475*	130 *425*	140 *460*	145 *475*	125 *410*	135 *445*	140 *460*
P7	105 *345*	120 *395*	125 *410*	105 *345*	120 *395*	130 *425*	100 *330*	110 *360*	120 *395*	— —	— —	— —	130 *425*	140 *460*	145 *475*	130 *425*	140 *460*	145 *475*	125 *410*	135 *445*	140 *460*
P8	100 *330*	115 *375*	125 *410*	105 *345*	115 *375*	125 *410*	95 *310*	110 *360*	115 *375*	— —	— —	— —	125 *410*	135 *445*	140 *460*	125 *410*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*
P11	105 *345*	115 *375*	125 *410*	105 *345*	120 *395*	125 *410*	100 *330*	110 *360*	120 *395*	— —	— —	— —	130 *425*	135 *445*	140 *460*	125 *410*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*
P12	85 *280*	95 *310*	105 *345*	85 *280*	100 *330*	105 *345*	80 *260*	90 *295*	100 *330*	— —	— —	— —	105 *345*	115 *375*	120 *395*	105 *345*	115 *375*	120 *395*	100 *330*	110 *360*	115 *375*
M1	105 *345*	115 *375*	125 *410*	110 *360*	120 *395*	130 *425*	100 *330*	115 *375*	120 *395*	— —	— —	— —	— —	— —	— —	105 *345*	120 *395*	130 *425*	105 *345*	115 *375*	125 *410*
M2	95 *310*	110 *360*	115 *375*	100 *330*	110 *360*	120 *395*	90 *295*	105 *345*	110 *360*	— —	— —	— —	— —	— —	— —	100 *330*	115 *375*	120 *395*	95 *310*	110 *360*	115 *375*
M3	85 *280*	100 *330*	105 *345*	90 *295*	100 *330*	110 *360*	80 *260*	95 *310*	100 *330*	— —	— —	— —	— —	— —	— —	90 *295*	100 *330*	110 *360*	85 *280*	100 *330*	105 *345*
M4	75 *245*	85 *280*	95 *310*	75 *245*	90 *295*	100 *330*	70 *230*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	80 *260*	90 *295*	100 *330*	75 *245*	85 *280*	95 *310*
M5	65 *215*	80 *260*	85 *280*	70 *230*	80 *260*	90 *295*	60 *195*	75 *245*	80 *260*	— —	— —	— —	— —	— —	— —	70 *230*	80 *260*	90 *295*	65 *215*	80 *260*	85 *280*
K1	105 *345*	120 *395*	125 *410*	— —	— —	— —	100 *330*	110 *360*	120 *395*	125 *410*	140 *460*	145 *475*	140 *460*	150 *490*	155 *510*	140 *460*	150 *490*	155 *510*	135 *445*	145 *475*	150 *490*
K2	100 *330*	115 *375*	120 *395*	— —	— —	— —	95 *310*	105 *345*	115 *375*	120 *395*	135 *445*	140 *460*	135 *445*	145 *475*	150 *490*	135 *445*	145 *475*	150 *490*	130 *425*	140 *460*	145 *475*
K3	90 *295*	105 *345*	115 *375*	— —	— —	— —	85 *280*	100 *330*	105 *345*	110 *360*	125 *410*	135 *445*	130 *425*	135 *445*	140 *460*	125 *410*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*
K4	90 *295*	105 *345*	110 *360*	— —	— —	— —	85 *280*	95 *310*	105 *345*	110 *360*	125 *410*	130 *425*	125 *410*	135 *445*	140 *460*	125 *410*	135 *445*	140 *460*	120 *395*	130 *425*	135 *445*
K5	70 *230*	80 *260*	90 *295*	— —	— —	— —	60 *195*	75 *245*	80 *260*	90 *295*	100 *330*	110 *360*	100 *330*	110 *360*	115 *375*	100 *330*	110 *360*	115 *375*	95 *310*	105 *345*	110 *360*
K6	85 *280*	100 *330*	105 *345*	— —	— —	— —	80 *260*	90 *295*	100 *330*	105 *345*	115 *375*	125 *410*	120 *395*	130 *425*	135 *445*	120 *395*	130 *425*	135 *445*	115 *375*	125 *410*	130 *425*
K7	80 *260*	95 *310*	100 *330*	— —	— —	— —	75 *245*	85 *280*	95 *310*	100 *330*	110 *360*	120 *395*	115 *375*	125 *410*	130 *425*	115 *375*	120 *395*	130 *425*	110 *360*	120 *395*	125 *410*
S1	39 *130*	50 *165*	60 *195*	42 *140*	55 *180*	60 *195*	36 *120*	47 *155*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —	— —	40 *130*	50 *165*	60 *195*
S2	31 *100*	41 *135*	49 *160*	34 *110*	45 *150*	50 *165*	29 *95*	38 *125*	45 *150*	— —	— —	— —	— —	— —	— —	— —	— —	— —	32 *105*	42 *140*	50 *165*
S3	28 *90*	36 *120*	43 *140*	30 *100*	39 *130*	46 *150*	25 *80*	34 *110*	40 *130*	— —	— —	— —	— —	— —	— —	— —	— —	— —	28 *90*	37 *120*	44 *145*
S11	55 *180*	65 *215*	75 *245*	55 *180*	70 *230*	80 *260*	50 *165*	65 *215*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*
S12	37 *120*	49 *160*	60 *195*	41 *135*	55 *180*	60 *195*	35 *115*	46 *150*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	50 *165*	60 *195*
S13	22 *70*	29 *95*	34 *110*	24 *80*	31 *100*	37 *120*	20 *65*	26 *85*	32 *105*	— —	— —	— —	— —	— —	— —	— —	— —	— —	22 *70*	29 *95*	35 *115*
H5	33 *110*	43 *140*	50 *165*	— —	— —	— —	30 *100*	40 *130*	47 *155*	— —	— —	— —	45 *150*	60 *195*	65 *215*	— —	— —	— —	35 *115*	46 *150*	55 *180*
H8	36 *120*	46 *150*	55 *180*	— —	— —	— —	32 *105*	42 *140*	50 *165*	— —	— —	— —	48 *155*	60 *195*	70 *230*	— —	— —	— —	37 *120*	49 *160*	55 *180*
H11	42 *140*	55 *180*	60 *195*	— —	— —	— —	38 *125*	50 *165*	60 *195*	— —	— —	— —	55 *180*	70 *230*	75 *245*	— —	— —	— —	44 *145*	55 *180*	65 *215*
H12	65 *215*	75 *245*	85 *280*	— —	— —	— —	55 *180*	70 *230*	75 *245*	— —	— —	— —	75 *245*	90 *295*	95 *310*	— —	— —	— —	65 *215*	75 *245*	85 *280*

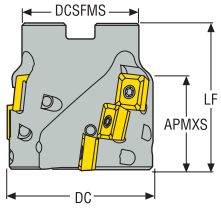


R220.69-15XH HELICAL

Helical mills for heavy duty, inserts with 4-cutting edges, single-sided inserts.

- Cutter range 100-125 mm (2 - 4 inch)
- Depth of cut <=160 mm (6.3 inch), max 30% ae
- Slotting depth max 50% DC
- Insert corner radii range 1.2-6.3 mm (.047 - .248 inch)

R220.69-15H – High feed rates – Metric



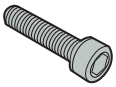
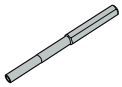


- For insert selection and cutting data recommendations, see page(s) 194-195
- For complete insert programme, see page(s) 807
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm			mm	mm	mm	mm		kg	
R220.69-0100050-15.6H	75068040	Arbor	100,0	6	24	50,0	40,0	90,0	75,0	5800	2,8	AC.T15..
R220.69-00125050-15.7H	00094725	Arbor	125,0	7	28	50,0	40,0	90,0	75,0	5200	3,5	AC.T15..

Modification of the cutter body needed for radii > 3,0 mm

Spare Parts, included in delivery

For cutter	Arbor screw	Axial support	Insert key	Insert screw	Setting key
					
R220.69-0100	MC6S20X50	CH9411-T09P	H6B-T20PL	C45011-T20P	H4B-T09P
R220.69-00125	–	CH9411-T09P	H6B-T20P	C45011-T20P	H4B-T09P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.69-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.69-15 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	30%	10%
P1	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,14 *0.0055*	0,20 *0.0080*
P2	ACET150612TR-M11 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
P3	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P4	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P5	ACET150612TR-M11 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
P6	ACET150612TR-M11 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P7	ACET150612TR-M11 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P8	ACET150612TR-M11 MP2501	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P11	ACET150612TR-M11 MP3501	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P12	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
M1	ACET150612TR-ME10 MS2050	0,11 *0.0044*	0,13 *0.0050*	0,19 *0.0075*
M2	ACET150612TR-ME10 MS2050	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
M3	ACET150612TR-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
M4	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M5	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K1	ACET150612TR-M14 MK1500	0,16 *0.0065*	0,18 *0.0070*	0,26 *0.010*
K2	ACET150612TR-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K3	ACET150612TR-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K4	ACET150612TR-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K5	ACET150612TR-M14 MK1500	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
K6	ACET150612TR-M14 MK1500	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*
K7	ACET150612TR-M14 MK1500	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*
S1	ACET150612TR-M11 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S2	ACET150612TR-M11 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
S3	ACET150612TR-M11 F40M	0,075 *0.0030*	0,080 *0.0032*	0,13 *0.0048*
S11	ACET150612TR-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S12	ACET150612TR-ME10 MS2050	0,085 *0.0034*	0,090 *0.0036*	0,14 *0.0055*
S13	ACET150612TR-ME10 MS2050	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
H5	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H8	ACET150612TR-M11 MP3501	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
H11	ACET150612TR-M11 MP3501	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
H12	ACET150612TR-M14 MP3501	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.69-15 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			MP3000			MS2050			MK1500			MP1501			MP2501			MP3501		
	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%	100%	30%	10%
P1	135 *445*	150 *490*	165 *540*	145 *475*	165 *540*	175 *570*	145 *475*	165 *540*	175 *570*	— —	— —	— —	180 *590*	190 *620*	200 *660*	175 *570*	190 *620*	200 *660*	170 *560*	180 *590*	190 *620*
P2	130 *425*	150 *490*	160 *520*	140 *460*	160 *520*	170 *560*	145 *475*	160 *520*	175 *570*	— —	— —	— —	175 *570*	190 *620*	195 *640*	175 *570*	185 *610*	195 *640*	165 *540*	180 *590*	190 *620*
P3	125 *410*	140 *460*	155 *510*	135 *445*	150 *490*	160 *520*	135 *445*	155 *510*	165 *540*	— —	— —	— —	165 *540*	180 *590*	185 *610*	165 *540*	180 *590*	185 *610*	160 *520*	170 *560*	180 *590*
P4	115 *375*	135 *445*	145 *475*	125 *410*	145 *475*	155 *510*	125 *410*	145 *475*	155 *510*	— —	— —	— —	155 *510*	170 *560*	180 *590*	155 *510*	170 *560*	180 *590*	150 *490*	165 *540*	170 *560*
P5	115 *375*	130 *425*	140 *460*	120 *395*	140 *460*	150 *490*	125 *410*	145 *475*	155 *510*	— —	— —	— —	155 *510*	170 *560*	175 *570*	155 *510*	165 *540*	175 *570*	150 *490*	160 *520*	170 *560*
P6	120 *395*	140 *460*	150 *490*	130 *425*	150 *490*	160 *520*	135 *445*	150 *490*	160 *520*	— —	— —	— —	165 *540*	175 *570*	185 *610*	165 *540*	175 *570*	185 *610*	155 *510*	170 *560*	175 *570*
P7	115 *375*	135 *445*	145 *475*	125 *410*	145 *475*	155 *510*	130 *425*	145 *475*	160 *520*	— —	— —	— —	160 *520*	175 *570*	180 *590*	160 *520*	170 *560*	180 *590*	150 *490*	165 *540*	170 *560*
P8	110 *360*	130 *425*	140 *460*	120 *395*	140 *460*	150 *490*	125 *410*	140 *460*	155 *510*	— —	— —	— —	155 *510*	170 *560*	175 *570*	155 *510*	165 *540*	175 *570*	145 *475*	160 *520*	170 *560*
P11	115 *375*	135 *445*	145 *475*	125 *410*	145 *475*	155 *510*	125 *410*	145 *475*	155 *510*	— —	— —	— —	160 *520*	170 *560*	180 *590*	155 *510*	170 *560*	180 *590*	150 *490*	165 *540*	170 *560*
P12	85 *280*	105 *345*	115 *375*	95 *310*	115 *375*	125 *410*	100 *330*	115 *375*	125 *410*	— —	— —	— —	125 *410*	140 *460*	145 *475*	125 *410*	140 *460*	145 *475*	120 *395*	130 *425*	140 *460*
M1	115 *375*	135 *445*	145 *475*	120 *395*	140 *460*	155 *510*	130 *425*	150 *490*	160 *520*	— —	— —	— —	— —	— —	— —	130 *425*	145 *475*	160 *520*	125 *410*	140 *460*	155 *510*
M2	105 *345*	125 *410*	135 *445*	110 *360*	130 *425*	140 *460*	120 *395*	135 *445*	145 *475*	— —	— —	— —	— —	— —	— —	115 *375*	135 *445*	145 *475*	115 *375*	130 *425*	140 *460*
M3	90 *295*	110 *360*	120 *395*	95 *310*	115 *375*	125 *410*	105 *345*	120 *395*	130 *425*	— —	— —	— —	— —	— —	— —	105 *345*	120 *395*	130 *425*	100 *330*	115 *375*	125 *410*
M4	75 *245*	95 *310*	105 *345*	80 *260*	100 *330*	110 *360*	85 *280*	105 *345*	115 *375*	— —	— —	— —	— —	— —	— —	85 *280*	105 *345*	115 *375*	80 *260*	100 *330*	110 *360*
M5	65 *215*	80 *260*	90 *295*	70 *230*	85 *280*	95 *310*	75 *245*	90 *295*	105 *345*	— —	— —	— —	— —	— —	— —	75 *245*	90 *295*	105 *345*	70 *230*	85 *280*	100 *330*
K1	115 *375*	135 *445*	145 *475*	125 *410*	145 *475*	155 *510*	— —	— —	— —	155 *510*	170 *560*	185 *610*	175 *570*	190 *620*	195 *640*	175 *570*	190 *620*	195 *640*	165 *540*	180 *590*	190 *620*
K2	110 *360*	125 *410*	140 *460*	120 *395*	135 *445*	150 *490*	— —	— —	— —	145 *475*	165 *540*	175 *570*	170 *560*	180 *590*	190 *620*	170 *560*	180 *590*	190 *620*	160 *520*	175 *570*	180 *590*
K3	100 *330*	115 *375*	130 *425*	105 *345*	125 *410*	135 *445*	— —	— —	— —	135 *445*	155 *510*	165 *540*	155 *510*	170 *560*	180 *590*	155 *510*	170 *560*	175 *570*	150 *490*	160 *520*	170 *560*
K4	95 *310*	115 *375*	125 *410*	105 *345*	125 *410*	135 *445*	— —	— —	— —	130 *425*	150 *490*	160 *520*	155 *510*	165 *540*	175 *570*	155 *510*	165 *540*	175 *570*	145 *475*	160 *520*	165 *540*
K5	65 *215*	80 *260*	90 *295*	70 *230*	90 *295*	100 *330*	— —	— —	— —	100 *330*	120 *395*	130 *425*	120 *395*	135 *445*	140 *460*	120 *395*	135 *445*	140 *460*	115 *375*	125 *410*	135 *445*
K6	85 *280*	105 *345*	115 *375*	95 *310*	115 *375*	125 *410*	— —	— —	— —	125 *410*	140 *460*	155 *510*	145 *475*	160 *520*	165 *540*	145 *475*	155 *510*	165 *540*	140 *460*	150 *490*	160 *520*
K7	80 *260*	95 *310*	110 *360*	90 *295*	105 *345*	115 *375*	— —	— —	— —	115 *375*	135 *445*	145 *475*	140 *460*	150 *490*	160 *520*	135 *445*	150 *490*	155 *510*	130 *425*	145 *475*	150 *490*
S1	35 *115*	46 *150*	55 *180*	38 *125*	50 *165*	60 *195*	42 *140*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	50 *165*	60 *195*
S2	28 *90*	37 *120*	44 *145*	31 *100*	40 *130*	47 *155*	34 *110*	44 *145*	50 *165*	— —	— —	— —	— —	— —	— —	— —	— —	— —	31 *100*	41 *135*	48 *155*
S3	25 *80*	33 *110*	39 *130*	27 *90*	35 *115*	42 *140*	29 *95*	39 *130*	46 *150*	— —	— —	— —	— —	— —	— —	— —	— —	— —	27 *90*	36 *120*	42 *140*
S11	49 *160*	65 *215*	75 *245*	50 *165*	70 *230*	80 *260*	60 *195*	75 *245*	85 *280*	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	70 *230*	80 *260*
S12	34 *110*	45 *150*	55 *180*	36 *120*	48 *155*	55 *180*	40 *130*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	49 *160*	60 *195*
S13	20 *65*	26 *85*	31 *100*	21 *70*	28 *90*	33 *110*	23 *75*	31 *100*	36 *120*	— —	— —	— —	— —	— —	— —	— —	— —	— —	22 *70*	28 *90*	34 *110*
H5	29 *95*	39 *130*	46 *150*	32 *105*	42 *140*	50 *165*	— —	— —	— —	— —	— —	— —	44 *145*	60 *195*	70 *230*	— —	— —	— —	34 *110*	45 *150*	55 *180*
H8	32 *105*	41 *135*	49 *160*	35 *115*	45 *150*	55 *180*	— —	— —	— —	— —	— —	— —	47 *155*	60 *195*	70 *230*	— —	— —	— —	36 *120*	48 *155*	55 *180*
H11	38 *125*	50 *165*	60 *195*	41 *135*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	55 *180*	75 *245*	85 *280*	— —	— —	— —	43 *140*	55 *180*	65 *215*
H12	55 *180*	75 *245*	85 *280*	65 *215*	85 *280*	95 *310*	— —	— —	— —	— —	— —	— —	80 *260*	100 *330*	110 *360*	— —	— —	— —	65 *215*	85 *280*	95 *310*

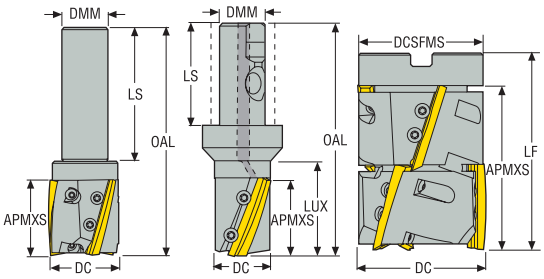


R235.15 HELICAL

Helical mills for high surface finish in square shoulder and contouring operations.
Suitable for finishing operations.

- Cutter range 32-80mm, (1.25 - 3 inch)
- Depth of cut <=90 mm (3.5 inch)
- Max a_e = 1 mm

R235.15 – Finishing operations – Metric

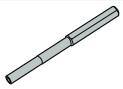




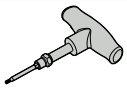
- For insert selection and cutting data recommendations, see page(s) 199-200
- For complete insert programme, see page(s) 857
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DMM	DCSFMS	LS	LF	OAL	LUX	RPMX	Weight	Insert
			mm			mm	mm	mm	mm	mm	mm	mm	mm		kg	
R235.15-2532.0-40	75036949	Cylindrical	32,0	2	2	40,0	–	25,0	–	71,0	–	140,0	40,0	8000	0,7	R235.15-032
R235.15A-3250.0-50	75036947	Cylindrical	50,0	3	3	50,0	–	32,0	–	95,0	–	155,0	50,0	5500	1,2	R235.15-050
R235.15-2532.3S-40A	75036948	Seco-Weldon	32,0	2	2	40,0	–	25,0	40,0	56,0	–	125,0	50,0	8000	0,7	R235.15-032
R235.15A-3250.3S-50A	75036946	Seco-Weldon	50,0	3	3	50,0	–	32,0	50,0	70,0	–	120,0	61,4	5500	1,0	R235.15-050
R235.15A-0080-90	75037122	Arbor	80,0	3	6	90,0	32,0	–	75,0	–	120,0	–	–	4400	3,5	R235.15-080

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Setting gauge	Setting key
					
R235.15-2532	–	H6B-T25P	CL85012-T25P	–	–
R235.15-3250	–	H6B-T25P	CL85012-T25P	AU8019-T15P	H4B-T15P
R235.15A-0080	MC6S16X100	H6B-T25P	CL85012-T25P	AU8019-T15P	H4B-T15P

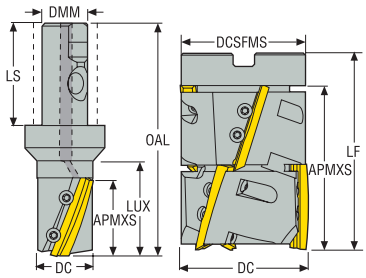
Accessories

For cutter	Insert clamping torque	Torque key
		
R235.15-..	6.0NM	T00T-25P60

Torque and fixed keys, see page 872

R235.15 – Finishing operations – inch

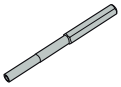




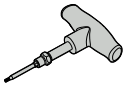
- For insert selection and cutting data recommendations, see page(s) 199-200
- For complete insert programme, see page(s) 857
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	DCB	DMM	DCSFMS	LS	LF	OAL	LUX	RPMX	Weight	Insert
			inch			inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R235.15A-02.00-3S-50A	75056423	Seco-Weldon	2.000	3	3	1.969	–	1.250	1.772	2.441	–	4.724	1.969	5500	2.200	R235.15-050
R235.15A-03.00-90	75056424	Arbor	3.000	3	6	3.500	1.000	–	2.866	–	4.724	–	–	4400	7.050	R235.15-080

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Setting gauge	Setting key
					
R235.15A-02.00	–	H6B-T25P	CL85012-T25P	AU8019-T15P	H4B-T15P
R235.15A-03.00	UC6S1/2UNFX4	H6B-T25P	CL85012-T25P	AU8019-T15P	H4B-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R235.15-..	53.1IN.LBS	T00T-25P60

Torque and fixed keys, see page 872

R235.15 – Insert selection – mm/*Inch*

SMG		f_z
		3%
P1	R235.15-xxx-E05 F30M	0,20 *0.0080*
P2	R235.15-xxx-E05 F30M	0,22 *0.0085*
P3	R235.15-xxx-E05 F30M	0,20 *0.0080*
P4	R235.15-xxx-E05 F30M	0,20 *0.0080*
P5	R235.15-xxx-E05 F30M	0,19 *0.0075*
P6	R235.15-xxx-E05 F30M	0,19 *0.0075*
P7	R235.15-xxx-E05 F30M	0,19 *0.0075*
P8	R235.15-xxx-E05 F30M	0,20 *0.0080*
P11	R235.15-xxx-E05 F30M	0,19 *0.0075*
P12	R235.15-xxx-E05 F30M	0,13 *0.0050*
M1	R235.15-xxx-E05 F30M	0,22 *0.0085*
M2	R235.15-xxx-E05 F30M	0,19 *0.0075*
M3	R235.15-xxx-E05 F30M	0,15 *0.0060*
M4	R235.15-xxx-E05 F30M	0,13 *0.0050*
M5	R235.15-xxx-E05 F30M	0,13 *0.0050*
K1	R235.15-xxx-E05 F30M	0,22 *0.0085*
K2	R235.15-xxx-E05 F30M	0,19 *0.0075*
K3	R235.15-xxx-E05 F30M	0,19 *0.0075*
K4	R235.15-xxx-E05 F30M	0,19 *0.0075*
K5	R235.15-xxx-E05 F30M	0,17 *0.0065*
K6	R235.15-xxx-E05 F30M	0,19 *0.0075*
K7	R235.15-xxx-E05 F30M	0,17 *0.0065*
N1	R235.15-xxx-E05 F30M	0,28 *0.011*
N2	R235.15-xxx-E05 F30M	0,28 *0.011*
N3	R235.15-xxx-E05 F30M	0,28 *0.011*
N11	R235.15-xxx-E05 F30M	0,28 *0.011*
S1	R235.15-xxx-E05 F30M	0,13 *0.0050*
S2	R235.15-xxx-E05 F30M	0,13 *0.0050*
S3	R235.15-xxx-E05 F30M	0,13 *0.0050*
S11	R235.15-xxx-E05 F30M	0,15 *0.0060*
S12	R235.15-xxx-E05 F30M	0,15 *0.0060*
S13	R235.15-xxx-E05 F30M	0,13 *0.0050*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R235.15 – Cutting data v_c = (m/min)/*(sf/min)*

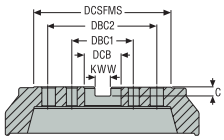
SMG	F30M
	3%
P1	310 *1025*
P2	295 *970*
P3	260 *850*
P4	230 *750*
P5	220 *720*
P6	245 *800*
P7	235 *770*
P8	215 *710*
P11	225 *740*
P12	145 *475*
M1	200 *660*
M2	165 *540*
M3	130 *425*
M4	100 *330*
M5	85 *280*
K1	235 *770*
K2	210 *690*
K3	175 *570*
K4	170 *560*
K5	105 *345*
K6	150 *490*
K7	130 *425*
N1	1450 *4750*
N2	590 *1925*
N3	390 *1275*
N11	445 *1450*
S1	70 *230*
S2	55 *180*
S3	49 *160*
S11	100 *330*
S12	70 *230*
S13	40 *130*

Code keys metric and inch

R	220	. 53	- 0100	- 12	- 7	A
1	2	3	4	5	6	7

R	220	. 53	- 04.00	- 12	- 7	A
1	2	3	4	5	6	7

1.	2.	3.
R = Right hand rotation L = Left hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4.	**5.**	**6.**
Mounting type & Cutter diameter 0xxx = shell mill mounting 8xxx = Flange mounting 9xxx = CAP mounting	Insert size	Effective No. of teeth (ZEFP)
7.		
A = With through coolant supply W = Insert locking with wedge G = Coarse pitch version for low power machines T = Close pitch version for high feed rates in powerful machines C = Cassettes S = Insert locking with screw M = Modified or insert locking with wedge		

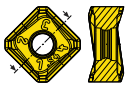
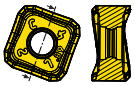
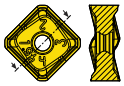
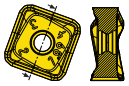
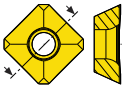
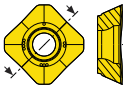
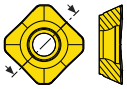


Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Quattromill R220.54-14	SN.X14..AN 	6,0	4,0	■	■	■	◩	■	◩	■	◩	48°
Double Quattromill R220.56-14	SN.X14..ZN 	8,0	6,0	■	◩	■	□	◩	◩	■	◩	71°
Double Quattromill R220.54-22	SNMX22..AN 	9,0	6,0	■	■	■	□	■	□	■	◩	48°
Double Quattromill R220.56-22	SNMX22..ZN 	13	9,0	■	◩	■	□	◩	□	■	◩	71°
Quattromill R220.53-09	SE.X09T3 	4,5	3,0	■	■	◩	■	■	■	◩	■	45°
Quattromill R220.53-12	SE.X1204 	6,0	4,5	■	■	◩	■	■	■	■	■	45°
Quattromill R220.53-15	SE.X1505 	7,5	6,0	■	■	■	■	■	◩	■	■	45°

1st choice ■

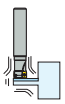
Alternative choice ◩

Possible choice □

High speed machine with low power/ torque 

Strong stable machine with rigid connecion 

Not recommended -

Unstable condition suitability 

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Metric

Insert	No. of cutting edges	Applica-tion	Cutter diameter (mm) available with effective number of teeth													See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	
SNMX14..AN	8						4	5	6	7	8	10	12			211, 212
							5	7	8	10	12	15	17			
												9	11	14	16	
SNMX14..ZN	8						4	5	6	7	8	10	12			211, 212
							5	7	8	10	12	15	17			
												9	11	14	16	
SNMX22..AN	8								5	5	6	8				227
									6	7	8	11				
													9	11	14	
SNMX22..ZN	8									5	6	8				227
									5	7	8	10				
													9	11	14	
SE.X09T3	4		2	3	4	4	5	6	6	7						259
						5	6	7	8	10						
													8	10	12	
									5	6	8	10		16		
									6	8	10	14				
SE.X1204	4									5	6	7				267, 268
						3	4	5	6	7	8	10				
						4	5	6	8	10	12					
								9	11	12	14	17	20			
												7	8	10	12	
									5	6	8	10	12	16		
									6	8	10	14				
SE.X1505	4							5	6	7	8	10	12			276
									7	9	10					
												7	8	10	12	
									5	6	8	10	12	16	18	

x — Fixed pocket (x indicates number of teeth)

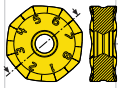
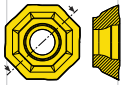
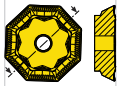
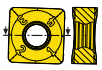
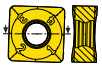
x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

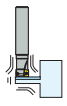
Productivity

Selection – Metric

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Octomill R220.48-05	ON..05 	3,0	2,0	■	■	■	□	◩	■	◩	□	40°
Double Octomill R220.48-09	ON..09 	6,0	4,0	■	■	■	□	◩	□	■	□	40°
Octomill R220.43-05	OF..05 	3,5	2,5	◩	◩	◩	◩	◩	■	◩	◩	43°
Octomill R220.43-07	OF..07 	5,0	4,0	◩	◩	◩	◩	◩	◩	■	◩	43°
R220.88-12	SNMU12.. 	9,0	5,0	■	◩	■	-	-	■	■	■	88°
R220.88-16	SNMU16.. 	13,0	8,0	■	◩	■	-	-	□	■	■	88°

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/ torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability 

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Metric

Insert	No. of cutting edges	Applica-tion	Cutter diameter (mm) available with effective number of teeth														See page
			20	24*/25	32	40	50	63	80	100	125	160	200	250	315	400	500	
ON..05	16						4	5	6	7	8							240
				3	4	4	5	6										
						5	6	8	10	12	14							
										8	10	14	18					
ON..09	16							5	6	7	8	10	12	16	20			248, 249
								6	7	8	10	12						
									9	12	15	20	24	30	40	50	60	
													28					
											8	10	12	16	20			
OF..05	8				3	3	4	5	6	7	8	10						296, 297
						4	5	6	8									
												7						
										6	8	10	12	16	20			
											10	14	18	22	28			
OF..07	8						4	4	5	6	8	10						303
								6	9	12	15							
												7						
										6	8	10	12	16				
											10	14	18	22	28			
SNMU12..	8						4	6	7	8	10	12						283, 284
						4	5	7	9	11	13	16						
SNMU16..	8								6	8	10	12						290
								5	7	9	11	13						

x — Fixed pocket (x indicates number of teeth)

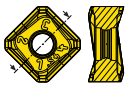
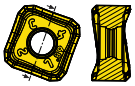
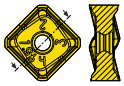
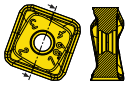
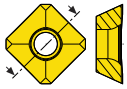
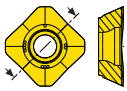
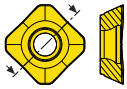
x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

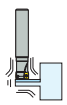
Productivity

Selection – inch

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Quattromill R220.54-14	SN.X14..AN 	0.236	0.157	■	■	■	◩	■	◩	■	◩	48°
Double Quattromill R220.56-14	SN.X14..ZN 	0.315	0.236	■	◩	■	◩	■	◩	■	◩	71°
Double Quattromill R220.54-22	SNMX22..AN 	0.354	0.236	■	■	■	□	■	□	■	◩	48°
Double Quattromill R220.56-22	SNMX22..ZN 	0.512	0.354	■	◩	■	□	■	□	■	◩	71°
Quattromill R220.53-09	SE.X09T3 	0.177	0.118	■	■	◩	■	■	■	◩	■	45°
Quattromill R220.53-12	SE.X1204 	0.236	0.177	■	■	◩	■	■	◩	■	■	45°
Quattromill R220.53-15	SE.X1505 	0.295	0.236	■	■	■	■	■	◩	■	■	45°

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/ torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – inch

Insert	No. of cutting edges	Applica-tion	Cutter diameter (inch) available with effective number of teeth													See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
SNMX14..AN	8						4	5	6	7	8	10	12			211, 212
							5	7	8	10	12	15	17			
												9	11	14	16	
SNMX14..ZN	8						4	5	6	7	8	10	12			211, 212
							5	7	8	10	12	15	17			
												9	11	14	16	
SNMX22..AN	8								5	5	6	8				227
									6	7	8	11				
													9	11	14	
SNMX22..ZN	8								5	5	6	8				227
										7	8	10				
													9	11	14	
SE.X09T3	4		2	3	4	4	5	6	8							259
SE.X1204	4					4	4	5	6	7	6	7				267, 268
							5	6	8	10	8	10	12			
										12		12				
												17				
SE.X1505	4								6	7	10					276

x — Fixed pocket (x indicates number of teeth)

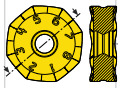
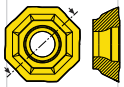
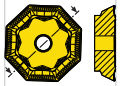
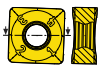
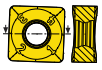
x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

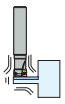
Productivity

Selection – inch

Cutter family	Insert	a_p max	a_p rec.	Material suitability								KAPRS°
				P	M	K	N	S				
Double Octomill R220.48-05	ON..05 	0.118	0.079	■	■	■	□	◩	◩	◩	□	40°
Double Octomill R220.48-09	ON..09 	0.236	0.157	■	■	■	□	◩	□	■	□	40°
Octomill R220.43-05	OF..05 	0.138	0.098	◩	◩	◩	◩	◩	■	◩	◩	43°
Octomill R220.43-07	OF..07 	0.197	0.157	◩	◩	◩	◩	◩	◩	■	◩	43°
R220.88-12	SNMU12.. 	0.354	0.197	■	◩	■	-	-	■	■	■	88°
R220.88-16	SNMU16.. 	0.512	0.354	■	◩	■	-	-	□	■	◩	88°

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/ torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability 

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Inch

Insert	No. of cutting edges	Applica-tion	Cutter diameter (inch) available with effective number of teeth												See page
			0.75	1	1.25	1.5	2	2.5	3	4	5	6	8	10	12.5	
ON..05	16				4	4	4	5	6	7						240
							5		10							
										8		14	18			
ON..09	16							5	6	7	8	10	12	16	20	248, 249
									9	12	15					
												10	12	16		
OF..05	8					3	4	5	6	7	8					296, 297
OF..07	8							4	5	6		10				303
SNMU12..	8					4	4	6	7	8	10	12				283, 284
							5	7	9	11	13	16				
SNMU16..	8								6	8	10	12				290
									7	9	11	13				

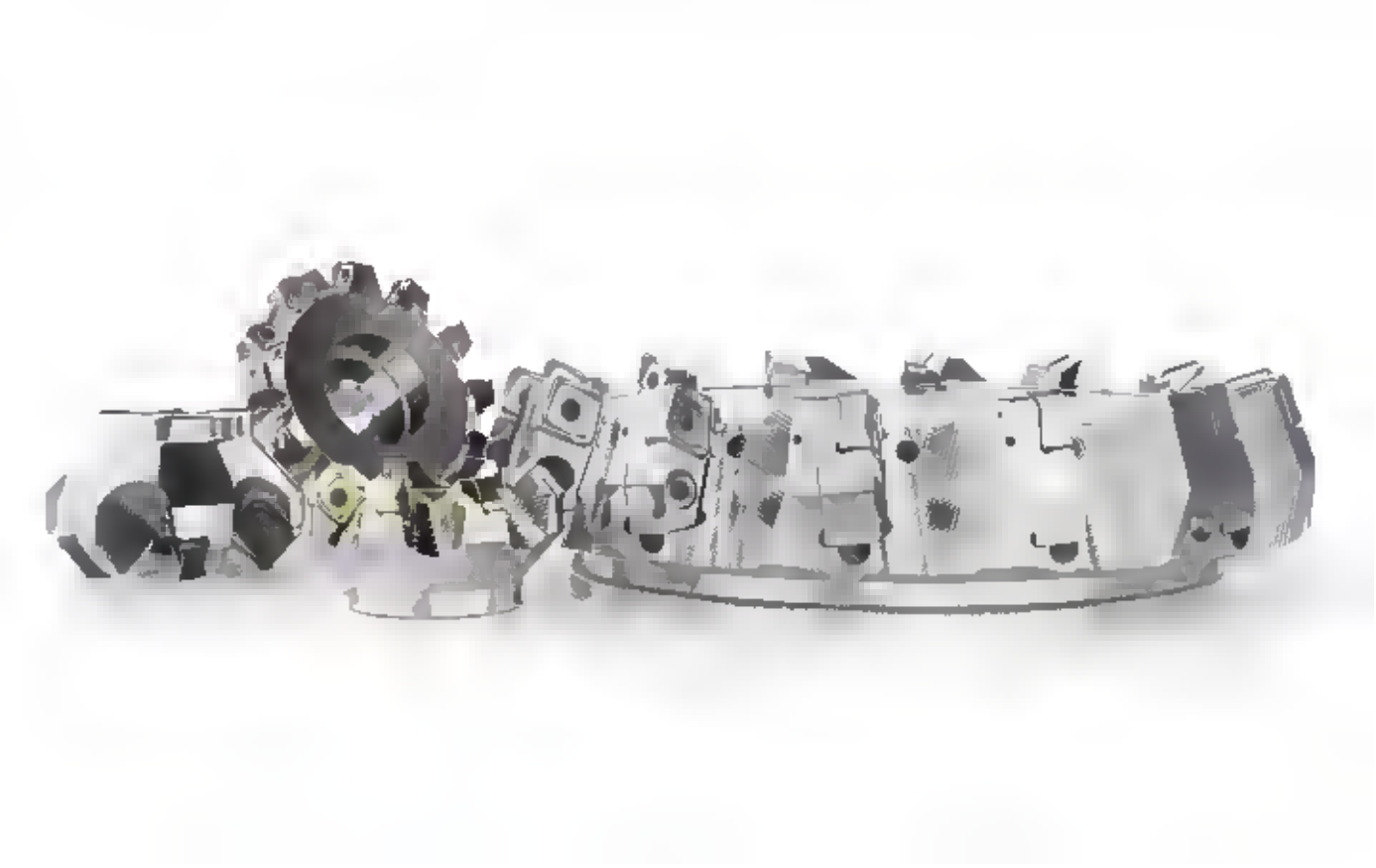
x — Fixed pocket (x indicates number of teeth)

x — With cassette (x indicates number of teeth)

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

Productivity

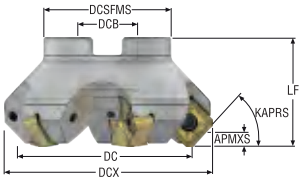


DOUBLE QUATTROMILL 14/22

Take full advantage of your machine tool's milling power for increased productivity with Seco's Double Quattromill™ face mill cutter for roughing and semi finishing. The 48-degree Double Quattromill provides a combination of lower cutting forces, less power consumption, higher feed rates and exceptional chip thinning. While on the other hand, the 71 degree is best when having to mill close to a wall or part fixture. The cutter is the perfect balance between the 48-degree version and a typical square shoulder mill in terms of cutting forces and depth of cut.

- Insert size 14, cutter range 50-315mm (2 - 12.50 inches)
- Insert size 22, cutter range 80-315mm (3 - 12.50 inches)
- 8 cutting edges, double-sided inserts

R220.54-14 metric

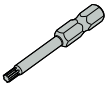
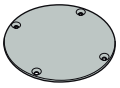




- For insert selection and cutting data recommendations, see page(s) 221-226
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.54-0050-14-4A	03213622	Arbor	50,0	4	6,0	48,0	65,0	22,0	47,0	40,0	8500	0,5	SN.X1407AN
R220.54-0050-14-5A	03213629	Arbor	50,0	5	6,0	48,0	65,0	22,0	47,0	40,0	8500	0,5	SN.X1407AN
R220.54-0063-14-5A	03213623	Arbor	63,0	5	6,0	48,0	78,0	22,0	47,0	40,0	7600	0,6	SN.X1407AN
R220.54-0063-14-7A	03213630	Arbor	63,0	7	6,0	48,0	78,0	22,0	47,0	40,0	7600	0,6	SN.X1407AN
R220.54-0080-14-6A	03213624	Arbor	80,0	6	6,0	48,0	95,0	27,0	62,0	50,0	6700	1,2	SN.X1407AN
R220.54-0080-14-8A	03213631	Arbor	80,0	8	6,0	48,0	95,0	27,0	62,0	50,0	6700	1,2	SN.X1407AN
R220.54-0100-14-7A	03213625	Arbor	100,0	7	6,0	48,0	115,0	32,0	77,0	50,0	6000	1,9	SN.X1407AN
R220.54-0100-14-10A	03213632	Arbor	100,0	10	6,0	48,0	115,0	32,0	77,0	50,0	6000	1,8	SN.X1407AN
R220.54-0125-14-8A	03213626	Arbor	125,0	8	6,0	48,0	140,0	40,0	90,0	63,0	5400	3,5	SN.X1407AN
R220.54-0125-14-12A	03213633	Arbor	125,0	12	6,0	48,0	140,0	40,0	90,0	63,0	5400	3,4	SN.X1407AN
R220.54-8160-14-10A	03213627	Arbor	160,0	10	6,0	48,0	175,0	40,0	90,0	63,0	4700	6,2	SN.X1407AN
R220.54-8160-14-15A	03213634	Arbor	160,0	15	6,0	48,0	175,0	40,0	90,0	63,0	4700	5,8	SN.X1407AN
R220.54-8200-14-12A	03213628	Arbor	200,0	12	6,0	48,0	215,0	60,0	130,0	63,0	4200	8,2	SN.X1407AN
R220.54-8200-14-17A	03213635	Arbor	200,0	17	6,0	48,0	215,0	60,0	130,0	63,0	4200	8,2	SN.X1407AN

Spare Parts, included in delivery

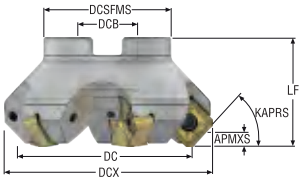
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-0050-0063	220.17-691	1/4HEX-T15PX50	C04011-T15P	–	–
R220-54-0080	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220-54-0100-0125	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220-54-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220-54-8200	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

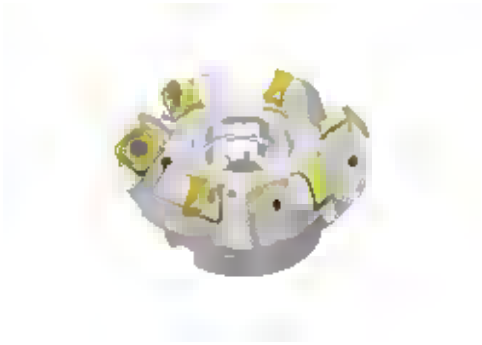
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.54-0050-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.54-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	3.5NM	T00-15P35
R220.54-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	3.5NM	T00-15P35
R220.54-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	3.5NM	T00-15P35
R220.54-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35
R220-54-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Double Quattro R220.54-14 – inch

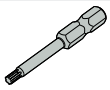
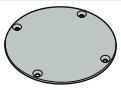




- For insert selection and cutting data recommendations, see page(s) 221-226
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.54-02.00-14-4A	03213636	Arbor	1.969	4	0.236	48.0	2.559	0.750	1.850	1.575	8500	1.100	SN.X1407AN
R220.54-02.00-14-5A	03213643	Arbor	1.969	5	0.236	48.0	2.559	0.750	1.850	1.575	8500	1.100	SN.X1407AN
R220.54-02.50-14-5A	03213637	Arbor	2.480	5	0.236	48.0	3.071	0.750	1.850	1.575	7600	1.320	SN.X1407AN
R220.54-02.50-14-7A	03213644	Arbor	2.480	7	0.236	48.0	3.071	0.750	1.850	1.575	7600	1.320	SN.X1407AN
R220.54-03.00-14-6A	03213638	Arbor	3.150	6	0.236	48.0	3.740	1.000	2.441	1.969	6700	3.090	SN.X1407AN
R220.54-03.00-14-8A	03213645	Arbor	3.150	8	0.236	48.0	3.740	1.000	2.441	1.969	6700	3.090	SN.X1407AN
R220.54-04.00-14-7A	03213639	Arbor	3.937	7	0.236	48.0	4.528	1.500	3.031	1.969	6000	3.970	SN.X1407AN
R220.54-04.00-14-10A	03213646	Arbor	3.937	10	0.236	48.0	4.528	1.500	3.031	1.969	6000	4.190	SN.X1407AN
R220.54-05.00-14-8A	03213640	Arbor	4.921	8	0.236	48.0	5.512	1.500	3.543	2.480	5400	8.380	SN.X1407AN
R220.54-05.00-14-12A	03213647	Arbor	4.921	12	0.236	48.0	5.512	1.500	3.543	2.480	5400	8.600	SN.X1407AN
R220.54-06.00-14-10A	03213641	Arbor	6.299	10	0.236	48.0	6.890	2.000	4.331	2.480	4700	14.330	SN.X1407AN
R220.54-06.00-14-15A	03213648	Arbor	6.299	15	0.236	48.0	6.890	2.000	4.331	2.480	4700	14.110	SN.X1407AN
R220.54-808.00-14-12A	03213642	Arbor	7.874	12	0.236	48.0	8.465	2.500	5.118	2.480	4200	18.080	SN.X1407AN
R220.54-808.00-14-17A	03213649	Arbor	7.874	17	0.236	48.0	8.465	2.500	5.118	2.480	4200	17.860	SN.X1407AN

Spare Parts, included in delivery

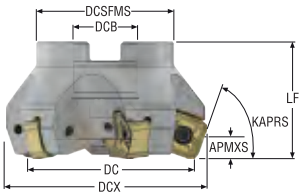
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-02.00-02.50	220.17-698	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P	–	–
R220.54-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.54-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.54-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.54-808.00	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.54-02.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35
R220.54-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	31.0IN.LBS	T00-15P35
R220.54-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Double Quattro R220.56-14 – Metric

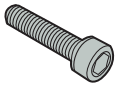
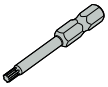
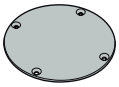




- For insert selection and cutting data recommendations, see page(s) 221-226
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.56-0050-14-4A	03241895	Arbor	50,0	4	8,0	71,0	57,0	22,0	47,0	40,0	8500	0,5	SN.X1407ZN
R220.56-0050-14-5A	03241902	Arbor	50,0	5	8,0	71,0	57,0	22,0	47,0	40,0	8500	0,4	SN.X1407ZN
R220.56-0063-14-5A	03241896	Arbor	63,0	5	8,0	71,0	70,0	22,0	47,0	40,0	7600	0,6	SN.X1407ZN
R220.56-0063-14-6A	03241903	Arbor	63,0	6	8,0	71,0	70,0	22,0	47,0	40,0	7600	0,6	SN.X1407ZN
R220.56-0080-14-6A	03241897	Arbor	80,0	6	8,0	71,0	87,0	27,0	62,0	50,0	6700	1,1	SN.X1407ZN
R220.56-0080-14-8A	03241904	Arbor	80,0	8	8,0	71,0	87,0	27,0	62,0	50,0	6700	1,1	SN.X1407ZN
R220.56-0100-14-7A	03241898	Arbor	100,0	7	8,0	71,0	107,0	32,0	77,0	50,0	6000	1,7	SN.X1407ZN
R220.56-0100-14-10A	03241905	Arbor	100,0	10	8,0	71,0	107,0	32,0	77,0	50,0	6000	1,7	SN.X1407ZN
R220.56-0125-14-8A	03241899	Arbor	125,0	8	8,0	71,0	132,0	40,0	90,0	63,0	5400	3,2	SN.X1407ZN
R220.56-0125-14-12A	03241906	Arbor	125,0	12	8,0	71,0	132,0	40,0	90,0	63,0	5400	3,1	SN.X1407ZN
R220.56-8160-14-10A	03241900	Arbor	160,0	10	8,0	71,0	167,0	40,0	90,0	63,0	4700	5,5	SN.X1407ZN
R220.56-8160-14-15A	03241907	Arbor	160,0	15	8,0	71,0	167,0	40,0	90,0	63,0	4700	5,4	SN.X1407ZN
R220.56-8200-14-12A	03241901	Arbor	200,0	12	8,0	71,0	207,0	60,0	130,0	63,0	4200	6,6	SN.X1407ZN
R220.56-8200-14-17A	03241908	Arbor	200,0	17	8,0	71,0	207,0	60,0	130,0	63,0	4200	6,9	SN.X1407ZN

Spare Parts, included in delivery

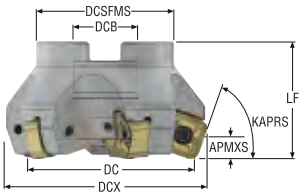
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-0050-0063	220.17-692	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-0080	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-0100-0125	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.56-8200	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.56-0050-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.56-0080-6A	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	3.5NM	T00-15P35
R220.56-0080-8A	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.56-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	3.5NM	T00-15P35
R220.56-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	3.5NM	T00-15P35
R220.56-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35
R220.56-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Double Quattro R220.56-14 – inch

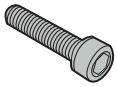
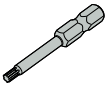
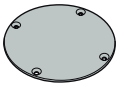




- For insert selection and cutting data recommendations, see page(s) 221-226
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.56-02.00-14-4A	03241909	Arbor	1.969	4	0.315	71.0	2.244	0.750	1.850	1.575	8500	0.880	SN.X1407ZN
R220.56-02.00-14-5A	03241916	Arbor	1.969	5	0.315	71.0	2.244	0.750	1.850	1.575	8500	1.100	SN.X1407ZN
R220.56-02.50-14-5A	03241910	Arbor	2.480	5	0.315	71.0	2.756	0.750	1.850	1.575	7600	1.100	SN.X1407ZN
R220.56-02.50-14-6A	03241917	Arbor	2.480	6	0.315	71.0	2.756	0.750	1.850	1.575	7600	1.320	SN.X1407ZN
R220.56-03.00-14-6A	03241911	Arbor	3.150	6	0.315	71.0	3.425	1.000	2.441	1.969	6700	2.650	SN.X1407ZN
R220.56-03.00-14-8A	03241918	Arbor	3.150	8	0.315	71.0	3.425	1.000	2.441	1.969	6700	2.870	SN.X1407ZN
R220.56-04.00-14-7A	03241912	Arbor	3.937	7	0.315	71.0	4.213	1.500	3.031	1.969	6000	3.310	SN.X1407ZN
R220.56-04.00-14-10A	03241919	Arbor	3.937	10	0.315	71.0	4.213	1.500	3.031	1.969	6000	3.530	SN.X1407ZN
R220.56-05.00-14-8A	03241913	Arbor	4.921	8	0.315	71.0	5.197	1.500	3.543	2.480	5400	8.160	SN.X1407ZN
R220.56-05.00-14-12A	03241920	Arbor	4.921	12	0.315	71.0	5.197	1.500	3.543	2.480	5400	7.940	SN.X1407ZN
R220.56-06.00-14-10A	03241914	Arbor	6.299	10	0.315	71.0	6.575	2.000	4.331	2.480	4700	13.450	SN.X1407ZN
R220.56-06.00-14-15A	03241921	Arbor	6.299	15	0.315	71.0	6.575	2.000	4.331	2.480	4700	13.230	SN.X1407ZN
R220.56-808.00-14-12A	03241915	Arbor	7.874	12	0.315	71.0	8.150	2.500	5.118	2.480	4200	16.310	SN.X1407ZN
R220.56-808.00-14-17A	03241922	Arbor	7.874	17	0.315	71.0	8.150	2.500	5.118	2.480	4200	14.990	SN.X1407ZN

Spare Parts, included in delivery

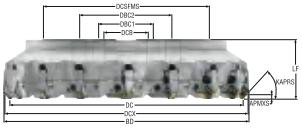
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P	–	–
R220.56-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.56-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10
R220.56-808.00	–	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.56-02.00-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35
R220.56-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	31.0IN.LBS	T00-15P35
R220.56-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Double Quattro R220.54/56-14CA – Metric

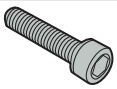
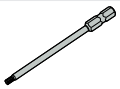
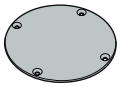
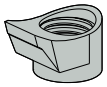




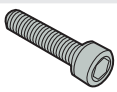
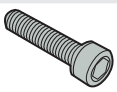
- For insert selection and cutting data recommendations, see page(s) 221-226
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	BD	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.54-8160-14-9CA	03213787	Arbor	160,0	9	6,0	48,0	175,0	176,5	40,0	90,0	80,0	4700	7,7	SN.X1407AN
R220.54-8200-14-11CA	03213788	Arbor	200,0	11	6,0	48,0	215,0	216,5	60,0	130,0	80,0	4200	9,8	SN.X1407AN
R220.54-8250-14-14CA	03213789	Arbor	250,0	14	6,0	48,0	265,0	266,5	60,0	130,0	80,0	3800	18,7	SN.X1407AN
R220.54-8315-14-16CA	03213790	Arbor	315,0	16	6,0	48,0	330,0	331,5	60,0	225,0	80,0	3400	32,0	SN.X1407AN
R220.56-8160-14-9CA	03245958	Arbor	160,0	9	8,0	71,0	167,0	175,5	40,0	90,0	80,0	4700	7,7	SN.X1407ZN
R220.56-8200-14-11CA	03245959	Arbor	200,0	11	8,0	71,0	207,0	215,5	60,0	130,0	80,0	4200	18,6	SN.X1407ZN
R220.56-8250-14-14CA	03245960	Arbor	250,0	14	8,0	71,0	257,0	265,5	60,0	130,0	80,0	3800	18,5	SN.X1407ZN
R220.56-8315-14-16CA	03245961	Arbor	315,0	16	8,0	71,0	322,0	330,5	60,0	225,0	80,0	3400	29,8	SN.X1407ZN

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-8160	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8200	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8250	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8315	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8160	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8200	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X8	CW0810	LD8020-T25P
R220.56-8250	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8315	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

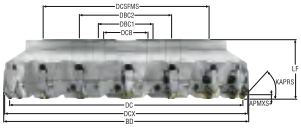
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Insert clamping torque	Torque key
					
R220.54/56-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	–	3.5NM	T00-15P35
R220.54/56-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	3.5NM	T00-15P35
R220.54/56-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	3.5NM	T00-15P35
R220.54/56-8315	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	MC6S20X50	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Double Quattro R220.54/56-14CA – inch





- For insert selection and cutting data recommendations, see page(s) 221-226
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	BD	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch		lbs	
R220.54-06.00-14-9CA	03213791	Arbor	6.299	9	0.236	48,0	6.890	6.949	2.000	4.331	3.150	4700	16.090	SN.X1407AN
R220.54-808.00-14-11CA	03213792	Arbor	7.874	11	0.236	48,0	8.465	8.524	2.500	5.118	3.150	4200	32.850	SN.X1407AN
R220.54-810.00-14-14CA	03213793	Arbor	9.843	14	0.236	48,0	10.433	10.492	2.500	5.118	3.150	3800	41.890	SN.X1407AN
R220.54-812.50-14-16CA	03213794	Arbor	12.402	16	0.236	48,0	12.992	13.051	2.500	8.858	3.150	3400	82.230	SN.X1407AN
R220.56-06.00-14-9CA	03245962	Arbor	6.299	9	0.315	71,0	6.575	6.909	2.000	4.331	3.150	4700	17.420	SN.X1407ZN
R220.56-808.00-14-11CA	03245963	Arbor	7.874	11	0.315	71,0	8.150	8.484	2.500	5.118	3.150	4200	22.490	SN.X1407ZN
R220.56-810.00-14-14CA	03245964	Arbor	9.843	14	0.315	71,0	10.118	10.453	2.500	5.118	3.150	3800	43.650	SN.X1407ZN
R220.56-812.50-14-16CA	03245965	Arbor	12.402	16	0.315	71,0	12.677	13.012	2.500	8.858	3.150	3400	65.920	SN.X1407ZN

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-06.00	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-808.00	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-810.00	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-812.50	AU1114T-T15P	SN14AR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-06.00	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-808.00	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-810.00	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-812.50	AU1114T-T15P	SN14ZR	MC6S6X20	1/4HEX-T15PX90	C04011-T15P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.54/56-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	31.0IN.LBS	T00-15P35
R220.54/56-808.00-812.50	1/4HEX-S-HANDLE-0.8-5.0NM	950DNC062225	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R220.54-14 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX1407ANTR-M10 MS2050	5,0 *0.20*	0,24 *0.0095*	0,24 *0.0095*	0,25 *0.010*	0,32 *0.013*
P2	SNMX1407ANTR-M10 MS2050	5,0 *0.20*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
P3	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,38 *0.015*	0,38 *0.015*	0,38 *0.015*	0,48 *0.019*
P4	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,48 *0.019*
P5	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,46 *0.018*
P6	SNMX1407ANTR-M16 MP2501	5,0 *0.20*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.018*
P7	SNMX1407ANTR-M10 MP3501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
P8	SNMX1407ANTR-M10 MP3501	5,0 *0.20*	0,24 *0.0095*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
P11	SNMX1407ANTR-M10 MP2050	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
P12	SNMX1407ANTR-M10 MP2050	4,0 *0.16*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
M1	SNHX1407ANR-ME10 F40M	5,0 *0.20*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
M2	SNHX1407ANR-ME10 MS2050	5,0 *0.20*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
M3	SNHX1407ANR-ME10 MS2050	4,0 *0.16*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,20 *0.0080*
M4	SNMX1407ANTR-M10 MP2050	3,0 *0.12*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
M5	SNMX1407ANTR-M10 MP2050	3,0 *0.12*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
K1	SNMX1407ANTR-M16 MK1500	5,0 *0.20*	0,40 *0.016*	0,40 *0.016*	0,40 *0.016*	0,50 *0.020*
K2	SNMX1407ANTR-M16 MK1500	5,0 *0.20*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,46 *0.018*
K3	SNMX1407ANTR-M16 MP1501	5,0 *0.20*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,46 *0.018*
K4	SNMX1407ANTR-M16 MP1501	5,0 *0.20*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,46 *0.018*
K5	SNMX1407ANTR-M16 MP1501	5,0 *0.20*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
K6	SNMX1407ANTR-M16 MK2050	5,0 *0.20*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,46 *0.018*
K7	SNMX1407ANTR-M16 MK2050	5,0 *0.20*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
N1	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
N2	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
N3	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
N11	SNHX1407ANR-ME10 H25	5,0 *0.20*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
S1	SNMX1407ANTR-M10 MS2500	3,0 *0.12*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
S2	SNMX1407ANTR-M10 MS2500	3,0 *0.12*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
S3	SNMX1407ANTR-M10 MS2500	3,0 *0.12*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,20 *0.0080*
S11	SNHX1407ANR-ME10 MS2050	3,5 *0.14*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
S12	SNHX1407ANR-ME10 MS2050	3,5 *0.14*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
S13	SNHX1407ANR-ME10 MS2050	3,0 *0.12*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,18 *0.0070*
H5	SNMX1407ANTR-M16 MP3000	4,0 *0.16*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
H8	SNMX1407ANTR-M16 MP3000	3,5 *0.14*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,25 *0.010*
H11	SNMX1407ANTR-M16 MP1501	4,0 *0.16*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
H12	SNMX1407ANTR-M16 MP1501	3,5 *0.14*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,25 *0.010*
H21	SNMX1407ANTR-M16 MP1501	3,5 *0.14*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,25 *0.010*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.54-14 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MP3000				MS2050				F40M				MP2050				H25			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	230 *750*	245 *800*	270 *890*	295 *970*	220 *720*	240 *790*	260 *850*	285 *940*	230 *750*	245 *800*	265 *870*	290 *950*	205 *670*	220 *720*	240 *790*	265 *870*	270 *890*	290 *950*	310 *1025*	345 *1125*	— —	— —	— —	— —
P2	220 *720*	235 *770*	255 *840*	290 *950*	215 *710*	225 *740*	245 *800*	275 *900*	220 *720*	235 *770*	255 *840*	280 *920*	200 *660*	215 *710*	230 *750*	255 *840*	260 *850*	275 *900*	300 *980*	330 *1075*	— —	— —	— —	— —
P3	195 *640*	205 *670*	225 *740*	250 *820*	185 *610*	200 *660*	215 *710*	245 *800*	190 *620*	205 *670*	220 *720*	245 *800*	175 *570*	185 *610*	200 *660*	225 *740*	225 *740*	240 *790*	260 *850*	290 *950*	— —	— —	— —	— —
P4	175 *570*	185 *610*	200 *660*	220 *720*	165 *540*	180 *590*	195 *640*	215 *710*	170 *560*	180 *590*	195 *640*	220 *720*	155 *510*	165 *540*	175 *570*	200 *660*	200 *660*	215 *710*	230 *750*	255 *840*	— —	— —	— —	— —
P5	165 *540*	180 *590*	190 *620*	210 *690*	160 *520*	170 *560*	185 *610*	205 *670*	165 *540*	175 *570*	190 *620*	210 *690*	150 *490*	160 *520*	175 *570*	190 *620*	195 *640*	210 *690*	225 *740*	245 *800*	— —	— —	— —	— —
P6	185 *610*	200 *660*	215 *710*	240 *790*	180 *590*	190 *620*	210 *690*	235 *770*	185 *610*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	195 *640*	210 *690*	220 *720*	235 *770*	255 *840*	275 *900*	— —	— —	— —	— —
P7	175 *570*	190 *620*	205 *670*	230 *750*	170 *560*	180 *590*	195 *640*	220 *720*	175 *570*	190 *620*	205 *670*	220 *720*	160 *520*	170 *560*	185 *610*	200 *660*	205 *670*	220 *720*	240 *790*	260 *850*	— —	— —	— —	— —
P8	165 *540*	175 *570*	190 *620*	210 *690*	155 *510*	170 *560*	180 *590*	205 *670*	160 *520*	170 *560*	185 *610*	210 *690*	145 *475*	155 *510*	170 *560*	190 *620*	190 *620*	205 *670*	220 *720*	245 *800*	— —	— —	— —	— —
P11	170 *560*	185 *610*	200 *660*	220 *720*	165 *540*	175 *570*	190 *620*	215 *710*	170 *560*	180 *590*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	195 *640*	200 *660*	215 *710*	230 *750*	250 *820*	— —	— —	— —	— —
P12	115 *375*	120 *395*	130 *425*	145 *475*	110 *360*	115 *375*	125 *410*	140 *460*	110 *360*	115 *375*	125 *410*	140 *460*	100 *330*	105 *345*	115 *375*	130 *425*	130 *425*	140 *460*	150 *490*	165 *540*	— —	— —	— —	— —
M1	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	205 *670*	175 *570*	190 *620*	205 *670*	225 *740*	160 *520*	170 *560*	185 *610*	205 *670*	185 *610*	200 *660*	215 *710*	235 *770*	— —	— —	— —	— —
M2	— —	— —	— —	— —	135 *445*	145 *475*	155 *510*	170 *560*	150 *490*	160 *520*	170 *560*	185 *610*	135 *445*	145 *475*	155 *510*	170 *560*	155 *510*	165 *540*	180 *590*	195 *640*	— —	— —	— —	— —
M3	— —	— —	— —	— —	110 *360*	115 *375*	125 *410*	140 *460*	120 *395*	130 *425*	140 *460*	150 *490*	110 *360*	115 *375*	125 *410*	140 *460*	125 *410*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —
M4	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	110 *360*	90 *295*	95 *310*	105 *345*	115 *375*	85 *280*	90 *295*	95 *310*	105 *345*	95 *310*	100 *330*	110 *360*	120 *395*	— —	— —	— —	— —
M5	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	75 *245*	80 *260*	85 *280*	95 *310*	70 *230*	75 *245*	80 *260*	90 *295*	80 *260*	85 *280*	90 *295*	100 *330*	— —	— —	— —	— —
K1	240 *790*	255 *840*	275 *900*	310 *1025*	170 *560*	180 *590*	195 *640*	220 *720*	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	200 *660*	— —	— —	— —	— —	165 *540*	175 *570*	190 *620*	205 *670*
K2	215 *710*	230 *750*	250 *820*	275 *900*	150 *490*	160 *520*	175 *570*	195 *640*	— —	— —	— —	— —	140 *460*	155 *510*	165 *540*	180 *590*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	185 *610*
K3	180 *590*	195 *640*	210 *690*	230 *750*	130 *425*	135 *445*	150 *490*	165 *540*	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	150 *490*	— —	— —	— —	— —	— —	— —	— —	— —
K4	175 *570*	185 *610*	200 *660*	220 *720*	120 *395*	130 *425*	140 *460*	155 *510*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	145 *475*	— —	— —	— —	— —	— —	— —	— —	— —
K5	105 *345*	115 *375*	125 *410*	135 *445*	75 *245*	80 *260*	90 *295*	95 *310*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	— —	— —
K6	155 *510*	165 *540*	175 *570*	195 *640*	110 *360*	115 *375*	125 *410*	140 *460*	— —	— —	— —	— —	100 *330*	110 *360*	115 *375*	130 *425*	— —	— —	— —	— —	— —	— —	— —	— —
K7	135 *445*	145 *475*	160 *520*	175 *570*	95 *310*	105 *345*	115 *375*	125 *410*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1150 *3775*	1225 *4025*	1325 *4350*	1500 *4925*	— —	— —	— —	— —	1200 *3925*	1275 *4175*	1400 *4600*	1525 *5000*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	465 *1525*	500 *1650*	540 *1775*	600 *1975*	— —	— —	— —	— —	485 *1600*	520 *1700*	560 *1825*	610 *2000*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	310 *1025*	330 *1075*	360 *1175*	405 *1325*	— —	— —	— —	— —	320 *1050*	345 *1125*	375 *1225*	410 *1350*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	355 *1175*	380 *1250*	410 *1350*	460 *1500*	— —	— —	— —	— —	370 *1225*	395 *1300*	425 *1400*	465 *1525*
S1	— —	— —	— —	— —	40 *130*	42 *140*	45 *150*	50 *165*	42 *140*	45 *150*	49 *160*	55 *180*	39 *130*	41 *135*	44 *145*	49 *160*	47 *155*	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —
S2	— —	— —	— —	— —	32 *105*	34 *110*	37 *120*	41 *135*	34 *110*	37 *120*	39 *130*	44 *145*	31 *100*	33 *110*	36 *120*	40 *130*	38 *125*	40 *130*	43 *140*	48 *155*	— —	— —	— —	— —
S3	— —	— —	— —	— —	28 *90*	30 *100*	32 *105*	36 *120*	31 *100*	33 *110*	35 *115*	38 *125*	28 *90*	30 *100*	32 *105*	35 *115*	33 *110*	36 *120*	39 *130*	42 *140*	— —	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	75 *245*	55 *180*	60 *195*	60 *195*	70 *230*	65 *215*	70 *230*	75 *245*	85 *280*	35 *115*	38 *125*	40 *130*	45 *150*
S12	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	44 *145*	47 *155*	55 *180*	37 *120*	40 *130*	43 *140*	48 *155*	45 *150*	48 *155*	50 *165*	60 *195*	— —	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	24 *80*	26 *85*	28 *90*	31 *100*	22 *70*	23 *75*	25 *80*	28 *90*	26 *85*	28 *90*	30 *100*	34 *110*	— —	— —	— —	— —
H5	— —	— —	— —	— —	34 *110*	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	37 *120*	39 *130*	42 *140*	47 *155*	— —	— —	— —	— —	36 *120*	38 *125*	41 *135*	46 *150*	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	43 *140*	46 *150*	50 *165*	55 *180*	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	55 *180*	49 *160*	55 *180*	55 *180*	65 *215*	— —	— —	— —	— —
H12	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	85 *280*	90 *295*	95 *310*	105 *345*	— —	— —	— —	— —
H21	— —	— —	— —	— —	37 *120*	39 *130*	42 *140*	47 *155*	— —	— —	— —	— —	36 *120*	38 *125*	41 *135*	46 *150*	42 *140*	45 *150*	48 *155*	55 *180*	— —	— —	— —	— —

R220.54-14 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501				MS2500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	395	410	440	475	385	400	425	465	340	355	380	415	300	320	345	380
	—	—	—	—	*1300*	*1350*	*1450*	*1550*	*1275*	*1300*	*1400*	*1525*	*1125*	*1175*	*1250*	*1350*	*980*	*1050*	*1125*	*1250*
P2	—	—	—	—	375	395	420	460	370	380	410	445	330	340	365	400	285	310	335	365
	—	—	—	—	*1225*	*1300*	*1375*	*1500*	*1225*	*1250*	*1350*	*1450*	*1075*	*1125*	*1200*	*1300*	*940*	*1025*	*1100*	*1200*
P3	—	—	—	—	330	345	365	405	320	335	360	395	285	295	320	355	250	270	290	325
	—	—	—	—	*1075*	*1125*	*1200*	*1325*	*1050*	*1100*	*1175*	*1300*	*940*	*970*	*1050*	*1175*	*820*	*890*	*950*	*1075*
P4	—	—	—	—	290	300	325	355	285	295	315	350	255	260	280	310	220	235	255	285
	—	—	—	—	*950*	*980*	*1075*	*1175*	*940*	*970*	*1025*	*1150*	*840*	*850*	*920*	*1025*	*720*	*770*	*840*	*940*
P5	—	—	—	—	285	295	315	340	280	290	310	330	250	260	275	295	215	230	250	270
	—	—	—	—	*940*	*970*	*1025*	*1125*	*920*	*950*	*1025*	*1075*	*820*	*850*	*900*	*970*	*710*	*750*	*820*	*890*
P6	—	—	—	—	320	335	355	380	315	325	350	375	280	290	310	335	240	260	280	305
	—	—	—	—	*1050*	*1100*	*1175*	*1250*	*1025*	*1075*	*1150*	*1225*	*920*	*950*	*1025*	*1100*	*790*	*850*	*920*	*1000*
P7	—	—	—	—	300	315	335	360	295	305	330	350	265	275	295	315	230	245	265	290
	—	—	—	—	*980*	*1025*	*1100*	*1175*	*970*	*1000*	*1075*	*1150*	*870*	*900*	*970*	*1025*	*750*	*800*	*870*	*950*
P8	—	—	—	—	275	290	310	340	270	280	300	330	240	250	270	295	210	225	245	270
	—	—	—	—	*900*	*950*	*1025*	*1125*	*890*	*920*	*980*	*1075*	*790*	*820*	*890*	*970*	*690*	*740*	*800*	*890*
P11	—	—	—	—	295	305	325	350	285	300	320	340	255	265	285	305	220	240	260	280
	—	—	—	—	*970*	*1000*	*1075*	*1150*	*940*	*980*	*1050*	*1125*	*840*	*870*	*940*	*1000*	*720*	*790*	*850*	*920*
P12	—	—	—	—	190	195	210	225	185	195	205	225	165	175	185	200	145	155	165	185
	—	—	—	—	*620*	*640*	*690*	*740*	*610*	*640*	*670*	*740*	*540*	*570*	*610*	*660*	*475*	*510*	*540*	*610*
M1	—	—	—	—	—	—	—	—	190	205	220	240	175	190	205	225	205	220	240	265
	—	—	—	—	—	—	—	—	*620*	*670*	*720*	*790*	*570*	*620*	*670*	*740*	*670*	*720*	*790*	*870*
M2	—	—	—	—	—	—	—	—	160	170	185	200	150	160	170	185	175	185	200	220
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*660*	*490*	*520*	*560*	*610*	*570*	*610*	*660*	*720*
M3	—	—	—	—	—	—	—	—	130	135	150	160	120	130	140	150	140	150	160	175
	—	—	—	—	—	—	—	—	*425*	*445*	*490*	*520*	*395*	*425*	*460*	*490*	*460*	*490*	*520*	*570*
M4	—	—	—	—	—	—	—	—	100	105	110	125	90	95	105	115	105	115	120	135
	—	—	—	—	—	—	—	—	*330*	*345*	*360*	*410*	*295*	*310*	*345*	*375*	*345*	*375*	*395*	*445*
M5	—	—	—	—	—	—	—	—	80	85	95	105	75	80	85	95	90	95	100	115
	—	—	—	—	—	—	—	—	*260*	*280*	*310*	*345*	*245*	*260*	*280*	*310*	*295*	*310*	*330*	*375*
K1	250	270	290	330	380	395	425	460	370	385	415	450	330	345	370	405	225	245	265	290
	820	*890*	*950*	*1075*	*1250*	*1300*	*1400*	*1500*	*1225*	*1275*	*1350*	*1475*	*1075*	*1125*	*1225*	*1325*	*740*	*800*	*870*	*950*
K2	225	245	265	290	345	360	385	410	335	350	375	400	300	315	335	360	205	220	240	260
	740	*800*	*870*	*950*	*1125*	*1175*	*1275*	*1350*	*1100*	*1150*	*1225*	*1300*	*980*	*1025*	*1100*	*1175*	*670*	*720*	*790*	*850*
K3	190	205	220	245	290	305	325	345	285	295	315	340	255	265	285	305	175	185	200	220
	620	*670*	*720*	*800*	*950*	*1000*	*1075*	*1125*	*940*	*970*	*1025*	*1125*	*840*	*870*	*940*	*1000*	*570*	*610*	*660*	*720*
K4	185	195	210	235	280	290	310	330	270	285	305	325	245	250	270	290	165	180	190	210
	610	*640*	*690*	*770*	*920*	*950*	*1025*	*1075*	*890*	*940*	*1000*	*1075*	*800*	*820*	*890*	*950*	*540*	*590*	*620*	*690*
K5	115	120	130	145	170	180	190	200	165	175	185	200	150	155	165	180	100	110	120	125
	375	*395*	*425*	*475*	*560*	*590*	*620*	*660*	*540*	*570*	*610*	*660*	*490*	*510*	*540*	*590*	*330*	*360*	*395*	*410*
K6	160	175	185	205	245	255	275	290	240	250	265	285	215	220	240	255	145	155	170	185
	520	*570*	*610*	*670*	*800*	*840*	*900*	*950*	*790*	*820*	*870*	*940*	*710*	*720*	*790*	*840*	*475*	*510*	*560*	*610*
K7	145	155	170	185	220	230	245	260	215	225	240	255	190	200	215	225	130	140	150	165
	475	*510*	*560*	*610*	*720*	*750*	*800*	*850*	*710*	*740*	*790*	*840*	*620*	*660*	*710*	*740*	*425*	*460*	*490*	*540*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	42	45	49	55	50	55	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*160*	*180*	*165*	*180*	*195*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	34	37	39	44	42	45	48	55
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*145*	*140*	*150*	*155*	*180*
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	33	35	38	37	40	43	47
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*110*	*115*	*125*	*120*	*130*	*140*	*155*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	75	70	75	85	95
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*245*	*230*	*245*	*280*	*310*
S12	—	—	—	—	—	—	—	—	—	—	—	—	41	44	47	55	50	55	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	*135*	*145*	*155*	*180*	*165*	*180*	*195*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	24	26	28	31	29	31	34	37
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*85*	*90*	*100*	*95*	*100*	*110*	*120*
H5	—	—	—	—	49	55	55	65	—	—	—	—	38	41	44	49	43	46	50	55
	—	—	—	—	*160*	*180*	*180*	*215*	—	—	—	—	*125*	*135*	*145*	*160*	*140*	*150*	*165*	*180*
H8	—	—	—	—	55	55	60	70	—	—	—	—	41	44	47	50	46	50	55	60
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*135*	*145*	*155*	*165*	*150*	*165*	*180*	*195*
H11	—	—	—	—	65	65	70	80	—	—	—	—	48	50	55	60	55	60	65	70
	—	—	—	—	*215*	*215*	*230*	*260*	—	—	—	—	*155*	*165*	*180*	*195*	*180*	*195*	*215*	*230*
H12	—	—	—	—	95	100	110	120	—	—	—	—	75	80	85	95	90	100	105	120
	—	—	—	—	*310*	*330*	*360*	*395*	—	—	—	—	*245*	*260*	*280*	*310*	*295*	*330*	*345*	*395*
H21	—	—	—	—	55	55	60	70	—	—	—	—	41	44	47	50	46	50	55	60
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*135*	*145*	*155*	*165*	*150*	*165*	*180*	*195*

R220.56-14 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX1407ZNTR-M10 MS2050	6,0 *0.24*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
P2	SNMX1407ZNTR-M10 MS2050	6,0 *0.24*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
P3	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
P4	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
P5	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P6	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P7	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P8	SNMX1407ZNTR-M16 MP2501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
P11	SNMX1407ZNTR-M10 MP2050	6,0 *0.24*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P12	SNMX1407ZNTR-M10 MP2050	5,0 *0.20*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
M1	SNHX1407ZNR-ME10 MS2050	6,0 *0.24*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
M2	SNHX1407ZNR-ME10 MS2050	6,0 *0.24*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,18 *0.0070*
M3	SNHX1407ZNR-ME10 MS2050	5,0 *0.20*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
M4	SNMX1407ZNTR-M10 MP2050	4,0 *0.16*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*
M5	SNMX1407ZNTR-M10 MP2050	4,0 *0.16*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*
K1	SNMX1407ZNTR-M16 MK1500	6,0 *0.24*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
K2	SNMX1407ZNTR-M16 MK1500	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
K3	SNMX1407ZNTR-M16 MP1501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
K4	SNMX1407ZNTR-M16 MP1501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
K5	SNMX1407ZNTR-M16 MP1501	6,0 *0.24*	0,25 *0.010*	0,25 *0.010*	0,25 *0.010*	0,32 *0.013*
K6	SNMX1407ZNTR-M16 MK2050	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
K7	SNMX1407ZNTR-M16 MK2050	6,0 *0.24*	0,25 *0.010*	0,25 *0.010*	0,25 *0.010*	0,32 *0.013*
S1	SNMX1407ZNTR-M10 MS2500	4,0 *0.16*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*
S2	SNMX1407ZNTR-M10 MS2500	4,0 *0.16*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*
S3	SNMX1407ZNTR-M10 MS2500	4,0 *0.16*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
S11	SNHX1407ZNR-ME10 MS2050	4,5 *0.18*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
S12	SNHX1407ZNR-ME10 MS2050	4,5 *0.18*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
S13	SNHX1407ZNR-ME10 MS2050	4,0 *0.16*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*
H5	SNMX1407ZNTR-M16 MP1501	5,0 *0.20*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H8	SNMX1407ZNTR-M16 MP1501	4,5 *0.18*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,19 *0.0075*
H11	SNMX1407ZNTR-M16 MP1501	5,0 *0.20*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H12	SNMX1407ZNTR-M16 MP1501	4,5 *0.18*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,19 *0.0075*
H21	SNMX1407ZNTR-M16 MP1501	4,5 *0.18*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,19 *0.0075*
H31	SNMX1407ZNTR-M16 MP1501	— —	— —	— —	— —	— —

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

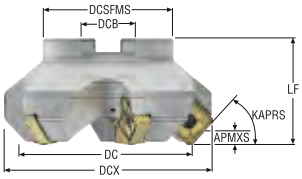
R220.56-14 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MP3000				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	225 *740*	235 *770*	255 *840*	290 *950*	260 *850*	275 *900*	300 *980*	335 *1100*	230 *750*	245 *800*	260 *850*	295 *970*	210 *690*	220 *720*	240 *790*	265 *870*	270 *890*	285 *940*	310 *1025*	345 *1125*
P2	220 *720*	230 *750*	250 *820*	275 *900*	255 *840*	270 *890*	290 *950*	320 *1050*	225 *740*	235 *770*	255 *840*	280 *920*	205 *670*	215 *710*	230 *750*	255 *840*	265 *870*	280 *920*	300 *980*	330 *1075*
P3	195 *640*	205 *670*	220 *720*	240 *790*	220 *720*	235 *770*	255 *840*	280 *920*	195 *640*	205 *670*	225 *740*	245 *800*	175 *570*	190 *620*	205 *670*	225 *740*	230 *750*	245 *800*	265 *870*	290 *950*
P4	170 *560*	180 *590*	195 *640*	220 *720*	195 *640*	205 *670*	225 *740*	250 *820*	170 *560*	180 *590*	195 *640*	220 *720*	155 *510*	165 *540*	180 *590*	200 *660*	200 *660*	215 *710*	230 *750*	260 *850*
P5	160 *520*	170 *560*	185 *610*	210 *690*	190 *620*	200 *660*	215 *710*	240 *790*	165 *540*	175 *570*	190 *620*	210 *690*	150 *490*	160 *520*	175 *570*	190 *620*	195 *640*	210 *690*	225 *740*	245 *800*
P6	180 *590*	190 *620*	210 *690*	235 *770*	215 *710*	225 *740*	245 *800*	265 *870*	185 *610*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	195 *640*	215 *710*	220 *720*	235 *770*	255 *840*	275 *900*
P7	170 *560*	180 *590*	195 *640*	220 *720*	200 *660*	215 *710*	230 *750*	250 *820*	175 *570*	190 *620*	205 *670*	220 *720*	160 *520*	170 *560*	185 *610*	200 *660*	210 *690*	220 *720*	240 *790*	260 *850*
P8	160 *520*	170 *560*	185 *610*	205 *670*	185 *610*	200 *660*	215 *710*	235 *770*	165 *540*	175 *570*	190 *620*	205 *670*	150 *490*	160 *520*	170 *560*	190 *620*	195 *640*	205 *670*	220 *720*	245 *800*
P11	165 *540*	175 *570*	190 *620*	215 *710*	195 *640*	205 *670*	225 *740*	245 *800*	170 *560*	180 *590*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	195 *640*	200 *660*	215 *710*	230 *750*	255 *840*
P12	110 *360*	120 *395*	130 *425*	145 *475*	125 *410*	135 *445*	145 *475*	160 *520*	110 *360*	120 *395*	130 *425*	145 *475*	100 *330*	110 *360*	115 *375*	130 *425*	130 *425*	140 *460*	150 *490*	170 *560*
M1	— —	— —	— —	— —	190 *620*	200 *660*	215 *710*	240 *790*	180 *590*	190 *620*	205 *670*	225 *740*	165 *540*	175 *570*	185 *610*	205 *670*	190 *620*	200 *660*	215 *710*	235 *770*
M2	— —	— —	— —	— —	160 *520*	170 *560*	180 *590*	200 *660*	150 *490*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	155 *510*	170 *560*	155 *510*	165 *540*	180 *590*	200 *660*
M3	— —	— —	— —	— —	130 *425*	135 *445*	145 *475*	165 *540*	120 *395*	130 *425*	140 *460*	155 *510*	110 *360*	115 *375*	125 *410*	140 *460*	125 *410*	135 *445*	145 *475*	160 *520*
M4	— —	— —	— —	— —	100 *330*	105 *345*	110 *360*	125 *410*	95 *310*	100 *330*	105 *345*	120 *395*	85 *280*	90 *295*	95 *310*	105 *345*	100 *330*	105 *345*	110 *360*	125 *410*
M5	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	105 *345*	80 *260*	80 *260*	90 *295*	100 *330*	70 *230*	75 *245*	80 *260*	90 *295*	80 *260*	85 *280*	95 *310*	105 *345*
K1	235 *770*	250 *820*	270 *890*	295 *970*	200 *660*	215 *710*	230 *750*	255 *840*	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	200 *660*	— —	— —	— —	— —
K2	210 *690*	220 *720*	240 *790*	270 *890*	180 *590*	190 *620*	205 *670*	225 *740*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	180 *590*	— —	— —	— —	— —
K3	175 *570*	185 *610*	205 *670*	225 *740*	150 *490*	160 *520*	175 *570*	190 *620*	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	155 *510*	— —	— —	— —	— —
K4	170 *560*	180 *590*	195 *640*	215 *710*	145 *475*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	145 *475*	— —	— —	— —	— —
K5	105 *345*	110 *360*	120 *395*	130 *425*	90 *295*	95 *310*	100 *330*	115 *375*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —
K6	150 *490*	155 *510*	170 *560*	190 *620*	130 *425*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —	100 *330*	110 *360*	115 *375*	130 *425*	— —	— —	— —	— —
K7	135 *445*	140 *460*	155 *510*	170 *560*	115 *375*	120 *395*	130 *425*	145 *475*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —
S1	— —	— —	— —	— —	46 *150*	49 *160*	50 *165*	60 *195*	43 *140*	46 *150*	50 *165*	55 *180*	40 *130*	42 *140*	45 *150*	50 *165*	48 *155*	50 *165*	55 *180*	60 *195*
S2	— —	— —	— —	— —	37 *120*	39 *130*	42 *140*	47 *155*	35 *115*	37 *120*	40 *130*	44 *145*	32 *105*	34 *110*	36 *120*	40 *130*	38 *125*	41 *135*	44 *145*	49 *160*
S3	— —	— —	— —	— —	33 *110*	35 *115*	37 *120*	41 *135*	31 *100*	33 *110*	35 *115*	39 *130*	28 *90*	30 *100*	32 *105*	36 *120*	34 *110*	36 *120*	39 *130*	43 *140*
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	75 *245*	55 *180*	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	75 *245*	85 *280*
S12	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	45 *150*	49 *160*	55 *180*	39 *130*	41 *135*	44 *145*	48 *155*	47 *155*	49 *160*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	— —	— —	— —	24 *80*	26 *85*	28 *90*	31 *100*	22 *70*	24 *80*	25 *80*	28 *90*	27 *90*	28 *90*	31 *100*	34 *110*
H5	— —	— —	— —	— —	40 *130*	42 *140*	45 *150*	50 *165*	— —	— —	— —	— —	34 *110*	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —
H8	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*	46 *150*	— —	— —	— —	— —
H11	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	65 *215*	— —	— —	— —	— —	43 *140*	46 *150*	49 *160*	55 *180*	50 *165*	55 *180*	60 *195*	65 *215*
H12	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	100 *330*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	85 *280*	90 *295*	95 *310*	105 *345*
H21	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*	46 *150*	42 *140*	45 *150*	49 *160*	55 *180*

R220.56-14 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MS2500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	320	325	350	395	310	315	340	380	300	320	345	385
	—	—	—	—	*1050*	*1075*	*1150*	*1300*	*1025*	*1025*	*1125*	*1250*	*980*	*1050*	*1125*	*1275*
P2	—	—	—	—	310	320	340	375	300	305	330	360	290	310	335	370
	—	—	—	—	*1025*	*1050*	*1125*	*1225*	*980*	*1000*	*1075*	*1175*	*950*	*1025*	*1100*	*1225*
P3	—	—	—	—	275	280	305	330	265	270	295	320	255	270	295	320
	—	—	—	—	*900*	*920*	*1000*	*1075*	*870*	*890*	*970*	*1050*	*840*	*890*	*970*	*1050*
P4	—	—	—	—	245	250	265	300	235	240	260	290	225	240	260	285
	—	—	—	—	*800*	*820*	*870*	*980*	*770*	*790*	*850*	*950*	*740*	*790*	*850*	*940*
P5	—	—	—	—	230	235	255	285	225	230	245	275	220	230	250	275
	—	—	—	—	*750*	*770*	*840*	*940*	*740*	*750*	*800*	*900*	*720*	*750*	*820*	*900*
P6	—	—	—	—	260	265	285	320	250	255	275	310	245	260	280	310
	—	—	—	—	*850*	*870*	*940*	*1050*	*820*	*840*	*900*	*1025*	*800*	*850*	*920*	*1025*
P7	—	—	—	—	245	250	270	300	240	240	260	295	230	245	265	290
	—	—	—	—	*800*	*820*	*890*	*980*	*790*	*790*	*850*	*970*	*750*	*800*	*870*	*950*
P8	—	—	—	—	230	235	255	275	225	230	245	270	215	230	245	270
	—	—	—	—	*750*	*770*	*840*	*900*	*740*	*750*	*800*	*890*	*710*	*750*	*800*	*890*
P11	—	—	—	—	240	245	265	295	230	235	255	285	225	240	260	280
	—	—	—	—	*790*	*800*	*870*	*970*	*750*	*770*	*840*	*940*	*740*	*790*	*850*	*920*
P12	—	—	—	—	165	170	180	200	160	165	175	195	145	155	170	185
	—	—	—	—	*540*	*560*	*590*	*660*	*520*	*540*	*570*	*640*	*475*	*510*	*560*	*610*
M1	—	—	—	—	—	—	—	—	160	170	185	200	210	220	240	265
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*660*	*690*	*720*	*790*	*870*
M2	—	—	—	—	—	—	—	—	130	140	150	170	175	185	200	220
	—	—	—	—	—	—	—	—	*425*	*460*	*490*	*560*	*570*	*610*	*660*	*720*
M3	—	—	—	—	—	—	—	—	110	115	125	140	140	150	160	180
	—	—	—	—	—	—	—	—	*360*	*375*	*410*	*460*	*460*	*490*	*520*	*590*
M4	—	—	—	—	—	—	—	—	85	90	95	110	110	115	125	135
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*360*	*360*	*375*	*410*	*445*
M5	—	—	—	—	—	—	—	—	70	75	80	90	90	95	105	115
	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*295*	*310*	*345*	*375*
K1	250	265	285	315	315	320	345	375	305	310	335	365	230	245	265	290
	820	*870*	*940*	*1025*	*1025*	*1050*	*1125*	*1225*	*1000*	*1025*	*1100*	*1200*	*750*	*800*	*870*	*950*
K2	220	235	255	285	280	285	310	345	270	275	300	335	205	220	240	260
	720	*770*	*840*	*940*	*920*	*940*	*1025*	*1125*	*890*	*900*	*980*	*1100*	*670*	*720*	*790*	*850*
K3	185	200	215	240	235	245	260	290	230	235	250	285	175	185	200	220
	610	*660*	*710*	*790*	*770*	*800*	*850*	*950*	*750*	*770*	*820*	*940*	*570*	*610*	*660*	*720*
K4	180	190	205	230	225	230	250	280	220	225	240	270	170	180	190	210
	590	*620*	*670*	*750*	*740*	*750*	*820*	*920*	*720*	*740*	*790*	*890*	*560*	*590*	*620*	*690*
K5	110	115	125	140	140	145	155	170	135	140	150	165	100	110	115	130
	360	*375*	*410*	*460*	*460*	*475*	*510*	*560*	*445*	*460*	*490*	*540*	*330*	*360*	*375*	*425*
K6	155	165	180	200	200	205	220	245	195	195	210	240	150	155	170	185
	510	*540*	*590*	*660*	*660*	*670*	*720*	*800*	*640*	*640*	*690*	*790*	*490*	*510*	*560*	*610*
K7	140	150	160	180	180	185	200	220	175	180	195	210	130	140	150	165
	460	*490*	*520*	*590*	*590*	*610*	*660*	*720*	*570*	*590*	*640*	*690*	*425*	*460*	*490*	*540*
S1	—	—	—	—	—	—	—	—	—	—	—	—	55	55	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*180*	*195*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	43	45	49	55
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*160*	*180*
S3	—	—	—	—	—	—	—	—	—	—	—	—	38	40	43	48
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*130*	*140*	*155*
S11	—	—	—	—	—	—	—	—	—	—	—	—	75	80	85	95
	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*280*	*310*
S12	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	30	32	34	38
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*110*	*125*
H5	—	—	—	—	43	45	49	55	—	—	—	—	44	47	50	55
	—	—	—	—	*140*	*150*	*160*	*180*	—	—	—	—	*145*	*155*	*165*	*180*
H8	—	—	—	—	46	49	50	60	—	—	—	—	47	50	55	60
	—	—	—	—	*150*	*160*	*165*	*195*	—	—	—	—	*155*	*165*	*180*	*195*
H11	—	—	—	—	55	55	60	70	—	—	—	—	55	60	65	70
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*180*	*195*	*215*	*230*
H12	—	—	—	—	80	85	95	105	—	—	—	—	95	100	110	120
	—	—	—	—	*260*	*280*	*310*	*345*	—	—	—	—	*310*	*330*	*360*	*395*
H21	—	—	—	—	46	49	50	60	—	—	—	—	47	50	55	60
	—	—	—	—	*150*	*160*	*165*	*195*	—	—	—	—	*155*	*165*	*180*	*195*

Double Quattro R220.54-22 – Metric

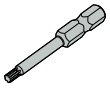
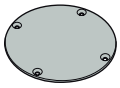




- For insert selection and cutting data recommendations, see page(s) 233-238
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.54-0080-22-5A	03156810	Arbor	80,0	5	9,0	48,0	104,0	27,0	62,0	63,0	4600	1,6	SNMX2209AN
R220.54-0080-22-6A	03157469	Arbor	80,0	6	9,0	48,0	104,0	27,0	62,0	63,0	4600	1,5	SNMX2209AN
R220.54-0100-22-5A	03156811	Arbor	100,0	5	9,0	48,0	124,0	32,0	77,0	63,0	4000	2,4	SNMX2209AN
R220.54-0100-22-7A	03157470	Arbor	100,0	7	9,0	48,0	124,0	32,0	77,0	63,0	4000	2,2	SNMX2209AN
R220.54-0125-22-6A	03156812	Arbor	125,0	6	9,0	48,0	149,0	40,0	90,0	63,0	3700	3,3	SNMX2209AN
R220.54-0125-22-8A	03157471	Arbor	125,0	8	9,0	48,0	149,0	40,0	90,0	63,0	3700	3,3	SNMX2209AN
R220.54-8160-22-8A	03156813	Arbor	160,0	8	9,0	48,0	184,0	40,0	90,0	63,0	3300	5,7	SNMX2209AN
R220.54-8160-22-11A	03157472	Arbor	160,0	11	9,0	48,0	184,0	40,0	90,0	63,0	3300	5,7	SNMX2209AN

Spare Parts, included in delivery

For cutter	Insert key	Insert screw	Lid	Lid screw
				
R220.54-0080	1/4HEX-T20PX50	C05013-T20P	–	–
R220.54-0100-0125	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-8160	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

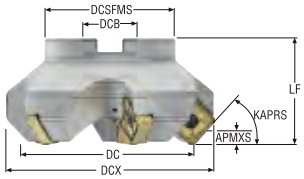
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.54-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	5.0NM	T00-20P50
R220.54-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	5.0NM	T00-20P50
R220.54-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	5.0NM	T00-20P50
R220.54-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Double Quattro R220.54-22 – inch

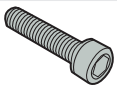
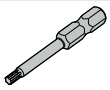
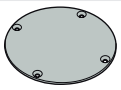




- For insert selection and cutting data recommendations, see page(s) 233-238
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.54-03.00-22-5A	03157473	Arbor	3.150	5	0.354	48.0	4.094	1.000	2.441	2.480	4600	3.970	SNMX2209AN
R220.54-03.00-22-6A	03157477	Arbor	3.150	6	0.354	48.0	4.094	1.000	2.441	2.480	4600	3.750	SNMX2209AN
R220.54-04.00-22-5A	03157474	Arbor	3.937	5	0.354	48.0	4.882	1.500	3.543	2.480	4000	5.730	SNMX2209AN
R220.54-04.00-22-7A	03157479	Arbor	3.937	7	0.354	48.0	4.882	1.500	3.543	2.480	4000	5.510	SNMX2209AN
R220.54-05.00-22-6A	03157475	Arbor	4.921	6	0.354	48.0	5.866	1.500	3.543	2.480	3700	7.940	SNMX2209AN
R220.54-05.00-22-8A	03157480	Arbor	4.921	8	0.354	48.0	5.866	1.500	3.543	2.480	3700	7.940	SNMX2209AN
R220.54-06.00-22-8A	03157476	Arbor	6.299	8	0.354	48.0	7.244	2.000	4.331	2.480	3300	13.010	SNMX2209AN
R220.54-06.00-22-11A	03157481	Arbor	6.299	11	0.354	48.0	7.244	2.000	4.331	2.480	3300	13.010	SNMX2209AN

Spare Parts, included in delivery

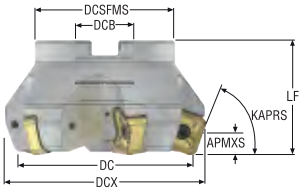
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.54-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	–	–
R220.54-04.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.54-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.54-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.54-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

Double Quattro R220.56-22 – Metric

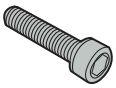
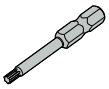
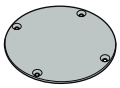




- For insert selection and cutting data recommendations, see page(s) 233-238
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.56-0080-22-5A	03157447	Arbor	80,0	5	13,0	71,0	91,5	27,0	62,0	63,0	4600	1,4	SN.X2209ZN
R220.56-0100-22-5A	03156816	Arbor	100,0	5	13,0	71,0	111,5	32,0	77,0	63,0	4000	2,1	SN.X2209ZN
R220.56-0100-22-7A	03157448	Arbor	100,0	7	13,0	71,0	111,5	32,0	77,0	63,0	4000	1,9	SN.X2209ZN
R220.56-0125-22-6A	03156817	Arbor	125,0	6	13,0	71,0	136,5	40,0	90,0	63,0	3700	2,9	SN.X2209ZN
R220.56-0125-22-8A	03157449	Arbor	125,0	8	13,0	71,0	136,5	40,0	90,0	63,0	3700	2,9	SN.X2209ZN
R220.56-8160-22-8A	03156818	Arbor	160,0	8	13,0	71,0	171,5	40,0	90,0	63,0	3300	5,0	SN.X2209ZN
R220.56-8160-22-10A	03157450	Arbor	160,0	10	13,0	71,0	171,5	40,0	90,0	63,0	3300	4,9	SN.X2209ZN

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.56-0100-0125	–	1/4HEX-T20PX90	C05013-T20P	–	–
R220.56-8160	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

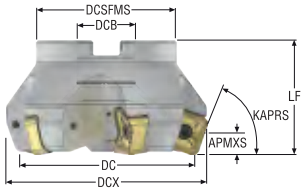
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.56-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	5.0NM	T00-20P50
R220.56-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	5.0NM	T00-20P50
R220.56-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	5.0NM	T00-20P50
R220.56-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Double Quattro R220.56-22 – inch

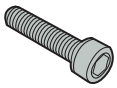
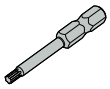
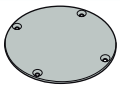




- For insert selection and cutting data recommendations, see page(s) 233-238
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.56-03.00-22-5A	03157454	Arbor	3.150	5	0.512	71.0	3.602	1.000	2.441	2.480	4600	3.090	SN.X2209ZN
R220.56-04.00-22-5A	03157451	Arbor	3.937	5	0.512	71.0	4.390	1.500	3.031	2.480	4000	4.630	SN.X2209ZN
R220.56-04.00-22-7A	03157455	Arbor	3.937	7	0.512	71.0	4.390	1.500	3.031	2.480	4000	4.410	SN.X2209ZN
R220.56-05.00-22-6A	03157452	Arbor	4.921	6	0.512	71.0	5.374	1.500	3.543	2.480	3700	7.940	SN.X2209ZN
R220.56-05.00-22-8A	03157456	Arbor	4.921	8	0.512	71.0	5.374	1.500	3.543	2.480	3700	7.500	SN.X2209ZN
R220.56-06.00-22-8A	03157453	Arbor	6.299	8	0.512	71.0	6.752	2.000	3.937	2.480	3300	10.800	SN.X2209ZN
R220.56-06.00-22-10A	03157457	Arbor	6.299	10	0.512	71.0	6.752	2.000	4.331	2.480	3300	10.580	SN.X2209ZN

Spare Parts, included in delivery

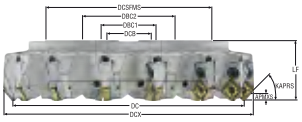
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.56-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P	–	–
R220.56-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.56-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.56-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.56-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

Double Quattro R220.54/56-22CS – Metric

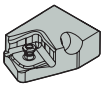
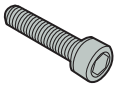
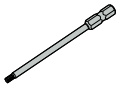
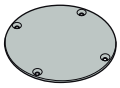
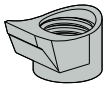




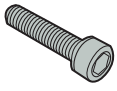
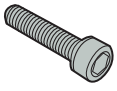
- For insert selection and cutting data recommendations, see page(s) 233-238
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	BD	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm	mm		kg	
R220.54-8200-22-9CS	03167768	Arbor	200,0	9	9,0	48,0	224,0	–	60,0	130,0	80,0	2700	9,9	SN.X2209AN
R220.54-8250-22-11CS	03167769	Arbor	250,0	11	9,0	48,0	274,0	–	60,0	130,0	80,0	2500	17,9	SN.X2209AN
R220.54-8315-22-14CS	03167770	Arbor	315,0	14	9,0	48,0	339,0	–	60,0	225,0	80,0	2200	33,5	SN.X2209AN
R220.56-8200-22-9CS	03167771	Arbor	200,0	9	13,0	71,0	211,5	222,5	60,0	130,0	80,0	2700	9,9	SN.X2209ZN
R220.56-8250-22-11CS	03167772	Arbor	250,0	11	13,0	71,0	261,5	272,5	60,0	130,0	80,0	2500	18,0	SN.X2209ZN
R220.56-8315-22-14CS	03167773	Arbor	315,0	14	13,0	71,0	326,5	337,5	60,0	225,0	80,0	2200	29,2	SN.X2209ZN

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
									
R220.54-8200	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.54-8250	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-8315	AU1114T-T15P	SN22AR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8200	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.56-8250	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-8315	AU1114T-T15P	SN22ZR	MC6S8X30	1/4HEX-T20PX90	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

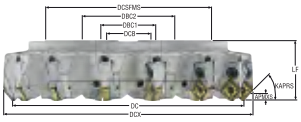
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Insert clamping torque	Torque key
					
R220.54/56-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	5.0NM	T00-20P50
R220.54/56-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Double Quattro R220.54/56-22C – inch





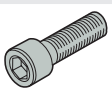
- For insert selection and cutting data recommendations, see page(s) 233-238
- For complete insert programme, see page(s) 835
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	BD	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch	inch		lbs	
R220.54-808.00-22-9C	03167774	Arbor	7.874	9	0.354	48,0	8.819	–	2.500	5.118	3.150	2700	23.150	SN.X2209AN
R220.54-810.00-22-11C	03167775	Arbor	9.843	11	0.354	48,0	10.787	–	2.500	5.118	3.150	2500	50.040	SN.X2209AN
R220.54-812.50-22-14C	03167776	Arbor	12.402	14	0.354	48,0	13.346	–	2.500	8.858	3.150	2200	80.250	SN.X2209AN
R220.56-808.00-22-9C	03167777	Arbor	7.874	9	0.512	71,0	8.335	8.760	2.500	5.118	3.150	2700	23.150	SN.X2209ZN
R220.56-810.00-22-11C	03167778	Arbor	9.843	11	0.512	71,0	10.307	10.728	2.500	5.118	3.150	2500	49.600	SN.X2209ZN
R220.56-812.50-22-14C	03167779	Arbor	12.402	14	0.512	71,0	12.866	13.287	2.500	8.858	3.150	2200	75.620	SN.X2209ZN

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
								
R220.54-808.00	AU1114T-T15P	SN22AR	MC6S8X30	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.54-810.00	AU1114T-T15P	SN22AR	MC6S8X30	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.54-812.50	AU1114T-T15P	SN22AR	MC6S8X30	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-808.00	AU1114T-T15P	SN22ZR	MC6S8X30	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8018-T25P
R220.56-810.00	AU1114T-T15P	SN22ZR	MC6S8X30	C05013-T20P	SC-250-90	MF6S4X10	CW0810	LD8020-T25P
R220.56-812.50	AU1114T-T15P	SN22ZR	MC6S8X30	C05013-T20P	SC-315-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.54/56-808.00-810.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.54/56-812.50	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R220.54-22 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX2209ANTR-M12 MS2050	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P2	SNMX2209ANTR-M12 MS2050	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
P3	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,42 *0.017*	0,42 *0.017*	0,44 *0.017*	0,55 *0.022*
P4	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,42 *0.017*	0,42 *0.017*	0,44 *0.017*	0,55 *0.022*
P5	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,40 *0.016*	0,40 *0.016*	0,42 *0.017*	0,55 *0.022*
P6	SNMX2209ANTR-M18 MP2501	7,0 *0.28*	0,40 *0.016*	0,40 *0.016*	0,42 *0.017*	0,50 *0.020*
P7	SNMX2209ANTR-M12 MP2501	7,0 *0.28*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P8	SNMX2209ANTR-M12 MP2501	7,0 *0.28*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
P11	SNMX2209ANTR-M12 MP2050	7,0 *0.28*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P12	SNMX2209ANTR-M12 MP2050	6,0 *0.24*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
M1	SNMX2209ANR-ME12 F40M	7,0 *0.28*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
M2	SNMX2209ANR-ME12 F40M	7,0 *0.28*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
M3	SNMX2209ANTR-M12 MS2050	6,0 *0.24*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
M4	SNMX2209ANTR-M12 MP2050	4,5 *0.18*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
M5	SNMX2209ANTR-M12 MP2050	4,5 *0.18*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
K1	SNMX2209ANTR-M18 MK1500	7,0 *0.28*	0,46 *0.018*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
K2	SNMX2209ANTR-M18 MK1500	7,0 *0.28*	0,40 *0.016*	0,40 *0.016*	0,42 *0.017*	0,55 *0.022*
K3	SNMX2209ANTR-M18 MP1501	7,0 *0.28*	0,40 *0.016*	0,40 *0.016*	0,42 *0.017*	0,55 *0.022*
K4	SNMX2209ANTR-M18 MP1501	7,0 *0.28*	0,40 *0.016*	0,40 *0.016*	0,42 *0.017*	0,55 *0.022*
K5	SNMX2209ANTR-M18 MP1501	7,0 *0.28*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,48 *0.019*
K6	SNMX2209ANTR-M18 MK2050	7,0 *0.28*	0,40 *0.016*	0,40 *0.016*	0,42 *0.017*	0,55 *0.022*
K7	SNMX2209ANTR-M18 MK2050	7,0 *0.28*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,48 *0.019*
S1	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
S2	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
S3	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
S11	SNMX2209ANTR-M12 MS2050	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
S12	SNMX2209ANTR-M12 MS2050	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
S13	SNMX2209ANTR-M12 MS2050	4,5 *0.18*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
H5	SNMX2209ANTR-M18 MP1501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
H8	SNMX2209ANTR-M18 MP1501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H11	SNMX2209ANTR-M18 MP1501	6,0 *0.24*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
H12	SNMX2209ANTR-M18 MP1501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H21	SNMX2209ANTR-M18 MP1501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.54-22 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	215 *710*	230 *750*	245 *800*	275 *900*	200 *660*	215 *710*	230 *750*	260 *850*	185 *610*	200 *660*	215 *710*	240 *790*	235 *770*	250 *820*	270 *890*	305 *1000*
P2	210 *690*	220 *720*	240 *790*	265 *870*	195 *640*	210 *690*	225 *740*	250 *820*	180 *590*	195 *640*	210 *690*	235 *770*	230 *750*	245 *800*	265 *870*	295 *970*
P3	185 *610*	195 *640*	210 *690*	235 *770*	175 *570*	185 *610*	200 *660*	215 *710*	160 *520*	170 *560*	185 *610*	200 *660*	205 *670*	215 *710*	235 *770*	255 *840*
P4	160 *520*	170 *560*	185 *610*	210 *690*	150 *490*	160 *520*	175 *570*	195 *640*	140 *460*	150 *490*	160 *520*	180 *590*	180 *590*	190 *620*	205 *670*	230 *750*
P5	155 *510*	165 *540*	180 *590*	200 *660*	145 *475*	155 *510*	165 *540*	185 *610*	135 *445*	145 *475*	155 *510*	175 *570*	170 *560*	180 *590*	195 *640*	220 *720*
P6	175 *570*	185 *610*	200 *660*	225 *740*	165 *540*	175 *570*	190 *620*	210 *690*	155 *510*	165 *540*	175 *570*	195 *640*	195 *640*	210 *690*	225 *740*	245 *800*
P7	165 *540*	175 *570*	190 *620*	210 *690*	155 *510*	165 *540*	180 *590*	195 *640*	145 *475*	155 *510*	165 *540*	185 *610*	185 *610*	195 *640*	215 *710*	230 *750*
P8	155 *510*	165 *540*	175 *570*	195 *640*	145 *475*	155 *510*	165 *540*	180 *590*	135 *445*	145 *475*	155 *510*	170 *560*	170 *560*	180 *590*	195 *640*	215 *710*
P11	160 *520*	170 *560*	185 *610*	205 *670*	155 *510*	160 *520*	175 *570*	190 *620*	140 *460*	150 *490*	160 *520*	180 *590*	180 *590*	190 *620*	205 *670*	225 *740*
P12	110 *360*	115 *375*	125 *410*	135 *445*	100 *330*	105 *345*	115 *375*	125 *410*	95 *310*	100 *330*	105 *345*	115 *375*	115 *375*	125 *410*	135 *445*	150 *490*
M1	— —	— —	— —	— —	160 *520*	170 *560*	180 *590*	205 *670*	145 *475*	155 *510*	170 *560*	190 *620*	165 *540*	175 *570*	190 *620*	215 *710*
M2	— —	— —	— —	— —	130 *425*	140 *460*	150 *490*	170 *560*	125 *410*	130 *425*	140 *460*	155 *510*	135 *445*	145 *475*	155 *510*	175 *570*
M3	— —	— —	— —	— —	105 *345*	115 *375*	125 *410*	135 *445*	100 *330*	105 *345*	115 *375*	125 *410*	110 *360*	120 *395*	130 *425*	145 *475*
M4	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	105 *345*	75 *245*	80 *260*	90 *295*	100 *330*	85 *280*	90 *295*	100 *330*	110 *360*
M5	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	65 *215*	70 *230*	75 *245*	80 *260*	75 *245*	75 *245*	85 *280*	90 *295*
K1	225 *740*	240 *790*	260 *850*	290 *950*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —
K2	205 *670*	215 *710*	235 *770*	255 *840*	— —	— —	— —	— —	130 *425*	140 *460*	150 *490*	165 *540*	— —	— —	— —	— —
K3	170 *560*	180 *590*	195 *640*	220 *720*	— —	— —	— —	— —	110 *360*	115 *375*	125 *410*	140 *460*	— —	— —	— —	— —
K4	165 *540*	175 *570*	190 *620*	210 *690*	— —	— —	— —	— —	105 *345*	110 *360*	120 *395*	135 *445*	— —	— —	— —	— —
K5	100 *330*	105 *345*	115 *375*	130 *425*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	— —	— —	— —	— —
K6	145 *475*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —	90 *295*	100 *330*	105 *345*	115 *375*	— —	— —	— —	— —
K7	130 *425*	135 *445*	150 *490*	165 *540*	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	105 *345*	— —	— —	— —	— —
S1	— —	— —	— —	— —	39 *130*	41 *135*	44 *145*	49 *160*	36 *120*	38 *125*	42 *140*	46 *150*	43 *140*	45 *150*	49 *160*	55 *180*
S2	— —	— —	— —	— —	31 *100*	33 *110*	36 *120*	40 *130*	29 *95*	31 *100*	33 *110*	37 *120*	34 *110*	36 *120*	39 *130*	44 *145*
S3	— —	— —	— —	— —	27 *90*	29 *95*	32 *105*	35 *115*	26 *85*	27 *90*	29 *95*	32 *105*	30 *100*	32 *105*	35 *115*	38 *125*
S11	— —	— —	— —	— —	55 *180*	60 *195*	60 *195*	70 *230*	49 *160*	50 *165*	55 *180*	65 *215*	60 *195*	65 *215*	70 *230*	75 *245*
S12	— —	— —	— —	— —	38 *125*	40 *130*	43 *140*	48 *155*	34 *110*	36 *120*	39 *130*	44 *145*	41 *135*	44 *145*	47 *155*	55 *180*
S13	— —	— —	— —	— —	22 *70*	23 *75*	25 *80*	28 *90*	20 *65*	21 *70*	23 *75*	26 *85*	24 *80*	25 *80*	27 *90*	30 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	47 *155*	50 *165*	55 *180*
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	85 *280*	95 *310*
H21	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	40 *130*	43 *140*	48 *155*

R220.54-22 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	305	310	335	370	290	295	320	355	255	260	280	310
	—	—	—	—	*1000*	*1025*	*1100*	*1225*	*950*	*970*	*1050*	*1175*	*840*	*850*	*920*	*1025*
P2	—	—	—	—	295	300	325	360	285	290	310	345	250	250	275	305
	—	—	—	—	*970*	*980*	*1075*	*1175*	*940*	*950*	*1025*	*1125*	*820*	*820*	*900*	*1000*
P3	—	—	—	—	260	265	285	315	250	255	275	305	220	220	240	265
	—	—	—	—	*850*	*870*	*940*	*1025*	*820*	*840*	*900*	*1000*	*720*	*720*	*790*	*870*
P4	—	—	—	—	230	235	250	285	220	225	240	275	195	195	210	240
	—	—	—	—	*750*	*770*	*820*	*940*	*720*	*740*	*790*	*900*	*640*	*640*	*690*	*790*
P5	—	—	—	—	225	230	245	270	215	220	235	260	190	190	210	230
	—	—	—	—	*740*	*750*	*800*	*890*	*710*	*720*	*770*	*850*	*620*	*620*	*690*	*750*
P6	—	—	—	—	250	255	275	305	240	245	265	295	210	215	235	260
	—	—	—	—	*820*	*840*	*900*	*1000*	*790*	*800*	*870*	*970*	*690*	*710*	*770*	*850*
P7	—	—	—	—	235	240	260	285	225	230	250	275	200	205	220	245
	—	—	—	—	*770*	*790*	*850*	*940*	*740*	*750*	*820*	*900*	*660*	*670*	*720*	*800*
P8	—	—	—	—	220	225	240	265	210	215	230	255	185	185	205	225
	—	—	—	—	*720*	*740*	*790*	*870*	*690*	*710*	*750*	*840*	*610*	*610*	*670*	*740*
P11	—	—	—	—	230	235	255	280	220	225	245	270	195	195	215	235
	—	—	—	—	*750*	*770*	*840*	*920*	*720*	*740*	*800*	*890*	*640*	*640*	*710*	*770*
P12	—	—	—	—	155	160	175	185	155	155	170	180	135	140	150	160
	—	—	—	—	*510*	*520*	*570*	*610*	*510*	*510*	*560*	*590*	*445*	*460*	*490*	*520*
M1	—	—	—	—	—	—	—	—	155	165	175	195	145	150	165	180
	—	—	—	—	—	—	—	—	*510*	*540*	*570*	*640*	*475*	*490*	*540*	*590*
M2	—	—	—	—	—	—	—	—	130	135	145	165	120	125	135	150
	—	—	—	—	—	—	—	—	*425*	*445*	*475*	*540*	*395*	*410*	*445*	*490*
M3	—	—	—	—	—	—	—	—	105	110	120	135	95	100	110	125
	—	—	—	—	—	—	—	—	*345*	*360*	*395*	*445*	*310*	*330*	*360*	*410*
M4	—	—	—	—	—	—	—	—	80	85	95	105	75	80	85	95
	—	—	—	—	—	—	—	—	*260*	*280*	*310*	*345*	*245*	*260*	*280*	*310*
M5	—	—	—	—	—	—	—	—	70	70	80	85	65	65	70	80
	—	—	—	—	—	—	—	—	*230*	*230*	*260*	*280*	*215*	*215*	*230*	*260*
K1	240	255	275	305	300	305	330	360	285	290	315	350	250	255	275	305
	790	*840*	*900*	*1000*	*980*	*1000*	*1075*	*1175*	*940*	*950*	*1025*	*1150*	*820*	*840*	*900*	*1000*
K2	215	225	245	270	270	275	295	325	260	265	285	315	230	230	250	280
	710	*740*	*800*	*890*	*890*	*900*	*970*	*1075*	*850*	*870*	*940*	*1025*	*750*	*750*	*820*	*920*
K3	180	190	210	230	230	235	250	275	220	225	240	265	195	195	215	235
	590	*620*	*690*	*750*	*750*	*770*	*820*	*900*	*720*	*740*	*790*	*870*	*640*	*640*	*710*	*770*
K4	175	185	200	220	220	220	240	265	210	215	230	255	185	185	205	225
	570	*610*	*660*	*720*	*720*	*720*	*790*	*870*	*690*	*710*	*750*	*840*	*610*	*610*	*670*	*740*
K5	105	115	125	135	135	140	150	165	130	135	145	160	115	120	125	140
	345	*375*	*410*	*445*	*445*	*460*	*490*	*540*	*425*	*445*	*475*	*520*	*375*	*395*	*410*	*460*
K6	155	160	175	195	190	195	210	230	185	190	205	225	165	165	180	200
	510	*520*	*570*	*640*	*620*	*640*	*690*	*750*	*610*	*620*	*670*	*740*	*540*	*540*	*590*	*660*
K7	135	145	155	175	175	180	190	210	170	170	185	205	150	150	165	180
	445	*475*	*510*	*570*	*570*	*590*	*620*	*690*	*560*	*560*	*610*	*670*	*490*	*490*	*540*	*590*
S1	—	—	—	—	—	—	—	—	—	—	—	—	36	38	40	45
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*125*	*130*	*150*
S2	—	—	—	—	—	—	—	—	—	—	—	—	29	30	33	36
	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*100*	*110*	*120*
S3	—	—	—	—	—	—	—	—	—	—	—	—	25	27	29	32
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*90*	*95*	*105*
S11	—	—	—	—	—	—	—	—	—	—	—	—	49	50	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*160*	*165*	*180*	*215*
S12	—	—	—	—	—	—	—	—	—	—	—	—	34	36	39	43
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*140*
S13	—	—	—	—	—	—	—	—	—	—	—	—	20	21	23	25
	—	—	—	—	—	—	—	—	—	—	—	—	*65*	*70*	*75*	*80*
H5	—	—	—	—	41	44	47	50	—	—	—	—	32	34	36	40
	—	—	—	—	*135*	*145*	*155*	*165*	—	—	—	—	*105*	*110*	*120*	*130*
H8	—	—	—	—	44	47	50	55	—	—	—	—	34	36	39	44
	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—	*110*	*120*	*130*	*145*
H11	—	—	—	—	50	55	60	65	—	—	—	—	40	43	46	50
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*130*	*140*	*150*	*165*
H12	—	—	—	—	80	85	90	100	—	—	—	—	60	65	70	80
	—	—	—	—	*260*	*280*	*295*	*330*	—	—	—	—	*195*	*215*	*230*	*260*
H21	—	—	—	—	44	47	50	55	—	—	—	—	34	36	39	44
	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—	*110*	*120*	*130*	*145*

R220.56-22 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMX2209ZNTR-M12 MS2050	10,0 *0.40*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
P2	SNMX2209ZNTR-M12 MS2050	10,0 *0.40*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
P3	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,40 *0.016*
P4	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
P5	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
P6	SNMX2209ZNTR-M18 MP2501	10,0 *0.40*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
P7	SNMX2209ZNTR-M12 MP2501	10,0 *0.40*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
P8	SNMX2209ZNTR-M12 MP2501	10,0 *0.40*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
P11	SNMX2209ZNTR-M12 MS2050	10,0 *0.40*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
P12	SNMX2209ZNTR-M12 MS2050	8,0 *0.32*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,18 *0.0070*
M1	SNMX2209ZNTR-M12 MS2050	10,0 *0.40*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
M2	SNMX2209ZNTR-M12 MS2050	10,0 *0.40*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
M3	SNMX2209ZNTR-M12 MS2050	8,0 *0.32*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
M4	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,19 *0.0075*
M5	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,19 *0.0075*
K1	SNMX2209ZNTR-M18 MK1500	10,0 *0.40*	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
K2	SNMX2209ZNTR-M18 MK1500	10,0 *0.40*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
K3	SNMX2209ZNTR-M18 MP1501	10,0 *0.40*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
K4	SNMX2209ZNTR-M18 MP1501	10,0 *0.40*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
K5	SNMX2209ZNTR-M18 MP1501	10,0 *0.40*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
K6	SNMX2209ZNTR-M18 MK2050	10,0 *0.40*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
K7	SNMX2209ZNTR-M18 MK2050	10,0 *0.40*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
S1	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,19 *0.0075*
S2	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,19 *0.0075*
S3	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,18 *0.0070*
S11	SNMX2209ZNTR-M12 MS2050	7,0 *0.28*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0065*	0,22 *0.0085*
S12	SNMX2209ZNTR-M12 MS2050	7,0 *0.28*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0065*	0,22 *0.0085*
S13	SNMX2209ZNTR-M12 MS2050	6,0 *0.24*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,19 *0.0075*
H5	SNMX2209ZNTR-M18 MP1501	8,0 *0.32*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H8	SNMX2209ZNTR-M18 MP1501	7,0 *0.28*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0080*
H11	SNMX2209ZNTR-M18 MP1501	8,0 *0.32*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H12	SNMX2209ZNTR-M18 MP1501	7,0 *0.28*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0080*
H21	SNMX2209ZNTR-M18 MP1501	7,0 *0.28*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0080*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.56-22 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MS2050				F40M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	220 *720*	230 *750*	250 *820*	280 *920*	205 *670*	220 *720*	235 *770*	265 *870*	190 *620*	200 *660*	215 *710*	240 *790*
P2	215 *710*	225 *740*	240 *790*	270 *890*	200 *660*	215 *710*	230 *750*	250 *820*	185 *610*	195 *640*	210 *690*	225 *740*
P3	185 *610*	195 *640*	215 *710*	235 *770*	175 *570*	185 *610*	200 *660*	220 *720*	160 *520*	165 *540*	180 *590*	200 *660*
P4	165 *540*	175 *570*	185 *610*	210 *690*	155 *510*	160 *520*	175 *570*	195 *640*	140 *460*	145 *475*	160 *520*	175 *570*
P5	160 *520*	170 *560*	185 *610*	200 *660*	150 *490*	160 *520*	170 *560*	185 *610*	135 *445*	145 *475*	155 *510*	170 *560*
P6	180 *590*	190 *620*	205 *670*	225 *740*	170 *560*	180 *590*	190 *620*	215 *710*	155 *510*	160 *520*	175 *570*	195 *640*
P7	170 *560*	180 *590*	195 *640*	215 *710*	160 *520*	170 *560*	180 *590*	205 *670*	145 *475*	155 *510*	165 *540*	185 *610*
P8	155 *510*	165 *540*	180 *590*	195 *640*	145 *475*	155 *510*	165 *540*	185 *610*	135 *445*	140 *460*	150 *490*	170 *560*
P11	165 *540*	175 *570*	190 *620*	205 *670*	155 *510*	165 *540*	175 *570*	195 *640*	140 *460*	150 *490*	160 *520*	180 *590*
P12	110 *360*	115 *375*	125 *410*	140 *460*	100 *330*	110 *360*	115 *375*	125 *410*	95 *310*	100 *330*	105 *345*	115 *375*
M1	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	200 *660*	150 *490*	155 *510*	170 *560*	185 *610*
M2	— —	— —	— —	— —	135 *445*	145 *475*	155 *510*	165 *540*	125 *410*	130 *425*	140 *460*	150 *490*
M3	— —	— —	— —	— —	110 *360*	115 *375*	125 *410*	140 *460*	100 *330*	105 *345*	110 *360*	125 *410*
M4	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	105 *345*	80 *260*	80 *260*	90 *295*	100 *330*
M5	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	65 *215*	70 *230*	75 *245*	80 *260*
K1	230 *750*	240 *790*	260 *850*	295 *970*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	180 *590*
K2	210 *690*	220 *720*	235 *770*	260 *850*	— —	— —	— —	— —	130 *425*	135 *445*	150 *490*	160 *520*
K3	175 *570*	185 *610*	200 *660*	220 *720*	— —	— —	— —	— —	110 *360*	115 *375*	125 *410*	135 *445*
K4	170 *560*	175 *570*	190 *620*	210 *690*	— —	— —	— —	— —	105 *345*	110 *360*	120 *395*	130 *425*
K5	100 *330*	110 *360*	115 *375*	130 *425*	— —	— —	— —	— —	65 *215*	65 *215*	70 *230*	80 *260*
K6	150 *490*	155 *510*	170 *560*	185 *610*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*
K7	130 *425*	140 *460*	150 *490*	165 *540*	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	105 *345*
S1	— —	— —	— —	— —	40 *130*	42 *140*	45 *150*	50 *165*	36 *120*	38 *125*	41 *135*	46 *150*
S2	— —	— —	— —	— —	32 *105*	34 *110*	36 *120*	40 *130*	29 *95*	31 *100*	33 *110*	37 *120*
S3	— —	— —	— —	— —	28 *90*	30 *100*	32 *105*	35 *115*	26 *85*	27 *90*	29 *95*	32 *105*
S11	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	70 *230*	50 *165*	55 *180*	55 *180*	65 *215*
S12	— —	— —	— —	— —	38 *125*	40 *130*	43 *140*	48 *155*	35 *115*	37 *120*	39 *130*	44 *145*
S13	— —	— —	— —	— —	22 *70*	24 *80*	25 *80*	28 *90*	20 *65*	22 *70*	23 *75*	26 *85*
H5	— —	— —	— —	— —	— —	— —	— —	— —	31 *100*	33 *110*	35 *115*	38 *125*
H8	— —	— —	— —	— —	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	42 *140*
H11	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	41 *135*	45 *150*	49 *160*
H12	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	65 *215*	75 *245*
H21	— —	— —	— —	— —	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	42 *140*

R220.56-22 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	305	310	335	380	295	300	325	365	260	260	285	320
	—	—	—	—	*1000*	*1025*	*1100*	*1250*	*970*	*980*	*1075*	*1200*	*850*	*850*	*940*	*1050*
P2	—	—	—	—	300	305	325	370	285	290	315	355	255	255	275	315
	—	—	—	—	*980*	*1000*	*1075*	*1225*	*940*	*950*	*1025*	*1175*	*840*	*840*	*900*	*1025*
P3	—	—	—	—	265	270	290	315	255	260	280	305	225	225	245	270
	—	—	—	—	*870*	*890*	*950*	*1025*	*840*	*850*	*920*	*1000*	*740*	*740*	*800*	*890*
P4	—	—	—	—	235	235	255	285	225	225	245	275	195	200	215	245
	—	—	—	—	*770*	*770*	*840*	*940*	*740*	*740*	*800*	*900*	*640*	*660*	*710*	*800*
P5	—	—	—	—	230	235	250	275	220	225	240	265	195	195	215	235
	—	—	—	—	*750*	*770*	*820*	*900*	*720*	*740*	*790*	*870*	*640*	*640*	*710*	*770*
P6	—	—	—	—	255	260	280	305	250	250	270	295	220	220	240	260
	—	—	—	—	*840*	*850*	*920*	*1000*	*820*	*820*	*890*	*970*	*720*	*720*	*790*	*850*
P7	—	—	—	—	240	245	265	290	235	235	255	280	205	210	225	245
	—	—	—	—	*790*	*800*	*870*	*950*	*770*	*770*	*840*	*920*	*670*	*690*	*740*	*800*
P8	—	—	—	—	220	225	245	265	215	215	235	255	190	190	205	225
	—	—	—	—	*720*	*740*	*800*	*870*	*710*	*710*	*770*	*840*	*620*	*620*	*670*	*740*
P11	—	—	—	—	235	240	260	280	225	230	250	270	200	205	220	240
	—	—	—	—	*770*	*790*	*850*	*920*	*740*	*750*	*820*	*890*	*660*	*670*	*720*	*790*
P12	—	—	—	—	160	160	175	190	155	155	170	185	135	140	150	165
	—	—	—	—	*520*	*520*	*570*	*620*	*510*	*510*	*560*	*610*	*445*	*460*	*490*	*540*
M1	—	—	—	—	—	—	—	—	155	165	175	200	145	150	165	185
	—	—	—	—	—	—	—	—	*510*	*540*	*570*	*660*	*475*	*490*	*540*	*610*
M2	—	—	—	—	—	—	—	—	130	140	150	165	120	130	140	155
	—	—	—	—	—	—	—	—	*425*	*460*	*490*	*540*	*395*	*425*	*460*	*510*
M3	—	—	—	—	—	—	—	—	105	115	120	135	100	105	115	125
	—	—	—	—	—	—	—	—	*345*	*375*	*395*	*445*	*330*	*345*	*375*	*410*
M4	—	—	—	—	—	—	—	—	85	90	95	105	80	85	90	100
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*345*	*260*	*280*	*295*	*330*
M5	—	—	—	—	—	—	—	—	70	75	80	90	65	70	75	85
	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*215*	*230*	*245*	*280*
K1	240	255	275	310	300	305	330	370	290	295	315	360	255	255	280	315
	790	*840*	*900*	*1025*	*980*	*1000*	*1075*	*1225*	*950*	*970*	*1025*	*1175*	*840*	*840*	*920*	*1025*
K2	220	230	250	275	275	280	305	330	265	270	290	320	235	240	255	280
	720	*750*	*820*	*900*	*900*	*920*	*1000*	*1075*	*870*	*890*	*950*	*1050*	*770*	*790*	*840*	*920*
K3	185	195	210	230	235	240	255	280	225	230	245	270	200	200	220	240
	610	*640*	*690*	*750*	*770*	*790*	*840*	*920*	*740*	*750*	*800*	*890*	*660*	*660*	*720*	*790*
K4	175	185	200	220	225	225	245	265	215	220	235	260	190	190	210	230
	570	*610*	*660*	*720*	*740*	*740*	*800*	*870*	*710*	*720*	*770*	*850*	*620*	*620*	*690*	*750*
K5	110	115	125	140	135	140	150	170	135	135	145	165	115	120	130	145
	360	*375*	*410*	*460*	*445*	*460*	*490*	*560*	*445*	*445*	*475*	*540*	*375*	*395*	*425*	*475*
K6	155	165	180	195	195	200	215	235	190	195	210	225	170	170	185	200
	510	*540*	*590*	*640*	*640*	*660*	*710*	*770*	*620*	*640*	*690*	*740*	*560*	*560*	*610*	*660*
K7	140	145	155	175	175	180	190	215	170	170	185	210	150	150	165	185
	460	*475*	*510*	*570*	*570*	*590*	*620*	*710*	*560*	*560*	*610*	*690*	*490*	*490*	*540*	*610*
S1	—	—	—	—	—	—	—	—	—	—	—	—	37	39	42	46
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*150*
S2	—	—	—	—	—	—	—	—	—	—	—	—	30	31	33	37
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*100*	*110*	*120*
S3	—	—	—	—	—	—	—	—	—	—	—	—	26	27	30	32
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*100*	*105*
S11	—	—	—	—	—	—	—	—	—	—	—	—	50	55	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*180*	*215*
S12	—	—	—	—	—	—	—	—	—	—	—	—	35	36	40	44
	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*120*	*130*	*145*
S13	—	—	—	—	—	—	—	—	—	—	—	—	21	22	23	26
	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*70*	*75*	*85*
H5	—	—	—	—	41	44	47	55	—	—	—	—	32	34	36	41
	—	—	—	—	*135*	*145*	*155*	*180*	—	—	—	—	*105*	*110*	*120*	*135*
H8	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	44
	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—	*115*	*120*	*130*	*145*
H11	—	—	—	—	55	55	60	65	—	—	—	—	41	43	46	50
	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—	*135*	*140*	*150*	*165*
H12	—	—	—	—	80	85	95	100	—	—	—	—	60	65	70	80
	—	—	—	—	*260*	*280*	*310*	*330*	—	—	—	—	*195*	*215*	*230*	*260*
H21	—	—	—	—	45	48	50	55	—	—	—	—	35	37	40	44
	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—	*115*	*120*	*130*	*145*



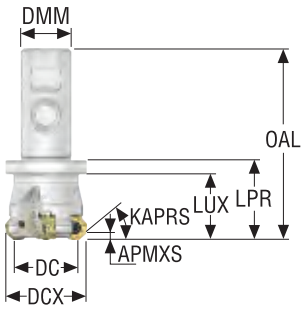
DOUBLE OCTOMILL 05/09

The Double Octomill face milling cutter is a highly versatile, economic and productive tool that can be used for both roughing and finishing. With double-sided inserts featuring a total of 16 cutting edges, the cutter represents a combination of high performance with cost-effective operation. Double Octomill also has a coated, pre-hardened body to ensure long tool life by protecting the tool from wear and preventing chips from welding to it.

- Insert size 05, cutter range 25-200mm (1.25-8 inch)
- Insert size 09, cutter range 63-500mm (2.5-12.5 inch)
- Double-sided inserts with 16 cutting edges

Double Octomill™ R217.48-05 – Metric

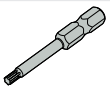




- For insert selection and cutting data recommendations, see page(s) 245 - 247
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DMM	LUX	LPR	OAL	Weight	RPMX	Insert
			mm		mm		mm	mm	mm	mm	mm	kg		
R217.48-2025.3S-05-3SA	02810001	Seco-Weldon	25,0	3	3,0	40,0	33,0	20,0	33,0	40,0	90,0	0,3	20400	ON.U0504
R217.48-2532.3S-05-4SA	02810002	Seco-Weldon	32,0	4	3,0	40,0	40,0	25,0	33,0	40,0	90,0	0,5	18000	ON.U0504

Spare Parts, included in delivery

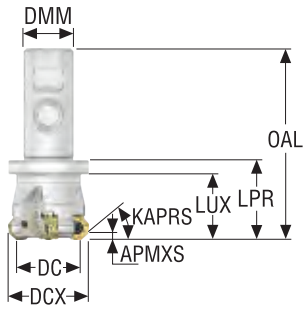
For cutter	Insert key	Insert screw
		
R217.48-..	1/4HEX-T15PX50	C04009-T15P

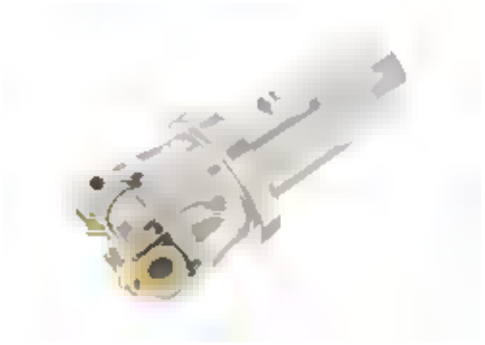
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.48-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Double Octomill™ R217.48-05 – inch

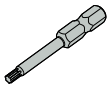




- For insert selection and cutting data recommendations, see page(s) 245 - 247
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DMM	LUX	LPR	OAL	Weight	RPMX	Insert
			inch		inch		inch	inch	inch	inch	inch	lbs		
R217.48-01.25.3S-05-4SA	02810007	Seco-Weldon	1.250	4	0.118	40,0	1.575	0.750	1.299	1.575	3.543	1.100	20400	ON.U0504

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.48-..	1/4HEX-T15PX50	C04009-T15P

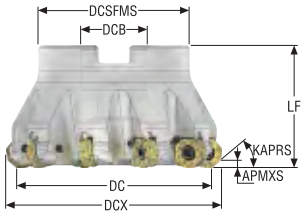
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.48-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Double Octomill™ R220.48-05 – Metric

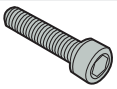
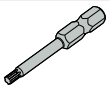




- For insert selection and cutting data recommendations, see page(s) 245 - 247
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.48-0040-05-05SA	02810083	Arbor	40,0	5	3,0	40,0	48,35	16,0	35,0	40,0	16100	0,3	ON.U0504
R220.48-0050-05-04SA	02810003	Arbor	50,0	4	3,0	40,0	58,35	22,0	47,0	40,0	14400	0,5	ON.U0504
R220.48-0050-05-05SA	02810084	Arbor	50,0	5	3,0	40,0	58,35	22,0	47,0	40,0	14400	0,5	ON.U0504
R220.48-0050-05-06SA	02810085	Arbor	50,0	6	3,0	40,0	58,35	22,0	47,0	40,0	14400	0,5	ON.U0504
R220.48-0063-05-05SA	02810004	Arbor	63,0	5	3,0	40,0	71,35	22,0	47,0	40,0	12800	0,7	ON.U0504
R220.48-0063-05-06SA	02810086	Arbor	63,0	6	3,0	40,0	71,35	22,0	47,0	40,0	12800	0,6	ON.U0504
R220.48-0063-05-08SA	02810087	Arbor	63,0	8	3,0	40,0	71,35	22,0	47,0	40,0	12800	0,6	ON.U0504
R220.48-0080-05-06SA	02810005	Arbor	80,0	6	3,0	40,0	88,35	27,0	62,0	50,0	11400	1,2	ON.U0504
R220.48-0080-05-10SA	02810088	Arbor	80,0	10	3,0	40,0	88,35	27,0	62,0	50,0	11400	1,2	ON.U0504
R220.48-0100-05-07SA	02810089	Arbor	100,0	7	3,0	40,0	108,35	32,0	77,0	50,0	10200	1,9	ON.U0504
R220.48-0100-05-12SA	02810090	Arbor	100,0	12	3,0	40,0	108,35	32,0	77,0	50,0	10200	1,8	ON.U0504
R220.48-0125-05-08SA	02810091	Arbor	125,0	8	3,0	40,0	133,35	40,0	90,0	63,0	9100	3,4	ON.U0504
R220.48-0125-05-14SA	02810092	Arbor	125,0	14	3,0	40,0	133,35	40,0	90,0	63,0	9100	3,4	ON.U0504

Spare Parts, included in delivery

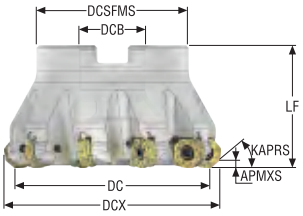
For cutter	Arbor screw	Insert key	Insert screw
			
R220.48-0040	TCEI0825	1/4HEX-T15PX50	C04009-T15P
R220.48-0050-0063	220.17-692	1/4HEX-T15PX50	C04009-T15P
R220.48-0080-0125	–	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.48-0040-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.48-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	3.5NM	T00-15P35
R220.48-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	3.5NM	T00-15P35
R220.48-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Double Octomill™ R220.48-05 – inch

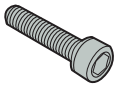
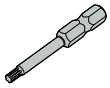




- For insert selection and cutting data recommendations, see page(s) 245 - 247
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.48-01.50-05-04SA	02810093	Arbor	1.575	4	0.118	40.0	1.904	0.500	1.378	1.575	16100	0.880	ON.U0504
R220.48-02.00-05-05SA	02810096	Arbor	1.969	5	0.118	40.0	2.297	0.750	1.850	1.575	14400	1.100	ON.U0504
R220.48-02.50-05-05SA	02810098	Arbor	2.480	5	0.118	40.0	2.809	0.750	1.850	1.575	12800	1.540	ON.U0504
R220.48-03.00-05-06SA	02810101	Arbor	3.150	6	0.118	40.0	3.478	1.000	2.441	1.969	11400	3.090	ON.U0504
R220.48-03.00-05-10SA	02810102	Arbor	3.150	10	0.118	40.0	3.478	1.000	2.441	1.969	11400	2.650	ON.U0504
R220.48-04.00-05-07SA	02810103	Arbor	3.937	7	0.118	40.0	4.266	1.500	3.031	1.969	10200	4.190	ON.U0504

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.48-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04009-T15P
R220.48-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04009-T15P
R220.48-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX90	C04009-T15P
R220.48-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04009-T15P

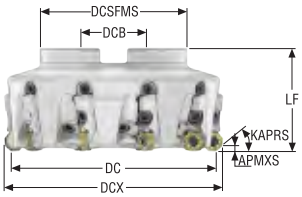
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R220.48-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Double Octomill™ R220.48-05CS – Metric

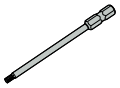
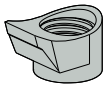




- For insert selection and cutting data recommendations, see page(s) 245 - 247
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.48-0125-05-10CS	03000630	Arbor	125,0	10	3,0	40,0	133,0	40,0	90,0	63,0	9100	4,0	ON.U0504
R220.48-8160-05-14CS	03000631	Arbor	160,0	14	3,0	40,0	168,0	40,0	90,0	63,0	8000	6,5	ON.U0504
R220.48-8200-05-18CS	03000632	Arbor	200,0	18	3,0	40,0	208,0	60,0	130,0	63,0	7200	9,0	ON.U0504

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw	Wedge clamp	Wedge screw
							
R220.48-0125-8200	AU1114T-T15P	ON05AR	FS96018	1/4HEX-T15PX90	C04009-T15P	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.48-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	3.5NM	T00-15P35
R220.48-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35
R220.48-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R220.48-05 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			80%	40%	20%
P1	ONMU050410ANTN-M11 MP3000	1,8 *0.070*	0,26 *0.010*	0,26 *0.010*	0,34 *0.013*
P2	ONMU050410ANTN-M11 MP3000	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P3	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
P4	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P5	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P6	ONMU050406ANTN-ME14 MP2501	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P7	ONMU050406ANTN-ME14 MP3501	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P8	ONMU050406ANTN-ME14 MP3501	1,8 *0.070*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
P11	ONMU050410ANTN-M10 MP2050	1,8 *0.070*	0,24 *0.0095*	0,25 *0.010*	0,30 *0.012*
P12	ONMU050410ANTN-M10 MP2050	1,4 *0.055*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
M1	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,24 *0.0095*	0,25 *0.010*	0,30 *0.012*
M2	ONMU050410ANTN-ME11 MS2050	1,8 *0.070*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
M3	ONMU050410ANTN-ME11 MS2050	1,4 *0.055*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
M4	ONMU050410ANTN-M10 MP2050	1,1 *0.044*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
M5	ONMU050410ANTN-M10 MP2050	1,1 *0.044*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
K1	ONMU050406ANTN-ME14 MP1501	1,8 *0.070*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
K2	ONMU050406ANTN-ME14 MP1501	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
K3	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
K4	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
K5	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,24 *0.0095*	0,25 *0.010*	0,30 *0.012*
K6	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
K7	ONMU050406ANTN-ME14 MK2050	1,8 *0.070*	0,24 *0.0095*	0,25 *0.010*	0,30 *0.012*
N1	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
N2	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
N3	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
N11	ONMU050410ANTN-ME11 F40M	1,8 *0.070*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
S1	ONMU050406ANTN-ME14 MS2050	1,1 *0.044*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
S2	ONMU050406ANTN-ME14 MS2050	1,1 *0.044*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
S3	ONMU050406ANTN-ME14 MS2050	1,1 *0.044*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
S11	ONMU050410ANTN-ME11 MS2050	1,3 *0.050*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
S12	ONMU050410ANTN-ME11 MS2050	1,3 *0.050*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
S13	ONMU050410ANTN-ME11 MS2050	1,1 *0.044*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
H5	ONMU050410ANTN-M11 MP3000	1,4 *0.055*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
H8	ONMU050410ANTN-M11 MP3000	1,3 *0.050*	0,13 *0.0050*	0,13 *0.0050*	0,17 *0.0065*
H11	ONMU050410ANTN-M11 MP3000	1,4 *0.055*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
H12	ONMU050410ANTN-M11 MP3000	1,3 *0.050*	0,13 *0.0050*	0,13 *0.0050*	0,17 *0.0065*
H21	ONMU050410ANTN-M11 MP3000	1,3 *0.050*	0,13 *0.0050*	0,13 *0.0050*	0,17 *0.0065*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.48-05 – Cutting data v_c = (m/min)/*(sf/min)*

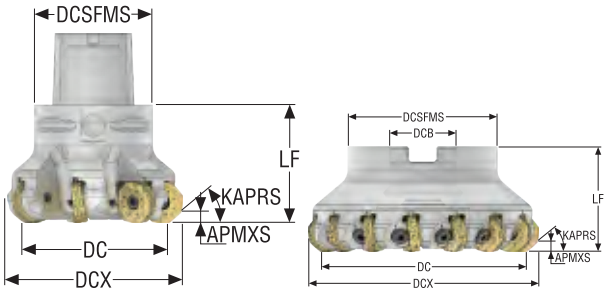
SMG	MK2050				MP3000				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	270 *890*	285 *940*	310 *1025*	345 *1125*	260 *850*	275 *900*	295 *970*	330 *1075*	225 *740*	240 *790*	260 *850*	290 *950*	205 *670*	220 *720*	235 *770*	265 *870*	275 *900*	290 *950*	315 *1025*	350 *1150*
P2	260 *850*	275 *900*	300 *980*	335 *1100*	250 *820*	265 *870*	290 *950*	320 *1050*	220 *720*	235 *770*	255 *840*	285 *940*	200 *660*	215 *710*	230 *750*	255 *840*	265 *870*	285 *940*	305 *1000*	335 *1100*
P3	230 *750*	245 *800*	265 *870*	295 *970*	220 *720*	235 *770*	255 *840*	280 *920*	195 *640*	205 *670*	225 *740*	250 *820*	175 *570*	190 *620*	205 *670*	225 *740*	230 *750*	245 *800*	265 *870*	295 *970*
P4	200 *660*	215 *710*	230 *750*	260 *850*	195 *640*	205 *670*	225 *740*	250 *820*	170 *560*	180 *590*	195 *640*	220 *720*	155 *510*	165 *540*	180 *590*	200 *660*	205 *670*	220 *720*	235 *770*	260 *850*
P5	200 *660*	210 *690*	225 *740*	245 *800*	190 *620*	200 *660*	220 *720*	235 *770*	165 *540*	180 *590*	190 *620*	210 *690*	150 *490*	160 *520*	175 *570*	190 *620*	195 *640*	210 *690*	225 *740*	250 *820*
P6	220 *720*	235 *770*	255 *840*	275 *900*	215 *710*	225 *740*	245 *800*	265 *870*	190 *620*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	195 *640*	215 *710*	220 *720*	235 *770*	255 *840*	285 *940*
P7	210 *690*	220 *720*	240 *790*	260 *850*	200 *660*	215 *710*	230 *750*	250 *820*	175 *570*	190 *620*	205 *670*	220 *720*	160 *520*	170 *560*	185 *610*	200 *660*	210 *690*	220 *720*	240 *790*	265 *870*
P8	195 *640*	205 *670*	220 *720*	245 *800*	185 *610*	195 *640*	215 *710*	235 *770*	165 *540*	175 *570*	185 *610*	210 *690*	150 *490*	160 *520*	170 *560*	190 *620*	195 *640*	205 *670*	225 *740*	245 *800*
P11	205 *670*	215 *710*	235 *770*	255 *840*	195 *640*	210 *690*	225 *740*	245 *800*	170 *560*	185 *610*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	195 *640*	205 *670*	215 *710*	235 *770*	260 *850*
P12	130 *425*	140 *460*	150 *490*	165 *540*	125 *410*	135 *445*	145 *475*	160 *520*	110 *360*	120 *395*	125 *410*	140 *460*	100 *330*	110 *360*	115 *375*	130 *425*	130 *425*	140 *460*	150 *490*	170 *560*
M1	— —	— —	— —	— —	190 *620*	200 *660*	215 *710*	240 *790*	180 *590*	190 *620*	205 *670*	230 *750*	160 *520*	170 *560*	185 *610*	205 *670*	190 *620*	205 *670*	220 *720*	240 *790*
M2	— —	— —	— —	— —	160 *520*	170 *560*	180 *590*	200 *660*	150 *490*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	155 *510*	170 *560*	160 *520*	170 *560*	180 *590*	200 *660*
M3	— —	— —	— —	— —	125 *410*	135 *445*	145 *475*	160 *520*	120 *395*	130 *425*	140 *460*	155 *510*	110 *360*	115 *375*	125 *410*	140 *460*	125 *410*	135 *445*	145 *475*	160 *520*
M4	— —	— —	— —	— —	100 *330*	105 *345*	110 *360*	125 *410*	95 *310*	100 *330*	105 *345*	120 *395*	85 *280*	90 *295*	95 *310*	105 *345*	100 *330*	105 *345*	115 *375*	125 *410*
M5	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	105 *345*	80 *260*	85 *280*	90 *295*	100 *330*	70 *230*	75 *245*	80 *260*	90 *295*	80 *260*	85 *280*	95 *310*	105 *345*
K1	280 *920*	300 *980*	325 *1075*	360 *1175*	200 *660*	210 *690*	230 *750*	255 *840*	— —	— —	— —	— —	160 *520*	170 *560*	185 *610*	205 *670*	— —	— —	— —	— —
K2	255 *840*	270 *890*	295 *970*	320 *1050*	180 *590*	190 *620*	205 *670*	225 *740*	— —	— —	— —	— —	145 *475*	155 *510*	165 *540*	180 *590*	— —	— —	— —	— —
K3	215 *710*	230 *750*	250 *820*	270 *890*	155 *510*	160 *520*	175 *570*	190 *620*	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	155 *510*	— —	— —	— —	— —
K4	205 *670*	220 *720*	235 *770*	260 *850*	145 *475*	155 *510*	165 *540*	180 *590*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	145 *475*	— —	— —	— —	— —
K5	125 *410*	135 *445*	145 *475*	160 *520*	90 *295*	95 *310*	100 *330*	110 *360*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —
K6	180 *590*	195 *640*	210 *690*	225 *740*	130 *425*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —	105 *345*	110 *360*	120 *395*	130 *425*	— —	— —	— —	— —
K7	160 *520*	170 *560*	185 *610*	205 *670*	115 *375*	120 *395*	130 *425*	145 *475*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	46 *150*	49 *160*	50 *165*	60 *195*	44 *145*	46 *150*	50 *165*	55 *180*	40 *130*	42 *140*	45 *150*	50 *165*	48 *155*	50 *165*	55 *180*	60 *195*
S2	— —	— —	— —	— —	37 *120*	39 *130*	42 *140*	47 *155*	35 *115*	37 *120*	40 *130*	44 *145*	32 *105*	34 *110*	36 *120*	40 *130*	38 *125*	41 *135*	44 *145*	49 *160*
S3	— —	— —	— —	— —	32 *105*	34 *110*	37 *120*	42 *140*	31 *100*	33 *110*	36 *120*	39 *130*	28 *90*	30 *100*	32 *105*	36 *120*	34 *110*	36 *120*	39 *130*	43 *140*
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	80 *260*	55 *180*	60 *195*	65 *215*	70 *230*	70 *230*	70 *230*	75 *245*	85 *280*
S12	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	48 *155*	55 *180*	38 *125*	41 *135*	44 *145*	49 *160*	47 *155*	50 *165*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	26 *85*	28 *90*	31 *100*	22 *70*	24 *80*	25 *80*	28 *90*	27 *90*	28 *90*	31 *100*	34 *110*
H5	— —	— —	— —	— —	39 *130*	42 *140*	45 *150*	50 *165*	— —	— —	— —	— —	34 *110*	36 *120*	38 *125*	43 *140*	— —	— —	— —	— —
H8	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*	45 *150*	— —	— —	— —	— —
H11	— —	— —	— —	— —	50 *165*	55 *180*	55 *180*	65 *215*	— —	— —	— —	— —	43 *140*	45 *150*	49 *160*	55 *180*	50 *165*	55 *180*	60 *195*	65 *215*
H12	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	100 *330*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*	85 *280*	90 *295*	95 *310*	105 *345*
H21	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	55 *180*	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*	45 *150*	42 *140*	45 *150*	49 *160*	55 *180*

R217/220.48-05 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501				MM4500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	390	405	430	475	380	395	420	465	340	350	375	415	175	185	200	225
	—	—	—	—	*1275*	*1325*	*1400*	*1550*	*1250*	*1300*	*1375*	*1525*	*1125*	*1150*	*1225*	*1350*	*570*	*610*	*660*	*740*
P2	—	—	—	—	380	395	420	465	370	380	410	450	330	340	365	405	170	180	195	220
	—	—	—	—	*1250*	*1300*	*1375*	*1525*	*1225*	*1250*	*1350*	*1475*	*1075*	*1125*	*1200*	*1325*	*560*	*590*	*640*	*720*
P3	—	—	—	—	335	345	370	405	330	340	360	400	295	300	320	355	150	160	175	185
	—	—	—	—	*1100*	*1125*	*1225*	*1325*	*1075*	*1125*	*1175*	*1300*	*970*	*980*	*1050*	*1175*	*490*	*520*	*570*	*610*
P4	—	—	—	—	295	305	325	360	290	295	320	350	260	265	285	315	130	140	150	170
	—	—	—	—	*970*	*1000*	*1075*	*1175*	*950*	*970*	*1050*	*1150*	*850*	*870*	*940*	*1025*	*425*	*460*	*490*	*560*
P5	—	—	—	—	290	300	320	340	285	290	310	335	255	260	280	300	125	135	145	160
	—	—	—	—	*950*	*980*	*1050*	*1125*	*940*	*950*	*1025*	*1100*	*840*	*850*	*920*	*980*	*410*	*445*	*475*	*520*
P6	—	—	—	—	325	335	355	385	320	325	350	375	285	290	310	335	140	150	165	180
	—	—	—	—	*1075*	*1100*	*1175*	*1275*	*1050*	*1075*	*1150*	*1225*	*940*	*950*	*1025*	*1100*	*460*	*490*	*540*	*590*
P7	—	—	—	—	305	315	335	360	300	310	330	355	270	275	295	315	135	145	155	170
	—	—	—	—	*1000*	*1025*	*1100*	*1175*	*980*	*1025*	*1075*	*1175*	*890*	*900*	*970*	*1025*	*445*	*475*	*510*	*560*
P8	—	—	—	—	280	290	310	340	275	285	305	335	245	255	270	300	125	135	145	155
	—	—	—	—	*920*	*950*	*1025*	*1125*	*900*	*940*	*1000*	*1100*	*800*	*840*	*890*	*980*	*410*	*445*	*475*	*510*
P11	—	—	—	—	300	310	330	350	290	300	320	345	260	265	285	310	130	140	150	165
	—	—	—	—	*980*	*1025*	*1075*	*1150*	*950*	*980*	*1050*	*1125*	*850*	*870*	*940*	*1025*	*425*	*460*	*490*	*540*
P12	—	—	—	—	190	200	210	230	190	195	210	225	170	175	185	205	85	90	100	110
	—	—	—	—	*620*	*660*	*690*	*750*	*620*	*640*	*690*	*740*	*560*	*570*	*610*	*670*	*280*	*295*	*330*	*360*
M1	—	—	—	—	—	—	—	—	190	205	220	245	180	190	205	230	145	155	170	185
	—	—	—	—	—	—	—	—	*620*	*670*	*720*	*800*	*590*	*620*	*670*	*750*	*475*	*510*	*560*	*610*
M2	—	—	—	—	—	—	—	—	160	170	185	200	150	160	170	190	120	130	140	155
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*660*	*490*	*520*	*560*	*620*	*395*	*425*	*460*	*510*
M3	—	—	—	—	—	—	—	—	130	135	150	165	120	130	140	155	100	105	110	125
	—	—	—	—	—	—	—	—	*425*	*445*	*490*	*540*	*395*	*425*	*460*	*510*	*330*	*345*	*360*	*410*
M4	—	—	—	—	—	—	—	—	100	105	115	125	95	100	105	120	75	80	85	95
	—	—	—	—	—	—	—	—	*330*	*345*	*375*	*410*	*310*	*330*	*345*	*395*	*245*	*260*	*280*	*310*
M5	—	—	—	—	—	—	—	—	85	90	95	105	80	85	90	100	65	65	75	80
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*345*	*260*	*280*	*295*	*330*	*215*	*215*	*245*	*260*
K1	305	325	350	380	385	395	425	465	375	385	415	455	335	345	365	405	—	—	—	—
	1000	*1075*	*1150*	*1250*	*1275*	*1300*	*1400*	*1525*	*1225*	*1275*	*1350*	*1500*	*1100*	*1125*	*1200*	*1325*	—	—	—	—
K2	270	285	310	340	350	360	385	415	340	355	375	405	305	315	335	360	—	—	—	—
	890	*940*	*1025*	*1125*	*1150*	*1175*	*1275*	*1350*	*1125*	*1175*	*1225*	*1325*	*1000*	*1025*	*1100*	*1175*	—	—	—	—
K3	230	245	260	290	295	305	325	350	290	300	320	340	260	265	285	305	—	—	—	—
	750	*800*	*850*	*950*	*970*	*1000*	*1075*	*1150*	*950*	*980*	*1050*	*1125*	*850*	*870*	*940*	*1000*	—	—	—	—
K4	220	230	250	275	280	290	310	335	275	285	305	325	245	255	270	290	—	—	—	—
	720	*750*	*820*	*900*	*920*	*950*	*1025*	*1100*	*900*	*940*	*1000*	*1075*	*800*	*840*	*890*	*950*	—	—	—	—
K5	135	140	155	170	170	180	190	205	170	175	185	200	150	155	165	180	—	—	—	—
	445	*460*	*510*	*560*	*560*	*590*	*620*	*670*	*560*	*570*	*610*	*660*	*490*	*510*	*540*	*590*	—	—	—	—
K6	190	205	220	240	250	255	275	295	245	250	270	290	215	225	240	255	—	—	—	—
	620	*670*	*720*	*790*	*820*	*840*	*900*	*970*	*800*	*820*	*890*	*950*	*710*	*740*	*790*	*840*	—	—	—	—
K7	170	180	195	215	220	230	245	260	215	225	240	260	195	200	215	230	—	—	—	—
	560	*590*	*640*	*710*	*720*	*750*	*800*	*850*	*710*	*740*	*790*	*850*	*640*	*660*	*710*	*750*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1350	1425	1550	1725	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*4425*	*4675*	*5075*	*5650*	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	540	580	620	700	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1775*	*1900*	*2025*	*2300*	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	360	385	415	465	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1175*	*1275*	*1350*	*1525*	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	415	440	475	530	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1350*	*1450*	*1550*	*1750*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	44	46	50	55	23	24	27	29
	—	—	—	—	—	—	—	—	—	—	—	—	*145*	*150*	*165*	*180*	*75*	*80*	*90*	*95*
S2	—	—	—	—	—	—	—	—	—	—	—	—	35	37	40	44	19	20	21	24
	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*120*	*130*	*145*	*60*	*65*	*70*	*80*
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	33	36	39	16	17	19	21
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*110*	*120*	*130*	*50*	*55*	*60*	*70*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	65	70	80	33	35	37	41
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*260*	*110*	*115*	*120*	*135*
S12	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	55	30	32	34	38
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*155*	*180*	*100*	*105*	*110*	*125*
S13	—	—	—	—	—	—	—	—	—	—	—	—	25	26	28	31	17	18	20	22
	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*85*	*90*	*100*	*55*	*60*	*65*	*70*
H5	—	—	—	—	50	55	55	65	—	—	—	—	39	41	44	49	—	—	—	—
	—	—	—	—	*165*	*180*	*180*	*215*	—	—	—	—	*130*	*135*	*145*	*160*	—	—	—	—
H8	—	—	—	—	55	55	60	70	—	—	—	—	41	44	48	50	—	—	—	—
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*135*	*145*	*155*	*165*	—	—	—	—
H11	—	—	—	—	65	70	75	80	—	—	—	—	49	50	55	60	—	—	—	—
	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—	*160*	*165*	*180*	*195*	—	—	—	—
H12	—	—	—	—	95	100	110	120	—	—	—	—	75	80	85	95	—	—	—	—
	—	—	—	—	*310*	*330*	*360*	*395*	—	—	—	—	*245*	*260*	*280*	*310*	—	—	—	—
H21	—	—	—	—	55	55	60	70	—	—	—	—	41	44	48	50	—	—	—	—
	—	—	—	—	*180*	*180*	*195*	*230*	—	—	—	—	*135*	*145*	*155*	*165*	—	—	—	—

Double Octomill™ R217/220.48-09 – Metric

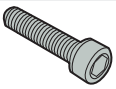
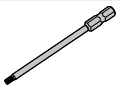
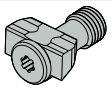




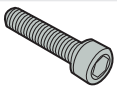
- For insert selection and cutting data recommendations, see page(s) 255 - 257
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
C6-R217.48-080-09-06SA	02731338	Seco-Capto	80,0	6	6,0	40,0	95,0	–	63,0	63,0	4400	1,7	ON.U0905
C6-R217.48-080-09-07SA	02731340	Seco-Capto	80,0	7	6,0	40,0	95,0	–	63,0	63,0	4400	1,8	ON.U0905
C6-R217.48-100-09-07SA	02731347	Seco-Capto	100,0	7	6,0	40,0	115,0	–	63,0	80,0	3900	3,0	ON.U0905
C8-R217.48-100-09-08SA	02731342	Seco-Capto	100,0	8	6,0	40,0	115,0	–	80,0	80,0	3900	3,7	ON.U0905
R220.48-0063-09-05SA	02670226	Arbor	63,0	5	6,0	40,0	78,0	22,0	47,0	40,0	4900	0,6	ON.U0905
R220.48-0063-09-06SA	02685780	Arbor	63,0	6	6,0	40,0	78,0	22,0	47,0	40,0	4900	0,6	ON.U0905
R220.48-0080-09-06SA	02670228	Arbor	80,0	6	6,0	40,0	95,0	27,0	62,0	50,0	4400	1,0	ON.U0905
R220.48-0080-09-07SA	02685781	Arbor	80,0	7	6,0	40,0	95,0	27,0	62,0	50,0	4400	1,0	ON.U0905
R220.48-0080-09-09M	02670210	Arbor	80,0	9	6,0	40,0	95,0	27,0	62,0	50,0	4400	1,3	ON.U0905
R220.48-0100-09-07SA	02670229	Arbor	100,0	7	6,0	40,0	115,0	32,0	77,0	50,0	3900	1,7	ON.U0905
R220.48-0100-09-08SA	02685782	Arbor	100,0	8	6,0	40,0	115,0	32,0	77,0	50,0	3900	1,6	ON.U0905
R220.48-0100-09-12M	02670213	Arbor	100,0	12	6,0	40,0	115,0	32,0	77,0	50,0	3900	1,8	ON.U0905
R220.48-0125-09-08SA	02670231	Arbor	125,0	8	6,0	40,0	140,0	40,0	90,0	63,0	3500	2,9	ON.U0905
R220.48-0125-09-10SA	02685847	Arbor	125,0	10	6,0	40,0	140,0	40,0	90,0	63,0	3500	3,0	ON.U0905
R220.48-0125-09-15M	02670214	Arbor	125,0	15	6,0	40,0	140,0	40,0	90,0	63,0	3500	3,4	ON.U0905
R220.48-8160-09-12S	02685849	Arbor	160,0	12	6,0	40,0	175,0	40,0	90,0	63,0	3100	4,5	ON.U0905
R220.48-8160-09-10S	02685776	Arbor	160,0	10	6,0	40,0	175,0	40,0	90,0	63,0	3100	4,3	ON.U0905
R220.48-8160-09-20M	02670215	Arbor	160,0	20	6,0	40,0	175,0	40,0	90,0	63,0	3100	4,8	ON.U0905
R220.48-8200-09-12S	02685845	Arbor	200,0	12	6,0	40,0	215,0	60,0	130,0	63,0	2700	5,5	ON.U0905
R220.48-8200-09-24M	02685773	Arbor	200,0	24	6,0	40,0	215,0	60,0	130,0	63,0	2700	6,0	ON.U0905
R220.48-8250-09-16S	02685777	Arbor	250,0	16	6,0	40,0	265,0	60,0	130,0	63,0	2500	13,0	ON.U0905
R220.48-8250-09-30M	02685774	Arbor	250,0	30	6,0	40,0	265,0	60,0	130,0	63,0	2500	14,1	ON.U0905
R220.48-8315-09-20S	02685846	Arbor	315,0	20	6,0	40,0	330,0	60,0	225,0	80,0	2200	27,0	ON.U0905
R220.48-8315-09-40M	02685775	Arbor	315,0	40	6,0	40,0	330,0	60,0	225,0	80,0	2200	28,6	ON.U0905

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Wedge kit
				
Cx-R217.48-063-0100	–	1/4HEX-T20PX90	C05013-T20P	–
R220.48-0063SA	220.17-692	1/4HEX-T20PX50	C05013-T20P	–
R220.48-0080-0125SA	–	1/4HEX-T20PX90	C05013-T20P	–
R220.48-0080-0125M	–	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-0100-8315SA	–	1/4HEX-T20PX90	C05013-T20P	–
R220.48-8160-8315M	–	1/4HEX-T20PX50	–	CW0816-RHA

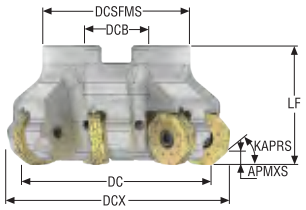
Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Insert clamping torque	Torque key
					
Cx-R217.48-063-0100	1/4HEX-T-HANDLE-5.0-14.0NM	–	–	5.0NM	T00-20P50
R220.48-063SA	1/4HEX-T-HANDLE-5.0-14.0NM	–	–	5.0NM	T00-20P50
R220.48-0080SA	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	–	5.0NM	T00-20P50
R220.48-080-100M	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	–	–	–
R220.48-0100SA	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	–	5.0NM	T00-20P50
R220.48-080-100M	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	–	–	–
R220.48-0125SA	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	5.0NM	T00-20P50
R220.48-080-100M	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	–	–
R220.48-8160S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	5.0NM	T00-20P50
R220.48-8160M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	–	–
R220.48-8200-8250S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	5.0NM	T00-20P50
R220.48-8200-8250M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	–	–
R220.48-8315S	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	5.0NM	T00-20P50
R220.48-8315M	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	–	–

Torque and fixed keys, see page 872

Double Octomill™ R220.48-09 – inch

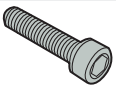
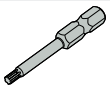
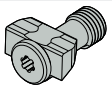




- For insert selection and cutting data recommendations, see page(s) 255 - 257
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.48-02.50-09-05SA	02685793	Arbor	2.480	5	0.236	40.0	3.071	0.750	1.850	1.575	4900	1.320	ON.U0905
R220.48-03.00-09-06SA	02685794	Arbor	3.150	6	0.236	40.0	3.740	1.000	2.441	1.969	4400	2.650	ON.U0905
R220.48-03.00-09-09M	02685806	Arbor	3.150	9	0.236	40.0	3.740	1.000	2.441	1.969	4400	3.090	ON.U0905
R220.48-04.00-09-07SA	02685795	Arbor	3.937	7	0.236	40.0	4.528	1.500	3.543	1.969	3900	3.970	ON.U0905
R220.48-04.00-09-12M	02685807	Arbor	3.937	12	0.236	40.0	4.528	1.500	3.543	1.969	3900	4.410	ON.U0905
R220.48-05.00-09-08SA	02685797	Arbor	4.921	8	0.236	40.0	5.512	1.500	3.543	2.480	3500	7.280	ON.U0905
R220.48-05.00-09-15M	02685808	Arbor	4.921	15	0.236	40.0	5.512	1.500	3.543	2.480	3500	8.380	ON.U0905
R220.48-06.00-09-10S	02685799	Arbor	6.299	10	0.236	40.0	6.890	2.000	4.331	2.480	3100	8.820	ON.U0905
R220.48-808.00-09-12S	02685801	Arbor	7.874	12	0.236	40.0	8.465	2.500	5.118	2.480	2700	11.900	ON.U0905
R220.48-810.00-09-16S	02685802	Arbor	9.843	16	0.236	40.0	10.433	2.500	5.118	2.480	2500	28.660	ON.U0905
R220.48-812.50-09-20S	02685803	Arbor	12.402	20	0.236	40.0	12.992	2.500	8.858	3.150	2200	59.520	ON.U0905

Spare Parts, included in delivery

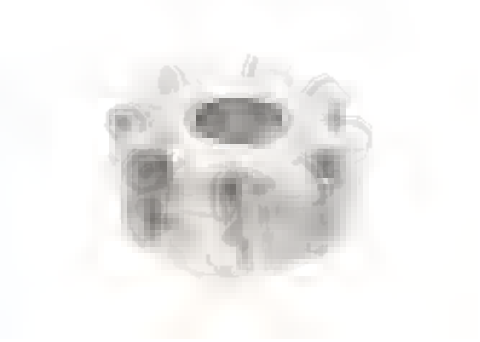
For cutter	Arbor screw	Insert key	Insert screw	Wedge kit
				
R220.48-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C05013-T20P	–
R220.48-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-03.00M	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-04.00M	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–
R220.48-05.00M	UC6S3/4UNFX1-1/4	1/4HEX-T20PX50	–	CW0816-RHA
R220.48-06.00 - 812.00	–	1/4HEX-T20PX90	C05013-T20P	–

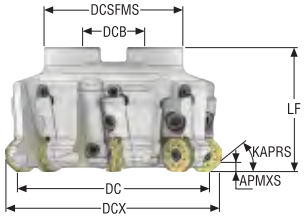
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.48-02.50-05.00-SA	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.48-03.00-05.00-M	1/4HEX-T-HANDLE-5.0-14.0NM	–	–	–
R220.48-06.00-S	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	44.3IN.LBS	T00-20P50
R220.48-08.00 - 810.00-S	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.48-812.50-S	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

Double Octomill™ R/L220.48-09CS – Metric

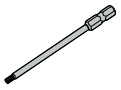
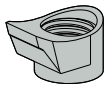




- For insert selection and cutting data recommendations, see page(s) 255 - 257
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.48-0125-09-08CS	02883045	Arbor	125,0	8	6,0	40,0	140,0	40,0	90,0	80,0	3500	4,9	ON.U0905
R220.48-8160-09-10CS	02883046	Arbor	160,0	10	6,0	40,0	175,0	40,0	130,0	80,0	3100	7,6	ON.U0905
R220.48-8200-09-12CS	02883047	Arbor	200,0	12	6,0	40,0	215,0	60,0	160,0	80,0	2700	10,5	ON.U0905
R220.48-8250-09-16CS	02883048	Arbor	250,0	16	6,0	40,0	265,0	60,0	200,0	80,0	2500	19,6	ON.U0905
R220.48-8315-09-20CS	02883049	Arbor	315,0	20	6,0	40,0	330,0	60,0	225,0	80,0	2200	35,5	ON.U0905
L220.48-0125-09-08CS	02883050	Arbor	125,0	8	6,0	40,0	140,0	40,0	90,0	80,0	3500	4,9	ON.U0905
L220.48-8160-09-10CS	02883051	Arbor	160,0	10	6,0	40,0	175,0	40,0	130,0	80,0	3100	7,6	ON.U0905
L220.48-8200-09-12CS	02883052	Arbor	200,0	12	6,0	40,0	215,0	60,0	160,0	80,0	2700	10,1	ON.U0905
L220.48-8250-09-16CS	02883053	Arbor	250,0	16	6,0	40,0	265,0	60,0	200,0	80,0	2500	19,6	ON.U0905

Spare Parts, included in delivery

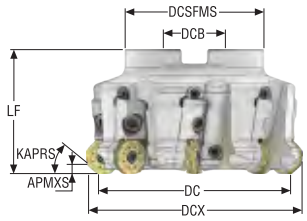
For cutter	Adjustment unit	Cassette (L)	Cassette (R)	Cassette screw	Insert key	Insert screw	Wedge clamp	Wedge screw
								
R220.48-0125-8315	AU1114T-T15P	–	ON09AR	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P
L220.48-0125-8250	AU1114T-T15P	ON09AL	–	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Insert clamping torque	Setting key	Torque key	Wedge key
							
R/L220.48-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R/L220.48-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R/L220.48-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	5.0NM	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50

Torque and fixed keys, see page 872

Double Octomill™ R/L220.48-09CS – inch

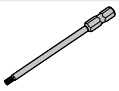




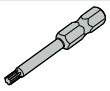
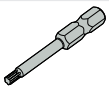
- For insert selection and cutting data recommendations, see page(s) 255 - 257
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.48-06.00-09-10CS	02882758	Arbor	6.299	10	0.236	40.0	6.890	2.000	4.331	3.150	3100	16.760	ON.U0905
R220.48-808.00-09-12CS	02883055	Arbor	7.874	12	0.236	40.0	8.465	2.500	5.118	3.150	2700	23.150	ON.U0905
R220.48-810.00-09-16CS	02883056	Arbor	9.843	16	0.236	40.0	10.433	2.500	5.118	3.150	2500	43.210	ON.U0905
R220.48-812.50-09-20CS	02883057	Arbor	12.402	20	0.236	40.0	12.992	2.500	8.858	3.150	2200	78.260	ON.U0905

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette (R)	Cassette screw	Insert key	Insert screw	Wedge clamp	Wedge screw
							
R220.48- 06.00-812.50	AU1114T-T15P	ON09AR	FS98030	1/4HEX-T20PX90	C05013-T20P	CW0810	LD8020-T25P

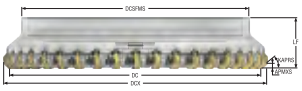
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Setting key	Torque key	Wedge key
						
R220.48- 06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	44.3IN.LBS	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48- 808.00-810.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50
R220.48-812.50	1/4HEX-T-HANDLE-5.0-14.0NM	950DNC062225	44.3IN.LBS	1/4HEX-T15PX50	T00-20P50	1/4HEX-T25PX50

Torque and fixed keys, see page 872

Double Octomill™ R220.48-09 CAP – Metric

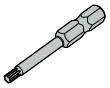
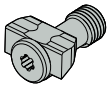




- For insert selection and cutting data recommendations, see page(s) 255 - 257
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm		kg	
R220.48-9355-09-50M	02671031	CAP	355,0	50	6,0	40,0	370,0	285,0	63,0	2000	15,1	ON.U0905
R220.48-9400-09-50M	02720555	CAP	400,0	50	6,0	40,0	415,0	370,0	63,0	1900	18,6	ON.U0905
R220.48-9500-09-60M	02720556	CAP	500,0	60	6,0	40,0	515,0	470,0	63,0	1700	27,0	ON.U0905

Spare Parts, included in delivery

For cutter	Insert key	Wedge kit
		
R220.48-9355-9500	1/4HEX-T20PX50	CW0816-RHA

Accessories

For cutter	Adjustable Torque key
	
R220.48-9355-9500	1/4HEX-T-HANDLE-5.0-14.0NM

Torque and fixed keys, see page 872

R220.48-09 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			80%	40%	20%
P1	ONMU090510ANTN-ME16 MS2050	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
P2	ONMU090510ANTN-ME16 MS2050	3,5 *0.14*	0,34 *0.013*	0,36 *0.014*	0,44 *0.017*
P3	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
P4	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
P5	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
P6	ONMU090510ANTN-ME16 MP2501	3,5 *0.14*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
P7	ONMU090510ANTN-ME16 MP3501	3,5 *0.14*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
P8	ONMU090510ANTN-ME16 MP3501	3,5 *0.14*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
P11	ONMU090520ANTN-M12 MP2050	3,5 *0.14*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P12	ONMU090520ANTN-M12 MP2050	3,0 *0.12*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
M1	ONMU090520ANTN-ME13 F40M	3,5 *0.14*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
M2	ONMU090520ANTN-ME13 MS2050	3,5 *0.14*	0,24 *0.0095*	0,25 *0.010*	0,30 *0.012*
M3	ONMU090520ANTN-ME13 MS2050	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
M4	ONMU090512TN-ME16 MP2050	2,0 *0.080*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
M5	ONMU090512TN-ME16 MP2050	2,0 *0.080*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
K1	ONMU090520ANTN-M15 MK1500	3,5 *0.14*	0,38 *0.015*	0,38 *0.015*	0,48 *0.019*
K2	ONMU090520ANTN-M15 MK1500	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
K3	ONMU090520ANTN-M15 MP1501	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
K4	ONMU090520ANTN-M15 MP1501	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
K5	ONMU090520ANTN-M15 MK2050	3,5 *0.14*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
K6	ONMU090520ANTN-M15 MK2050	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
K7	ONMU090520ANTN-M15 MK2050	3,5 *0.14*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
N1	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
N2	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
N3	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
N11	ONMU090520ANTN-ME12 F40M	3,5 *0.14*	0,34 *0.013*	0,34 *0.013*	0,44 *0.017*
S1	ONMU090520ANTN-M12 MS2500	2,0 *0.080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S2	ONMU090520ANTN-M12 MS2500	2,0 *0.080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S3	ONMU090520ANTN-M12 MS2500	2,0 *0.080*	0,19 *0.0075*	0,20 *0.0080*	0,25 *0.010*
S11	ONMU090520ANTN-ME13 MS2050	2,5 *0.10*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S12	ONMU090520ANTN-ME13 MS2050	2,5 *0.10*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S13	ONMU090520ANTN-ME13 MS2050	2,0 *0.080*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H5	ONMU090520ANTN-M15 MP3000	3,0 *0.12*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
H8	ONMU090520ANTN-M15 MP3000	2,5 *0.10*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
H11	ONMU090520ANTN-MD16 MP1501	3,0 *0.12*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
H12	ONMU090520ANTN-MD16 MP1501	2,5 *0.10*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H21	ONMU090520ANTN-MD16 MP1501	2,5 *0.10*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.48-09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MP3000				MS2050				F40M				MP2050			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	240 *790*	255 *840*	280 *920*	305 *1000*	230 *750*	245 *800*	265 *870*	295 *970*	220 *720*	235 *770*	255 *840*	280 *920*	200 *660*	210 *690*	230 *750*	255 *840*	270 *890*	290 *950*	310 *1025*	340 *1125*
P2	230 *750*	245 *800*	265 *870*	295 *970*	220 *720*	235 *770*	255 *840*	285 *940*	215 *710*	230 *750*	245 *800*	270 *890*	195 *640*	205 *670*	225 *740*	245 *800*	255 *840*	275 *900*	295 *970*	330 *1075*
P3	200 *660*	215 *710*	230 *750*	260 *850*	195 *640*	205 *670*	225 *740*	250 *820*	190 *620*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	195 *640*	215 *710*	225 *740*	240 *790*	260 *850*	290 *950*
P4	180 *590*	195 *640*	210 *690*	230 *750*	175 *570*	185 *610*	200 *660*	220 *720*	165 *540*	175 *570*	190 *620*	210 *690*	150 *490*	160 *520*	170 *560*	195 *640*	200 *660*	210 *690*	230 *750*	255 *840*
P5	175 *570*	185 *610*	200 *660*	225 *740*	165 *540*	175 *570*	190 *620*	215 *710*	160 *520*	170 *560*	180 *590*	205 *670*	145 *475*	155 *510*	170 *560*	185 *610*	195 *640*	205 *670*	225 *740*	245 *800*
P6	195 *640*	205 *670*	225 *740*	250 *820*	185 *610*	200 *660*	215 *710*	240 *790*	175 *570*	190 *620*	205 *670*	230 *750*	165 *540*	175 *570*	190 *620*	205 *670*	220 *720*	235 *770*	250 *820*	275 *900*
P7	185 *610*	195 *640*	210 *690*	235 *770*	175 *570*	190 *620*	205 *670*	225 *740*	165 *540*	180 *590*	195 *640*	215 *710*	155 *510*	165 *540*	180 *590*	195 *640*	205 *670*	220 *720*	235 *770*	260 *850*
P8	170 *560*	180 *590*	195 *640*	220 *720*	165 *540*	175 *570*	190 *620*	210 *690*	160 *520*	170 *560*	180 *590*	200 *660*	145 *475*	150 *490*	165 *540*	180 *590*	190 *620*	205 *670*	220 *720*	245 *800*
P11	180 *590*	190 *620*	205 *670*	230 *750*	170 *560*	180 *590*	195 *640*	220 *720*	160 *520*	175 *570*	185 *610*	210 *690*	150 *490*	160 *520*	175 *570*	190 *620*	200 *660*	215 *710*	230 *750*	250 *820*
P12	115 *375*	125 *410*	135 *445*	150 *490*	115 *375*	120 *395*	130 *425*	145 *475*	105 *345*	115 *375*	125 *410*	135 *445*	95 *310*	105 *345*	110 *360*	125 *410*	130 *425*	140 *460*	150 *490*	165 *540*
M1	— —	— —	— —	— —	165 *540*	175 *570*	190 *620*	215 *710*	170 *560*	185 *610*	200 *660*	220 *720*	155 *510*	165 *540*	180 *590*	200 *660*	185 *610*	195 *640*	210 *690*	235 *770*
M2	— —	— —	— —	— —	140 *460*	150 *490*	160 *520*	180 *590*	140 *460*	150 *490*	165 *540*	185 *610*	130 *425*	140 *460*	150 *490*	165 *540*	155 *510*	165 *540*	180 *590*	195 *640*
M3	— —	— —	— —	— —	115 *375*	120 *395*	130 *425*	145 *475*	115 *375*	125 *410*	135 *445*	150 *490*	105 *345*	115 *375*	120 *395*	135 *445*	125 *410*	135 *445*	145 *475*	160 *520*
M4	— —	— —	— —	— —	85 *280*	95 *310*	100 *330*	110 *360*	90 *295*	95 *310*	105 *345*	115 *375*	80 *260*	85 *280*	95 *310*	105 *345*	95 *310*	105 *345*	110 *360*	125 *410*
M5	— —	— —	— —	— —	75 *245*	75 *245*	85 *280*	95 *310*	75 *245*	80 *260*	85 *280*	95 *310*	65 *215*	70 *230*	80 *260*	90 *295*	80 *260*	85 *280*	90 *295*	100 *330*
K1	250 *820*	265 *870*	285 *940*	320 *1050*	175 *570*	185 *610*	200 *660*	225 *740*	— —	— —	— —	— —	155 *510*	165 *540*	175 *570*	195 *640*	— —	— —	— —	— —
K2	225 *740*	240 *790*	255 *840*	290 *950*	160 *520*	170 *560*	180 *590*	205 *670*	— —	— —	— —	— —	140 *460*	150 *490*	160 *520*	175 *570*	— —	— —	— —	— —
K3	190 *620*	200 *660*	220 *720*	245 *800*	135 *445*	140 *460*	155 *510*	170 *560*	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	150 *490*	— —	— —	— —	— —
K4	180 *590*	190 *620*	210 *690*	230 *750*	125 *410*	135 *445*	145 *475*	165 *540*	— —	— —	— —	— —	110 *360*	120 *395*	130 *425*	140 *460*	— —	— —	— —	— —
K5	110 *360*	120 *395*	130 *425*	140 *460*	80 *260*	85 *280*	90 *295*	100 *330*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —
K6	160 *520*	170 *560*	185 *610*	205 *670*	110 *360*	120 *395*	130 *425*	145 *475*	— —	— —	— —	— —	100 *330*	105 *345*	115 *375*	125 *410*	— —	— —	— —	— —
K7	145 *475*	155 *510*	165 *540*	180 *590*	100 *330*	110 *360*	115 *375*	125 *410*	— —	— —	— —	— —	85 *280*	95 *310*	100 *330*	110 *360*	— —	— —	— —	— —
S1	— —	— —	— —	— —	41 *135*	43 *140*	47 *155*	50 *165*	42 *140*	44 *145*	49 *160*	55 *180*	38 *125*	40 *130*	44 *145*	49 *160*	47 *155*	50 *165*	55 *180*	60 *195*
S2	— —	— —	— —	— —	33 *110*	35 *115*	38 *125*	42 *140*	34 *110*	36 *120*	39 *130*	43 *140*	30 *100*	32 *105*	36 *120*	40 *130*	38 *125*	41 *135*	44 *145*	48 *155*
S3	— —	— —	— —	— —	29 *95*	30 *100*	33 *110*	37 *120*	30 *100*	31 *100*	34 *110*	38 *125*	27 *90*	28 *90*	31 *100*	34 *110*	33 *110*	36 *120*	39 *130*	43 *140*
S11	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	60 *195*	65 *215*	75 *245*	55 *180*	55 *180*	60 *195*	70 *230*	65 *215*	70 *230*	75 *245*	85 *280*
S12	— —	— —	— —	— —	— —	— —	— —	— —	40 *130*	43 *140*	46 *150*	50 *165*	37 *120*	39 *130*	43 *140*	47 *155*	46 *150*	49 *160*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	— —	— —	— —	23 *75*	25 *80*	27 *90*	30 *100*	21 *70*	22 *70*	25 *80*	28 *90*	27 *90*	28 *90*	30 *100*	34 *110*
H5	— —	— —	— —	— —	35 *115*	37 *120*	40 *130*	45 *150*	— —	— —	— —	— —	32 *105*	34 *110*	37 *120*	41 *135*	— —	— —	— —	— —
H8	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	48 *155*	— —	— —	— —	— —	35 *115*	37 *120*	41 *135*	44 *145*	— —	— —	— —	— —
H11	— —	— —	— —	— —	45 *150*	48 *155*	50 *165*	55 *180*	— —	— —	— —	— —	41 *135*	44 *145*	47 *155*	55 *180*	49 *160*	55 *180*	55 *180*	65 *215*
H12	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	90 *295*	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	80 *260*	80 *260*	90 *295*	95 *310*	105 *345*
H21	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	48 *155*	— —	— —	— —	— —	35 *115*	37 *120*	41 *135*	44 *145*	41 *135*	44 *145*	48 *155*	55 *180*

R217/220.48-09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	395	410	440	470	385	400	430	460	300	320	345	375	345	355	380	410	170	180	195	210
	—	—	—	—	*1300*	*1350*	*1450*	*1550*	*1275*	*1300*	*1400*	*1500*	*980*	*1050*	*1125*	*1225*	*1125*	*1175*	*1250*	*1350*	*560*	*590*	*640*	*690*
P2	—	—	—	—	375	390	415	460	365	380	405	450	285	305	330	365	325	335	360	400	160	170	185	205
	—	—	—	—	*1225*	*1275*	*1350*	*1500*	*1200*	*1250*	*1325*	*1475*	*940*	*1000*	*1075*	*1200*	*1075*	*1100*	*1175*	*1300*	*520*	*560*	*610*	*670*
P3	—	—	—	—	330	345	365	405	325	335	360	395	250	270	290	325	290	300	320	355	140	150	165	180
	—	—	—	—	*1075*	*1125*	*1200*	*1325*	*1075*	*1100*	*1175*	*1300*	*820*	*890*	*950*	*1075*	*950*	*980*	*1050*	*1175*	*460*	*490*	*540*	*590*
P4	—	—	—	—	290	305	325	355	285	295	315	350	220	235	255	285	255	265	280	310	125	135	145	160
	—	—	—	—	*950*	*1000*	*1075*	*1175*	*940*	*970*	*1025*	*1150*	*720*	*770*	*840*	*940*	*840*	*870*	*920*	*1025*	*410*	*445*	*475*	*520*
P5	—	—	—	—	285	295	315	340	280	290	310	330	215	230	250	270	250	260	275	295	120	130	140	155
	—	—	—	—	*940*	*970*	*1025*	*1125*	*920*	*950*	*1025*	*1075*	*710*	*750*	*820*	*890*	*820*	*850*	*900*	*970*	*395*	*425*	*460*	*510*
P6	—	—	—	—	320	335	355	380	315	325	345	375	240	260	280	305	280	290	310	335	135	145	155	170
	—	—	—	—	*1050*	*1100*	*1175*	*1250*	*1025*	*1075*	*1125*	*1225*	*790*	*850*	*920*	*1000*	*920*	*950*	*1025*	*1100*	*445*	*475*	*510*	*560*
P7	—	—	—	—	300	315	335	360	295	305	325	350	230	245	265	285	265	275	290	315	130	135	150	160
	—	—	—	—	*980*	*1025*	*1100*	*1175*	*970*	*1000*	*1075*	*1150*	*750*	*800*	*870*	*940*	*870*	*900*	*950*	*1025*	*425*	*445*	*490*	*520*
P8	—	—	—	—	280	290	310	340	270	280	300	330	210	225	245	270	245	250	270	295	120	125	135	155
	—	—	—	—	*920*	*950*	*1025*	*1125*	*890*	*920*	*980*	*1075*	*690*	*740*	*800*	*890*	*800*	*820*	*890*	*970*	*395*	*410*	*445*	*510*
P11	—	—	—	—	295	305	325	350	290	300	320	340	220	235	255	280	255	265	285	305	125	135	145	155
	—	—	—	—	*970*	*1000*	*1075*	*1150*	*950*	*980*	*1050*	*1125*	*720*	*770*	*840*	*920*	*840*	*870*	*940*	*1000*	*410*	*445*	*475*	*510*
P12	—	—	—	—	190	195	210	225	185	195	205	225	145	155	165	185	165	175	185	200	80	85	95	105
	—	—	—	—	*620*	*640*	*690*	*740*	*610*	*640*	*670*	*740*	*475*	*510*	*540*	*610*	*540*	*570*	*610*	*660*	*260*	*280*	*310*	*345*
M1	—	—	—	—	—	—	—	—	190	200	215	245	205	220	235	265	175	190	205	225	140	145	160	175
	—	—	—	—	—	—	—	—	*620*	*660*	*710*	*800*	*670*	*720*	*770*	*870*	*570*	*620*	*670*	*740*	*460*	*475*	*520*	*570*
M2	—	—	—	—	—	—	—	—	160	170	185	200	175	185	200	215	150	160	170	185	115	125	135	145
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*660*	*570*	*610*	*660*	*710*	*490*	*520*	*560*	*610*	*375*	*410*	*445*	*475*
M3	—	—	—	—	—	—	—	—	130	135	145	165	140	150	160	175	120	125	135	150	95	100	105	120
	—	—	—	—	—	—	—	—	*425*	*445*	*475*	*540*	*460*	*490*	*520*	*570*	*395*	*410*	*445*	*490*	*310*	*330*	*345*	*395*
M4	—	—	—	—	—	—	—	—	100	105	115	125	110	115	125	135	95	100	105	115	75	75	85	90
	—	—	—	—	—	—	—	—	*330*	*345*	*375*	*410*	*360*	*375*	*410*	*445*	*310*	*330*	*345*	*375*	*245*	*245*	*280*	*295*
M5	—	—	—	—	—	—	—	—	85	90	95	105	90	95	100	115	75	80	90	100	60	65	70	75
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*345*	*295*	*310*	*330*	*375*	*245*	*260*	*295*	*330*	*195*	*215*	*230*	*245*
K1	295	315	340	380	380	395	420	465	370	385	410	455	225	240	260	290	330	340	365	405	—	—	—	—
	970	*1025*	*1125*	*1250*	*1250*	*1300*	*1375*	*1525*	*1225*	*1275*	*1350*	*1500*	*740*	*790*	*850*	*950*	*1075*	*1125*	*1200*	*1325*	—	—	—	—
K2	265	285	305	335	345	360	380	410	340	350	375	400	205	220	235	260	300	310	335	360	—	—	—	—
	870	*940*	*1000*	*1100*	*1125*	*1175*	*1250*	*1350*	*1125*	*1150*	*1225*	*1300*	*670*	*720*	*770*	*850*	*980*	*1025*	*1100*	*1175*	—	—	—	—
K3	225	240	260	285	290	305	325	345	285	295	315	340	175	185	200	220	255	265	280	305	—	—	—	—
	740	*790*	*850*	*940*	*950*	*1000*	*1075*	*1125*	*940*	*970*	*1025*	*1125*	*570*	*610*	*660*	*720*	*840*	*870*	*920*	*1000*	—	—	—	—
K4	215	230	250	270	280	290	310	330	275	285	300	325	165	175	190	210	245	250	270	290	—	—	—	—
	710	*750*	*820*	*890*	*920*	*950*	*1025*	*1075*	*900*	*940*	*980*	*1075*	*540*	*570*	*620*	*690*	*800*	*820*	*890*	*950*	—	—	—	—
K5	130	140	150	165	170	175	190	205	165	175	185	200	100	110	115	130	150	155	165	180	—	—	—	—
	425	*460*	*490*	*540*	*560*	*570*	*620*	*670*	*540*	*570*	*610*	*660*	*330*	*360*	*375*	*425*	*490*	*510*	*540*	*590*	—	—	—	—
K6	190	200	220	240	245	255	270	290	240	250	265	285	145	155	170	185	215	220	235	255	—	—	—	—
	620	*660*	*720*	*790*	*800*	*840*	*890*	*950*	*790*	*820*	*870*	*940*	*475*	*510*	*560*	*610*	*710*	*720*	*770*	*840*	—	—	—	—
K7	170	180	195	215	215	225	240	260	215	220	235	255	130	140	150	165	190	200	210	230	—	—	—	—
	560	*590*	*640*	*710*	*710*	*740*	*790*	*850*	*710*	*720*	*770*	*840*	*425*	*460*	*490*	*540*	*620*	*660*	*690*	*750*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	55	55	60	65	43	46	49	55	22	24	25	28
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*180*	*195*	*215*	*140*	*150*	*160*	*180*	*70*	*80*	*80*	*90*
S2	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	55	35	37	40	44	18	19	20	23
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*155*	*180*	*115*	*120*	*130*	*145*	*60*	*60*	*65*	*75*
S3	—	—	—	—	—	—	—	—	—	—	—	—	37	39	43	48	30	32	35	39	16	17	18	20
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*155*	*100*	*105*	*115*	*130*	*50*	*55*	*60*	*65*
S11	—	—	—	—	—	—	—	—	—	—	—	—	75	80	85	95	60	65	70	75	31	33	36	40
	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*280*	*310*	*195*	*215*	*230*	*245*	*100*	*110*	*120*	*130*
S12	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65	42	45	48	55	29	31	33	36
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*	*140*	*150*	*155*	*180*	*95*	*100*	*110*	*120*
S13	—	—	—	—	—	—	—	—	—	—	—	—	30	32	34	37	24	26	28	31	17	18	19	21
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*110*	*120*	*80*	*85*	*90*	*100*	*55*	*60*	*60*	*70*
H5	—	—	—	—	49	55	55	65	—	—	—	—	43	46	50	55	38	41	44	49	—	—	—	—
	—	—	—	—	*160*	*180*	*180*	*215*	—	—	—	—	*140*	*150*	*165*	*180*	*125*	*135*	*145*	*160*	—	—	—	—
H8	—	—	—	—	55	55	60	65	—	—	—	—	46	49	55	60	41	43	47	50	—	—	—	—
	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—	*150*	*160*	*180*	*195*	*135*	*140*	*155*	*165*	—	—	—	—
H11	—	—	—	—	65	65	70	80	—	—	—	—	55	60	65	70	48	50	55	60	—	—	—	—
	—	—	—	—	*215*	*215*	*230*	*260*	—	—	—	—	*180*	*195*	*215*	*230*	*155*	*165*	*180*	*195*	—	—	—	—
H12	—	—	—	—	95	100	110	120	—	—	—	—	90	100	105	115	75	80	85	95	—	—	—	—
	—	—	—	—	*310*	*330*	*360*	*395*	—	—	—	—	*295*	*330*	*345*	*375*	*245*	*260*	*280*	*310*	—	—	—	—
H21	—	—	—	—	55	55	60	65	—	—	—	—	46	49	55	60	41	43	47	50	—	—	—	—
	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—	*150*	*160*	*180*	*195*	*135*	*140*	*155*	*165*	—	—	—	—

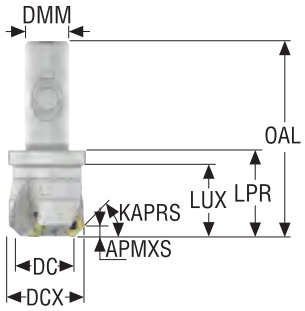


QUATTROMILL 09/12/15

QuattroMill™ is more than a general-purpose face mill. It is a simple solution with more teeth per cutter that increases productivity, ease of use, reliability and precision for the full range of face milling applications and materials. QuattroMill features strong, square inserts that meet the needs of most challenging applications, and a strong center locking screw with quick insert location make it easy to replace inserts. The cutter body is coated and pre-hardened and features a large chip space for steel and stainless steel machining. Positive cutting rakes/negative radial rakes maximize a machine tool's capability and enables increased productivity in both stable and unstable conditions.

- Insert size 09, cutter range 20-315mm (0.75-3 inch)
- Insert size 12, cutter range 40-315mm (1.5-8 inch)
- Insert size 15, cutter range 63-315mm (3-6 inch)

Quattromill R217.53-09 – Metric

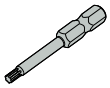




- For insert selection and cutting data recommendations, see page(s) 264-266
- For complete insert programme, see page(s) 822
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DMM	LUX	LPR	OAL	Weight	RPMX	Insert
			mm		mm		mm	mm	mm	mm	mm	kg		
R217.53-2020.3S-09-2A	02422248	Seco-Weldon	20,0	2	4,5	45,0	30,0	20,0	33,0	40,0	90,0	0,3	25100	SE.X09T3
R217.53-2025.3S-09-3A	02422250	Seco-Weldon	25,0	3	4,5	45,0	35,0	20,0	33,0	40,0	90,0	0,4	22400	SE.X09T3
R217.53-2032.3S-09-4A	02422251	Seco-Weldon	32,0	4	4,5	45,0	42,0	20,0	33,0	40,0	90,0	0,4	19800	SE.X09T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.53..	1/4HEX-T09PX50	C03008-T09P

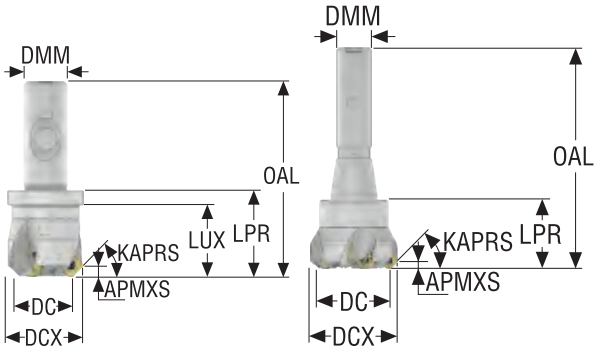
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.53..	1/4HEX-S-HANDLE-0.8-5.0NM	2.0NM	T00-09P20

Torque and fixed keys, see page 872

Quattromill R217.53-09 – inch

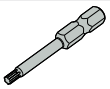




- For insert selection and cutting data recommendations, see page(s) 264-266
- For complete insert programme, see page(s) 822
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DMM	LUX	LPR	OAL	Weight	RPMX	Insert
			inch		inch		inch	inch	inch	inch	inch	lbs		
R217.53-00.75.3S-09-2A	02422259	Seco-Weldon	0.787	2	0.177	45,0	1.181	0.750	1.299	1.575	3.543	0.660	25100	SE.X09T3
R217.53-01.00.3S-09-3A	02422260	Seco-Weldon	0.984	3	0.177	45,0	1.378	0.750	1.299	1.575	3.543	0.880	22400	SE.X09T3
R217.53-01.25.3S-09-4A	02422261	Seco-Weldon	1.260	4	0.177	45,0	1.654	0.750	1.299	1.575	3.543	0.880	19800	SE.X09T3
R217.53-02.00.R8-09-5	02422262	Bridgeport R8	1.575	5	0.180	45,0	1.969	0.949	–	1.890	6.024	2.430	15800	SE.X09T3

Spare Parts, included in delivery

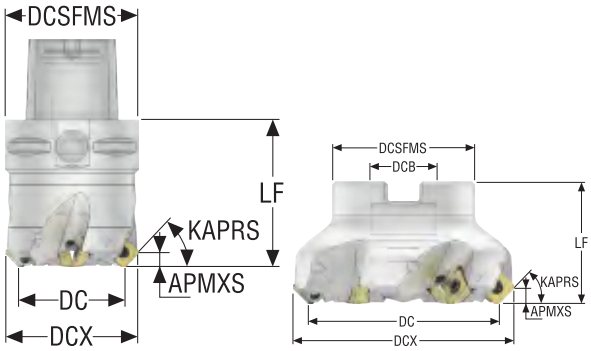
For cutter	Insert key	Insert screw
		
R217.53-..	1/4HEX-T09PX50	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.53-..	1/4HEX-S-HANDLE-0.8-5.0NM	2.0NM	T00-09P20

Torque and fixed keys, see page 872

Quattromill R220.53-09 – Metric

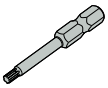




- For insert selection and cutting data recommendations, see page(s) 264-266
- For complete insert programme, see page(s) 822
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
C5-R217.53-040-09-4A	02745046	Seco-Capto	40,0	4	4,5	45,0	50,0	–	50,0	55,0	17700	0,9	SE.X09T3
R220.53-0032-09-4A	02422230	Arbor	32,0	4	4,5	45,0	42,0	16,0	35,0	40,0	19800	0,3	SE.X09T3
R220.53-0040-09-4A	02422231	Arbor	40,0	4	4,5	45,0	50,0	22,0	47,0	40,0	17700	0,5	SE.X09T3
R220.53-0040-09-5A	02422161	Arbor	40,0	5	4,5	45,0	50,0	22,0	47,0	40,0	17700	0,4	SE.X09T3
R220.53-0050-09-5A	02422232	Arbor	50,0	5	4,5	45,0	60,0	22,0	47,0	40,0	15800	0,5	SE.X09T3
R220.53-0050-09-6A	02422162	Arbor	50,0	6	4,5	45,0	60,0	22,0	47,0	40,0	15800	0,5	SE.X09T3
R220.53-0063-09-6A	02422233	Arbor	63,0	6	4,5	45,0	73,0	22,0	47,0	40,0	14100	0,7	SE.X09T3
R220.53-0063-09-7A	02422163	Arbor	63,0	7	4,5	45,0	73,0	22,0	47,0	40,0	14100	0,7	SE.X09T3
R220.53-0080-09-6A	02422234	Arbor	80,0	6	4,5	45,0	90,0	27,0	62,0	50,0	12500	1,3	SE.X09T3
R220.53-0080-09-8A	02422164	Arbor	80,0	8	4,5	45,0	90,0	27,0	62,0	50,0	12500	1,2	SE.X09T3
R220.53-0100-09-7A	02422235	Arbor	100,0	7	4,5	45,0	110,0	32,0	77,0	50,0	11200	1,9	SE.X09T3
R220.53-0100-09-10A	02422165	Arbor	100,0	10	4,5	45,0	110,0	32,0	77,0	50,0	11200	1,8	SE.X09T3

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
C5-R217.53-..	–	1/4HEX-T09PX50	C03008-T09P
R220.53-0032	220.17-690	1/4HEX-T09PX50	C03008-T09P
R220.53-0040-0063	220.17-696	1/4HEX-T09PX50	C03008-T09P
R220.53-0080	–	1/4HEX-T09PX50	C03008-T09P
R220.53-0100	–	1/4HEX-T09PX90	C03008-T09P

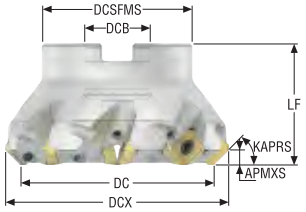
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
C5-R217/220.53-0032-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	2.0NM	T00-09P20
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	2.0NM	T00-09P20
R220.53-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	2.0NM	T00-09P20

Torque and fixed keys, see page 872

Quattromill R220.53-09 – inch

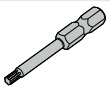




- For insert selection and cutting data recommendations, see page(s) 264-266
- For complete insert programme, see page(s) 822
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.53-01.50-09-4A	02422254	Arbor	1.575	4	0.180	45,0	1.969	0.750	1.850	1.575	17700	1.100	SE.X09T3
R220.53-02.00-09-5A	02422255	Arbor	1.969	5	0.180	45,0	2.362	0.750	1.850	1.575	15800	1.320	SE.X09T3
R220.53-02.50-09-6A	02422256	Arbor	2.480	6	0.180	45,0	2.874	0.750	1.850	1.575	14100	1.540	SE.X09T3
R220.53-03.00-09-6A	02422257	Arbor	3.150	6	0.180	45,0	3.543	1.000	2.441	1.969	12500	3.090	SE.X09T3

Spare Parts, included in delivery

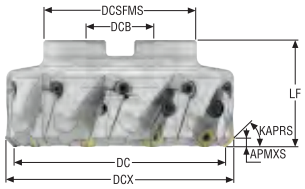
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-01.50-02.50	220.17-698	1/4HEX-T09PX50	C03008-T09P
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T09PX50	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R220.53-01.50-03.00	1/4HEX-S-HANDLE-0.8-5.0NM	17.7IN.LBS	T00-09P20

Torque and fixed keys, see page 872

Quattromill R220.53-09C – Metric

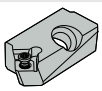
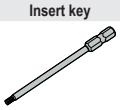




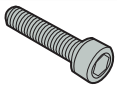
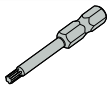
- For insert selection and cutting data recommendations, see page(s) 264-266
- For complete insert programme, see page(s) 822
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.53-0100-09-6C	02510181	Arbor	100,0	6	4,5	45,0	110,0	32,0	77,0	50,0	6600	2,5	SE.X09T3
R220.53-0125-09-8C	02510182	Arbor	125,0	8	4,5	45,0	135,0	40,0	90,0	63,0	5900	4,2	SE.X09T3
R220.53-0125-09-10C	02510190	Arbor	125,0	10	4,5	45,0	135,0	40,0	90,0	63,0	5900	4,2	SE.X09T3
R220.53-8160-09-10C	02510158	Arbor	160,0	10	4,5	45,0	170,0	40,0	90,0	63,0	5200	6,6	SE.X09T3
R220.53-8315-09-12C	02510230	Arbor	315,0	12	4,5	45,0	325,0	60,0	225,0	80,0	3700	32,6	SE.X09T3

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0080-8315	AU1114T-T15P	SE09AR-53	FS96018	1/4HEX-T09PX90	C03008-T09P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Insert clamping torque	Setting key	Torque key
						
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	–	2.0NM	1/4HEX-T15PX50	T00-09P20
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	2.0NM	1/4HEX-T15PX50	T00-09P20
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	–	2.0NM	1/4HEX-T15PX50	T00-09P20
R220.53-8315	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	MC6S20X50	2.0NM	1/4HEX-T15PX50	T00-09P20

Torque and fixed keys, see page 872

R217/220.53-09 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEEX09T3AFTN-ME07 F40M	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
P2	SEEX09T3AFTN-ME07 F40M	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
P3	SEMX09T3AFTN-M08 MP2501	2,5 *0.10*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
P4	SEMX09T3AFTN-M08 MP2501	2,5 *0.10*	0,18 *0.0070*	0,18 *0.0070*	0,18 *0.0070*	0,22 *0.0085*
P5	SEMX09T3AFTN-M08 MP2501	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P6	SEMX09T3AFTN-M08 MP2501	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P7	SEEX09T3AFTN-M08 MP3501	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P8	SEEX09T3AFTN-M08 MP3501	2,5 *0.10*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
P11	SEEX09T3AFTN-M08 MP3501	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P12	SEEX09T3AFTN-M08 MP3501	2,0 *0.080*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
M1	SEEX09T3AFN-M05 F40M	2,5 *0.10*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*
M2	SEEX09T3AFN-M05 MS2050	2,5 *0.10*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
M3	SEEX09T3AFN-M05 MS2050	2,0 *0.080*	0,095 *0.0038*	0,095 *0.0038*	0,095 *0.0038*	0,12 *0.0048*
M4	SEEX09T3AFN-M05 MS2050	1,6 *0.065*	0,085 *0.0034*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*
M5	SEEX09T3AFN-M05 MS2050	1,6 *0.065*	0,085 *0.0034*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*
K1	SEEX09T3AFTN-D09 MP1501	2,5 *0.10*	0,24 *0.0095*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
K2	SEEX09T3AFTN-D09 MP1501	2,5 *0.10*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
K3	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
K4	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
K5	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
K6	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
K7	SEEX09T3AFTN-M08 MK2050	2,5 *0.10*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
N1	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
N2	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
N3	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
N11	SEEX09T3AFN-E04 H15	2,5 *0.10*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
S1	SEEX09T3AFTN-ME07 F40M	1,6 *0.065*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
S2	SEEX09T3AFTN-ME07 F40M	1,6 *0.065*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
S3	SEEX09T3AFTN-ME07 F40M	1,6 *0.065*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,13 *0.0050*
S11	SEEX09T3AFN-M05 MS2050	1,9 *0.075*	0,095 *0.0038*	0,095 *0.0038*	0,095 *0.0038*	0,12 *0.0048*
S12	SEEX09T3AFN-M05 MS2050	1,9 *0.075*	0,095 *0.0038*	0,095 *0.0038*	0,095 *0.0038*	0,12 *0.0048*
S13	SEEX09T3AFN-M05 MS2050	1,6 *0.065*	0,085 *0.0034*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*
H5	SEEX09T3AFTN-D09 MP1501	2,0 *0.080*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,18 *0.0070*
H8	SEEX09T3AFTN-D09 MP1501	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
H11	SEEX09T3AFTN-D09 MP1501	2,0 *0.080*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,18 *0.0070*
H12	SEEX09T3AFTN-D09 MP1501	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
H21	SEEX09T3AFTN-D09 MP1501	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

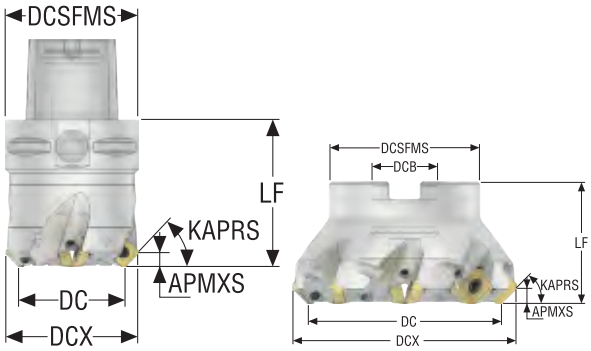
R217/220.53-09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				MK2050				MP3000				MS2050				F40M				H15			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	290	310	335	375	315	340	365	395	280	300	320	350	225	240	260	285	—	—	—	—
	—	—	—	—	*950*	*1025*	*1100*	*1225*	*1025*	*1125*	*1200*	*1300*	*920*	*980*	*1050*	*1150*	*740*	*790*	*850*	*940*	—	—	—	—
P2	—	—	—	—	285	305	325	360	305	325	350	385	265	285	305	340	220	235	250	275	—	—	—	—
	—	—	—	—	*940*	*1000*	*1075*	*1175*	*1000*	*1075*	*1150*	*1275*	*870*	*940*	*1000*	*1125*	*720*	*770*	*820*	*900*	—	—	—	—
P3	—	—	—	—	250	265	285	315	265	285	305	340	235	250	270	300	190	205	220	245	—	—	—	—
	—	—	—	—	*820*	*870*	*940*	*1025*	*870*	*940*	*1000*	*1125*	*770*	*820*	*890*	*980*	*620*	*670*	*720*	*800*	—	—	—	—
P4	—	—	—	—	220	235	250	280	235	250	270	300	205	220	235	260	170	180	195	215	—	—	—	—
	—	—	—	—	*720*	*770*	*820*	*920*	*770*	*820*	*890*	*980*	*670*	*720*	*770*	*850*	*560*	*590*	*640*	*710*	—	—	—	—
P5	—	—	—	—	210	225	245	265	225	240	255	285	195	210	225	250	165	175	185	205	—	—	—	—
	—	—	—	—	*690*	*740*	*800*	*870*	*740*	*790*	*840*	*940*	*640*	*690*	*740*	*820*	*540*	*570*	*610*	*670*	—	—	—	—
P6	—	—	—	—	240	255	275	300	255	275	295	320	225	240	260	280	185	195	210	230	—	—	—	—
	—	—	—	—	*790*	*840*	*900*	*980*	*840*	*900*	*970*	*1050*	*740*	*790*	*850*	*920*	*610*	*640*	*690*	*750*	—	—	—	—
P7	—	—	—	—	225	240	260	280	240	260	280	300	215	230	245	265	175	185	200	215	—	—	—	—
	—	—	—	—	*740*	*790*	*850*	*920*	*790*	*850*	*920*	*980*	*710*	*750*	*800*	*870*	*570*	*610*	*660*	*710*	—	—	—	—
P8	—	—	—	—	210	220	240	265	225	240	255	285	195	210	225	250	160	170	185	205	—	—	—	—
	—	—	—	—	*690*	*720*	*790*	*870*	*740*	*790*	*840*	*940*	*640*	*690*	*740*	*820*	*520*	*560*	*610*	*670*	—	—	—	—
P11	—	—	—	—	220	235	250	275	235	250	270	295	205	220	240	260	170	180	195	210	—	—	—	—
	—	—	—	—	*720*	*770*	*820*	*900*	*770*	*820*	*890*	*970*	*670*	*720*	*790*	*850*	*560*	*590*	*640*	*690*	—	—	—	—
P12	—	—	—	—	140	150	160	180	150	160	170	190	130	140	150	165	110	115	125	140	—	—	—	—
	—	—	—	—	*460*	*490*	*520*	*590*	*490*	*520*	*560*	*620*	*425*	*460*	*490*	*540*	*360*	*375*	*410*	*460*	—	—	—	—
M1	—	—	—	—	—	—	—	—	225	240	260	290	215	230	245	275	175	190	200	220	—	—	—	—
	—	—	—	—	—	—	—	—	*740*	*790*	*850*	*950*	*710*	*750*	*800*	*900*	*570*	*620*	*660*	*720*	—	—	—	—
M2	—	—	—	—	—	—	—	—	185	200	215	240	175	190	205	225	145	155	170	185	—	—	—	—
	—	—	—	—	—	—	—	—	*610*	*660*	*710*	*790*	*570*	*620*	*670*	*740*	*475*	*510*	*560*	*610*	—	—	—	—
M3	—	—	—	—	—	—	—	—	150	160	175	190	140	150	165	180	120	125	135	150	—	—	—	—
	—	—	—	—	—	—	—	—	*490*	*520*	*570*	*620*	*460*	*490*	*540*	*590*	*395*	*410*	*445*	*490*	—	—	—	—
M4	—	—	—	—	—	—	—	—	115	125	135	145	110	120	125	140	90	100	105	115	—	—	—	—
	—	—	—	—	—	—	—	—	*375*	*410*	*445*	*475*	*360*	*395*	*410*	*460*	*295*	*330*	*345*	*375*	—	—	—	—
M5	—	—	—	—	—	—	—	—	95	105	110	120	90	100	105	115	75	80	90	95	—	—	—	—
	—	—	—	—	—	—	—	—	*310*	*345*	*360*	*395*	*295*	*330*	*345*	*375*	*245*	*260*	*295*	*310*	—	—	—	—
K1	270	290	310	345	305	325	350	385	240	255	275	305	—	—	—	—	175	185	200	220	—	—	—	—
	890	*950*	*1025*	*1125*	*1000*	*1075*	*1150*	*1275*	*790*	*840*	*900*	*1000*	—	—	—	—	*570*	*610*	*660*	*720*	—	—	—	—
K2	240	255	275	305	275	290	315	345	210	225	245	270	—	—	—	—	155	165	180	195	—	—	—	—
	790	*840*	*900*	*1000*	*900*	*950*	*1025*	*1125*	*690*	*740*	*800*	*890*	—	—	—	—	*510*	*540*	*590*	*640*	—	—	—	—
K3	200	215	235	260	230	245	265	290	180	190	205	230	—	—	—	—	130	140	150	165	—	—	—	—
	660	*710*	*770*	*850*	*750*	*800*	*870*	*950*	*590*	*620*	*670*	*750*	—	—	—	—	*425*	*460*	*490*	*540*	—	—	—	—
K4	195	205	220	245	220	235	255	280	170	185	195	220	—	—	—	—	125	135	145	155	—	—	—	—
	640	*670*	*720*	*800*	*720*	*770*	*840*	*920*	*560*	*610*	*640*	*720*	—	—	—	—	*410*	*445*	*475*	*510*	—	—	—	—
K5	120	130	140	150	135	145	155	170	105	115	125	130	—	—	—	—	75	80	85	95	—	—	—	—
	395	*425*	*460*	*490*	*445*	*475*	*510*	*560*	*345*	*375*	*410*	*425*	—	—	—	—	*245*	*260*	*280*	*310*	—	—	—	—
K6	170	180	195	215	195	210	225	245	150	160	175	190	—	—	—	—	110	115	125	140	—	—	—	—
	560	*590*	*640*	*710*	*640*	*690*	*740*	*800*	*490*	*520*	*570*	*620*	—	—	—	—	*360*	*375*	*410*	*460*	—	—	—	—
K7	155	165	175	190	170	185	195	220	135	145	155	170	—	—	—	—	95	105	110	125	—	—	—	—
	510	*540*	*570*	*620*	*560*	*610*	*640*	*720*	*445*	*475*	*510*	*560*	—	—	—	—	*310*	*345*	*360*	*410*	—	—	—	—
N1	2025	2175	2325	2550	—	—	—	—	—	—	—	—	—	—	—	—	1275	1350	1475	1625	1600	1700	1850	2025
	6650	*7125*	*7625*	*8375*	—	—	—	—	—	—	—	—	—	—	—	—	*4175*	*4425*	*4850*	*5325*	*5250*	*5575*	*6075*	*6650*
N2	820	870	940	1025	—	—	—	—	—	—	—	—	—	—	—	—	520	550	590	650	650	690	740	810
	2700	*2850*	*3075*	*3375*	—	—	—	—	—	—	—	—	—	—	—	—	*1700*	*1800*	*1925*	*2125*	*2125*	*2275*	*2425*	*2650*
N3	550	580	630	690	—	—	—	—	—	—	—	—	—	—	—	—	345	365	395	435	430	460	495	540
	1800	*1900*	*2075*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1200*	*1300*	*1425*	*1400*	*1500*	*1625*	*1775*
N11	620	670	720	780	—	—	—	—	—	—	—	—	—	—	—	—	395	420	450	495	495	530	570	620
	2025	*2200*	*2350*	*2550*	—	—	—	—	—	—	—	—	—	—	—	—	*1300*	*1375*	*1475*	*1625*	*1625*	*1750*	*1875*	*2025*
S1	—	—	—	—	—	—	—	—	—	—	—	—	50	55	60	65	43	46	49	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*	*140*	*150*	*160*	*180*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	42	45	48	50	35	37	40	43	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*155*	*165*	*115*	*120*	*130*	*140*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	36	39	42	45	30	32	35	38	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*150*	*100*	*105*	*115*	*125*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	70	75	85	90	60	65	70	75	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*280*	*295*	*195*	*215*	*230*	*245*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	50	55	55	65	41	44	47	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*180*	*215*	*135*	*145*	*155*	*180*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	29	31	33	36	24	26	28	30	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*100*	*110*	*120*	*80*	*85*	*90*	*100*	—	—	—	—
H5	—	—	—	—	—	—	—	—	46	50	55	60	—	—	—	—	36	38	41	46	—	—	—	—
	—	—	—	—	—	—	—	—	*150*	*165*	*180*	*195*	—	—	—	—	*120*	*125*	*135*	*150*	—	—	—	—
H8	—	—	—	—	—	—	—	—	49	55	55	60	—	—	—	—	39	41	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	*160*	*180*	*180*	*195*	—	—	—	—	*130*	*135*	*145*	*160*	—	—	—	—
H11	—	—	—	—	—	—	—	—	60	65	70	75	—	—	—	—	46	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*245*	—	—	—	—	*150*	*160*	*180*	*195*	—	—	—	—
H12	—	—	—	—	—	—	—	—	95	100	110	120	—	—	—	—	70	75	80	90	—	—	—	—
	—	—	—	—	—	—	—	—	*310*	*330*	*360*	*395*	—	—	—	—	*230*	*245*	*260*	*295*	—	—	—	—
H21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39	41	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*135*	*145*	*160*	—	—	—	—

R217/220.53-09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	410	425	450	480	420	435	460	500	375	390	415	455
	—	—	—	—	*1350*	*1400*	*1475*	*1575*	*1375*	*1425*	*1500*	*1650*	*1225*	*1275*	*1350*	*1500*
P2	—	—	—	—	385	400	425	470	410	425	450	485	365	380	405	435
	—	—	—	—	*1275*	*1300*	*1400*	*1550*	*1350*	*1400*	*1475*	*1600*	*1200*	*1250*	*1325*	*1425*
P3	—	—	—	—	345	355	380	415	355	370	395	430	320	330	355	385
	—	—	—	—	*1125*	*1175*	*1250*	*1350*	*1175*	*1225*	*1300*	*1400*	*1050*	*1075*	*1175*	*1275*
P4	—	—	—	—	300	310	335	365	315	325	345	380	280	290	310	340
	—	—	—	—	*980*	*1025*	*1100*	*1200*	*1025*	*1075*	*1125*	*1250*	*920*	*950*	*1025*	*1125*
P5	—	—	—	—	290	300	320	350	305	315	335	360	275	285	300	325
	—	—	—	—	*950*	*980*	*1050*	*1150*	*1000*	*1025*	*1100*	*1175*	*900*	*940*	*980*	*1075*
P6	—	—	—	—	335	345	365	390	340	355	375	405	305	320	340	365
	—	—	—	—	*1100*	*1125*	*1200*	*1275*	*1125*	*1175*	*1225*	*1325*	*1000*	*1050*	*1125*	*1200*
P7	—	—	—	—	315	325	345	370	325	335	355	380	290	300	320	345
	—	—	—	—	*1025*	*1075*	*1125*	*1225*	*1075*	*1100*	*1175*	*1250*	*950*	*980*	*1050*	*1125*
P8	—	—	—	—	290	300	320	350	300	310	330	360	270	280	295	325
	—	—	—	—	*950*	*980*	*1050*	*1150*	*980*	*1025*	*1075*	*1175*	*890*	*920*	*970*	*1075*
P11	—	—	—	—	305	315	335	360	315	325	345	370	280	290	310	335
	—	—	—	—	*1000*	*1025*	*1100*	*1175*	*1025*	*1075*	*1125*	*1225*	*920*	*950*	*1025*	*1100*
P12	—	—	—	—	195	205	215	230	200	210	220	235	180	190	200	215
	—	—	—	—	*640*	*670*	*710*	*750*	*660*	*690*	*720*	*770*	*590*	*620*	*660*	*710*
M1	—	—	—	—	—	—	—	—	210	220	240	260	195	205	225	245
	—	—	—	—	—	—	—	—	*690*	*720*	*790*	*850*	*640*	*670*	*740*	*800*
M2	—	—	—	—	—	—	—	—	175	185	200	220	160	170	185	205
	—	—	—	—	—	—	—	—	*570*	*610*	*660*	*720*	*520*	*560*	*610*	*670*
M3	—	—	—	—	—	—	—	—	140	150	160	175	130	140	150	165
	—	—	—	—	—	—	—	—	*460*	*490*	*520*	*570*	*425*	*460*	*490*	*540*
M4	—	—	—	—	—	—	—	—	110	115	125	135	100	110	115	125
	—	—	—	—	—	—	—	—	*360*	*375*	*410*	*445*	*330*	*360*	*375*	*410*
M5	—	—	—	—	—	—	—	—	90	95	105	110	85	90	95	105
	—	—	—	—	—	—	—	—	*295*	*310*	*345*	*360*	*280*	*295*	*310*	*345*
K1	325	345	370	410	390	405	430	475	410	425	455	490	370	380	405	440
	1075	*1125*	*1225*	*1350*	*1275*	*1325*	*1400*	*1550*	*1350*	*1400*	*1500*	*1600*	*1225*	*1250*	*1325*	*1450*
K2	290	310	335	365	350	360	385	420	370	385	405	435	330	345	365	390
	950	*1025*	*1100*	*1200*	*1150*	*1175*	*1275*	*1375*	*1225*	*1275*	*1325*	*1425*	*1075*	*1125*	*1200*	*1275*
K3	245	260	280	310	295	305	325	355	310	325	345	370	280	290	310	330
	800	*850*	*920*	*1025*	*970*	*1000*	*1075*	*1175*	*1025*	*1075*	*1125*	*1225*	*920*	*950*	*1025*	*1075*
K4	235	250	270	295	280	290	310	340	300	310	330	350	265	275	295	315
	770	*820*	*890*	*970*	*920*	*950*	*1025*	*1125*	*980*	*1025*	*1075*	*1150*	*870*	*900*	*970*	*1025*
K5	140	150	165	180	175	180	195	205	180	185	200	215	160	170	180	195
	460	*490*	*540*	*590*	*570*	*590*	*640*	*670*	*590*	*610*	*660*	*710*	*520*	*560*	*590*	*640*
K6	205	220	235	260	250	255	275	300	260	270	290	310	235	245	260	280
	670	*720*	*770*	*850*	*820*	*840*	*900*	*980*	*850*	*890*	*950*	*1025*	*770*	*800*	*850*	*920*
K7	180	195	210	230	225	230	245	265	230	240	255	275	205	215	230	250
	590	*640*	*690*	*750*	*740*	*750*	*800*	*870*	*750*	*790*	*840*	*900*	*670*	*710*	*750*	*820*
N1	—	—	—	—	—	—	—	—	—	—	—	—	1475	1550	1675	1850
	—	—	—	—	—	—	—	—	—	—	—	—	*4850*	*5075*	*5500*	*6075*
N2	—	—	—	—	—	—	—	—	—	—	—	—	590	630	680	750
	—	—	—	—	—	—	—	—	—	—	—	—	*1925*	*2075*	*2225*	*2450*
N3	—	—	—	—	—	—	—	—	—	—	—	—	395	420	455	500
	—	—	—	—	—	—	—	—	—	—	—	—	*1300*	*1375*	*1500*	*1650*
N11	—	—	—	—	—	—	—	—	—	—	—	—	450	480	520	570
	—	—	—	—	—	—	—	—	—	—	—	—	*1475*	*1575*	*1700*	*1875*
S1	—	—	—	—	—	—	—	—	—	—	—	—	47	50	55	60
	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*165*	*180*	*195*
S2	—	—	—	—	—	—	—	—	—	—	—	—	38	41	44	47
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*135*	*145*	*155*
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	36	38	42
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*125*	*140*
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	85
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*280*
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	48	50	60
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	27	28	30	33
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*90*	*100*	*110*
H5	—	—	—	—	50	55	60	65	—	—	—	—	41	44	48	55
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*135*	*145*	*155*	*180*
H8	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*155*	*165*	*180*
H11	—	—	—	—	65	70	75	80	—	—	—	—	55	55	60	65
	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—	*180*	*180*	*195*	*215*
H12	—	—	—	—	100	105	115	125	—	—	—	—	80	85	90	100
	—	—	—	—	*330*	*345*	*375*	*410*	—	—	—	—	*260*	*280*	*295*	*330*
H21	—	—	—	—	55	60	65	70	—	—	—	—	44	47	50	55
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*155*	*165*	*180*

Quattromill R217/220.53-12 – Metric

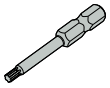




- For insert selection and cutting data recommendations, see page(s) 273-275
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
C5-R217.53-040-12-3A	02745057	Seco-Capto	40,0	3	6,0	45,0	52,0	–	50,0	55,0	16500	0,8	SE.X1204
C6-R217.53-040-12-3A	02745061	Seco-Capto	40,0	3	6,0	45,0	52,0	–	63,0	63,0	16500	1,2	SE.X1204
C5-R217.53-050-12-4A	02745058	Seco-Capto	50,0	4	6,0	45,0	62,0	–	50,0	55,0	14800	0,9	SE.X1204
C6-R217.53-050-12-4A	02745062	Seco-Capto	50,0	4	6,0	45,0	62,0	–	63,0	63,0	14800	1,3	SE.X1204
C5-R217.53-063-12-5A	02745059	Seco-Capto	63,0	5	6,0	45,0	75,0	–	50,0	55,0	13200	1,1	SE.X1204
C6-R217.53-063-12-5A	02745063	Seco-Capto	63,0	5	6,0	45,0	75,0	–	63,0	63,0	13200	1,6	SE.X1204
C5-R217.53-080-12-6A	02745060	Seco-Capto	80,0	6	6,0	45,0	92,0	–	50,0	55,0	11700	1,2	SE.X1204
C6-R217.53-080-12-6A	02745064	Seco-Capto	80,0	6	6,0	45,0	92,0	–	63,0	63,0	11700	1,9	SE.X1204
R220.53-0040-12-4A	02410704	Arbor	40,0	4	6,0	45,0	52,0	22,0	47,0	40,0	16500	0,4	SE.X1204
R220.53-0050-12-4A	00040081	Arbor	50,0	4	6,0	45,0	62,0	22,0	47,0	40,0	14800	0,5	SE.X1204
R220.53-0050-12-5A	00040082	Arbor	50,0	5	6,0	45,0	62,0	22,0	47,0	40,0	14800	0,5	SE.X1204
R220.53-0063-12-5A	00040083	Arbor	63,0	5	6,0	45,0	75,0	22,0	47,0	40,0	13200	0,6	SE.X1204
R220.53-0063-12-6A	00040084	Arbor	63,0	6	6,0	45,0	75,0	22,0	47,0	40,0	13200	0,6	SE.X1204
R220.53-0080-12-6A	00040085	Arbor	80,0	6	6,0	45,0	92,0	27,0	62,0	50,0	11700	1,1	SE.X1204
R220.53-0080-12-8A	00040086	Arbor	80,0	8	6,0	45,0	92,0	27,0	62,0	50,0	11700	1,2	SE.X1204
R220.53-0100-12-5A	02448963	Arbor	100,0	5	6,0	45,0	112,0	32,0	77,0	50,0	10500	1,8	SE.X1204
R220.53-0100-12-7A	00040087	Arbor	100,0	7	6,0	45,0	112,0	32,0	77,0	50,0	10500	1,7	SE.X1204
R220.53-0100-12-10A	00040088	Arbor	100,0	10	6,0	45,0	112,0	32,0	77,0	50,0	10500	1,8	SE.X1204
R220.53-0125-12-6A	02448964	Arbor	125,0	6	6,0	45,0	137,0	40,0	90,0	63,0	9400	3,1	SE.X1204
R220.53-0125-12-8A	00040089	Arbor	125,0	8	6,0	45,0	137,0	40,0	90,0	63,0	9400	2,9	SE.X1204
R220.53-0125-12-12A	00040090	Arbor	125,0	12	6,0	45,0	137,0	40,0	90,0	63,0	9400	2,9	SE.X1204
R220.53-8160-12-7	02448965	Arbor	160,0	7	6,0	45,0	172,0	40,0	90,0	63,0	8300	4,6	SE.X1204
R220.53-8160-12-10	00040091	Arbor	160,0	10	6,0	45,0	172,0	40,0	90,0	63,0	8300	4,6	SE.X1204

Spare Parts, included in delivery

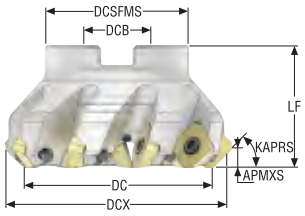
For cutter	Arbor screw	Insert key	Insert screw
			
Cx-R217.53-12	–	1/4HEX-T15PX50	C04011-T15P
R220.53-0040-0063	220.17-696	1/4HEX-T15PX50	C04011-T15P
R220.53-0080	–	1/4HEX-T15PX50	C04011-T15P
R220.53-0100-8160	–	1/4HEX-T15PX90	C04011-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
Cx-R217.53-12	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.53-0040-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	3.5NM	T00-15P35
R220.53-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	3.5NM	T00-15P35
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	3.5NM	T00-15P35
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Quattromill R217/220.53-12 – Metric

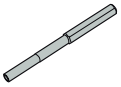




- For insert selection and cutting data recommendations, see page(s) 273-275
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.53-0063-12-9A	02997159	Arbor	63,0	9	6,0	43,87	75,0	22,0	47,0	40,0	13200	0,5	SE.X1204
R220.53-0080-12-11A	02997160	Arbor	80,0	11	6,0	45,0	92,0	27,0	62,0	50,0	11700	1,1	SE.X1204

Spare Parts, included in delivery

For cutter	Back insert key	Front insert key	Insert screw
			
R220.53-0063-0080	H6B-H3.0	T15P-E8	C04008-H3

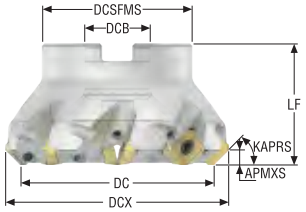
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque
			
R220.53-0063-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM
R220.53-0063-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	3.5NM

Torque and fixed keys, see page 872

Quattromill R217/220.53-12 – inch

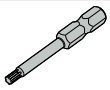




- For insert selection and cutting data recommendations, see page(s) 273-275
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.53-01.50-12-4A	02422139	Arbor	1.575	4	0.236	45.0	2.047	0.750	1.850	1.575	16500	1.100	SE.X1204
R220.53-02.00-12-4A	02422140	Arbor	1.969	4	0.236	45.0	2.441	0.750	1.850	1.575	14800	1.100	SE.X1204
R220.53-02.00-12-5A	02422141	Arbor	1.969	5	0.236	45.0	2.441	0.750	1.850	1.575	14800	1.320	SE.X1204
R220.53-02.50-12-5A	02422142	Arbor	2.480	5	0.236	45.0	2.953	0.750	1.850	1.575	13200	1.540	SE.X1204
R220.53-02.50-12-6A	02422143	Arbor	2.480	6	0.236	45.0	2.953	0.750	1.850	1.575	13200	1.320	SE.X1204
R220.53-03.00-12-6A	02422144	Arbor	3.150	6	0.236	45.0	3.622	1.000	2.441	1.969	11700	2.870	SE.X1204
R220.53-03.00-12-8A	02422145	Arbor	3.150	8	0.236	45.0	3.622	1.000	2.441	1.969	11700	2.870	SE.X1204
R220.53-04.00-12-7A	02422146	Arbor	3.937	7	0.236	45.0	4.409	1.500	3.543	1.969	10500	4.850	SE.X1204
R220.53-04.00-12-10A	02422147	Arbor	3.937	10	0.236	45.0	4.409	1.500	3.543	1.969	10500	4.850	SE.X1204
R220.53-05.00-12-6A	02449819	Arbor	4.921	6	0.236	45.0	5.394	1.500	3.543	2.480	9400	8.160	SE.X1204
R220.53-05.00-12-8A	02422148	Arbor	4.921	8	0.236	45.0	5.394	1.500	3.543	2.480	9400	8.380	SE.X1204
R220.53-06.00-12-10	02422150	Arbor	6.299	10	0.236	45.0	6.772	2.000	3.543	2.480	8300	9.920	SE.X1204
R220.53-06.00-12-7	02449820	Arbor	6.299	7	0.236	45.0	6.772	2.000	3.543	2.480	8300	9.920	SE.X1204
R220.53-06.00-12-16	02449821	Arbor	6.299	16	0.236	45.0	6.772	2.000	3.543	2.480	8300	10.580	SE.X1204
R220.53-808.00-12-12	02422151	Arbor	7.874	12	0.236	45.0	8.346	2.500	5.118	2.480	7400	16.530	SE.X1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-01.50-02.50	220.17-698	1/4HEX-T15PX50	C04011-T15P
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX50	C04011-T15P
R220.53-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T15PX90	C04011-T15P
R220.53-05.00	UF6S3/4UNFX2	1/4HEX-T15PX90	C04011-T15P
R220.53-06.00-808.00	–	1/4HEX-T15PX90	C04011-T15P

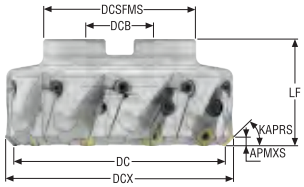
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.53-01.50 - 05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35
R220.53-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	31.0IN.LBS	T00-15P35
R220.53-808.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Quattromill R220.53-12C – Metric

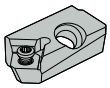
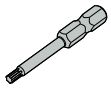




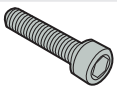
- For insert selection and cutting data recommendations, see page(s) 273-275
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.53-0080-12-6C	02448867	Arbor	80,0	6	6,0	45,0	92,0	27,0	62,0	50,0	7400	1,7	SE.X1204
R220.53-0100-12-6C	02448839	Arbor	100,0	6	6,0	45,0	112,0	32,0	77,0	50,0	6600	2,6	SE.X1204
R220.53-0100-12-8C	02448888	Arbor	100,0	8	6,0	45,0	112,0	32,0	77,0	50,0	6600	2,6	SE.X1204
R220.53-0125-12-8C	02448846	Arbor	125,0	8	6,0	45,0	137,0	40,0	90,0	63,0	5900	4,2	SE.X1204
R220.53-0125-12-10C	02448890	Arbor	125,0	10	6,0	45,0	137,0	40,0	90,0	63,0	5900	4,2	SE.X1204
R220.53-8160-12-7C	02510195	Arbor	160,0	7	6,0	45,0	172,0	40,0	90,0	63,0	5200	6,5	SE.X1204
R220.53-8160-12-10C	02448847	Arbor	160,0	10	6,0	45,0	172,0	40,0	90,0	63,0	5200	6,6	SE.X1204
R220.53-8200-12-8C	02448894	Arbor	200,0	8	6,0	45,0	212,0	60,0	130,0	63,0	4700	9,4	SE.X1204
R220.53-8200-12-12C	02448849	Arbor	200,0	12	6,0	45,0	212,0	60,0	130,0	63,0	4700	9,3	SE.X1204
R220.53-8250-12-10C	02448896	Arbor	250,0	10	6,0	45,0	262,0	60,0	130,0	63,0	4200	17,0	SE.X1204
R220.53-8250-12-16C	02448853	Arbor	250,0	16	6,0	45,0	262,0	60,0	130,0	63,0	4200	16,0	SE.X1204
R220.53-8315-12-12C	02448900	Arbor	315,0	12	6,0	45,0	327,0	60,0	225,0	80,0	3700	32,9	SE.X1204

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0080	AU1114T-T15P	SE12AR-53	FS96018	1/4HEX-T15PX50	C04009-T15P
R220.53-0100-8315	AU1114T-T15P	SE12AR-53	FS96018	1/4HEX-T15PX90	C04009-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Insert clamping torque	Setting key	Torque key
						
R220.53-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	–	3.5NM	1/4HEX-T15PX50	T00-15P35
R220.53-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	–	3.5NM	1/4HEX-T15PX50	T00-15P35
R220.53-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	3.5NM	1/4HEX-T15PX50	T00-15P35
R220.53-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	–	3.5NM	1/4HEX-T15PX50	T00-15P35
R220.53-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	3.5NM	1/4HEX-T15PX50	T00-15P35
R220.53-8315	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	MC6S20X50	3.5NM	1/4HEX-T15PX50	T00-15P35

Torque and fixed keys, see page 872

R217/220.53-12 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEMX1204AFTN-ME12 F40M	3,5 *0.14*	0,25 *0.010*	0,25 *0.010*	0,25 *0.010*	0,32 *0.013*
P2	SEMX1204AFTN-ME12 F40M	3,5 *0.14*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
P3	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
P4	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P5	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
P6	SEMX1204AFTN-M15 MP2501	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
P7	SEMX1204AFTN-M15 MP3501	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
P8	SEMX1204AFTN-M15 MP3501	3,5 *0.14*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
P11	SEEX1204AFN-M10 MM4500	3,5 *0.14*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
P12	SEEX1204AFN-M10 MM4500	3,0 *0.12*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,18 *0.0070*
M1	SEEX1204AFN-M10 F40M	3,5 *0.14*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,30 *0.012*
M2	SEEX1204AFN-M10 MS2050	3,5 *0.14*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
M3	SEEX1204AFN-M10 MS2050	3,0 *0.12*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
M4	SEEX1204AFN-M10 MM4500	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
M5	SEEX1204AFN-M10 MM4500	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
K1	SEMX1204AFTN-M15 MK1500	3,5 *0.14*	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
K2	SEMX1204AFTN-M15 MK1500	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
K3	SEMX1204AFTN-M15 MP1501	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
K4	SEMX1204AFTN-M15 MP1501	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
K5	SEMX1204AFTN-M15 MP1501	3,5 *0.14*	0,26 *0.010*	0,26 *0.010*	0,26 *0.010*	0,34 *0.013*
K6	SEMX1204AFTN-M15 MK2050	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
K7	SEMX1204AFTN-M15 MK2050	3,5 *0.14*	0,26 *0.010*	0,26 *0.010*	0,26 *0.010*	0,34 *0.013*
N1	SEEX1204AFN-E08 H25	3,5 *0.14*	0,24 *0.0095*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
N2	SEEX1204AFN-E08 H25	3,5 *0.14*	0,24 *0.0095*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
N3	SEEX1204AFN-E08 H25	3,5 *0.14*	0,24 *0.0095*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
N11	SEEX1204AFN-E08 H25	3,5 *0.14*	0,24 *0.0095*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
S1	SEEX1204AFTN-ME11 MP3501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
S2	SEEX1204AFTN-ME11 MP3501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
S3	SEEX1204AFTN-ME11 MP3501	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
S11	SEEX1204AFN-M10 MS2050	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
S12	SEEX1204AFN-M10 MS2050	2,5 *0.10*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
S13	SEEX1204AFN-M10 MS2050	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
H5	SEMX1204AFTN-MD19 MP3000	3,0 *0.12*	0,24 *0.0095*	0,24 *0.0095*	0,25 *0.010*	0,30 *0.012*
H8	SEMX1204AFTN-MD19 MP3000	2,5 *0.10*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H11	SEMX1204AFTN-MD19 MP1501	3,0 *0.12*	0,24 *0.0095*	0,24 *0.0095*	0,25 *0.010*	0,30 *0.012*
H12	SEMX1204AFTN-MD19 MP1501	2,5 *0.10*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H21	SEMX1204AFTN-MD19 MP1501	2,5 *0.10*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.53-12 – Cutting data v_c = (m/min)/*(sf/min)*

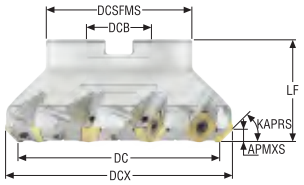
SMG	MK2050				MP3000				MS2050				F40M				H25			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	285 *940*	305 *1000*	345 *1125*	390 *1275*	305 *1000*	330 *1075*	370 *1225*	415 *1350*	270 *890*	290 *950*	325 *1075*	365 *1200*	220 *720*	235 *770*	265 *870*	300 *980*	— —	— —	— —	— —
P2	275 *900*	300 *980*	335 *1100*	375 *1225*	300 *980*	325 *1075*	350 *1150*	405 *1325*	265 *870*	285 *940*	310 *1025*	355 *1175*	210 *690*	230 *750*	255 *840*	290 *950*	— —	— —	— —	— —
P3	240 *790*	260 *850*	295 *970*	330 *1075*	255 *840*	280 *920*	310 *1025*	345 *1125*	225 *740*	245 *800*	270 *890*	305 *1000*	185 *610*	200 *660*	225 *740*	255 *840*	— —	— —	— —	— —
P4	215 *710*	230 *750*	260 *850*	290 *950*	235 *770*	250 *820*	270 *890*	310 *1025*	205 *670*	220 *720*	240 *790*	275 *900*	165 *540*	180 *590*	200 *660*	225 *740*	— —	— —	— —	— —
P5	210 *690*	225 *740*	245 *800*	280 *920*	225 *740*	240 *790*	260 *850*	300 *980*	195 *640*	210 *690*	230 *750*	260 *850*	160 *520*	175 *570*	190 *620*	215 *710*	— —	— —	— —	— —
P6	235 *770*	255 *840*	275 *900*	315 *1025*	250 *820*	270 *890*	290 *950*	335 *1100*	220 *720*	235 *770*	255 *840*	295 *970*	180 *590*	195 *640*	215 *710*	245 *800*	— —	— —	— —	— —
P7	220 *720*	240 *790*	260 *850*	300 *980*	235 *770*	255 *840*	275 *900*	315 *1025*	210 *690*	225 *740*	240 *790*	280 *920*	170 *560*	185 *610*	200 *660*	230 *750*	— —	— —	— —	— —
P8	205 *670*	220 *720*	245 *800*	275 *900*	215 *710*	235 *770*	260 *850*	290 *950*	190 *620*	205 *670*	230 *750*	255 *840*	155 *510*	170 *560*	190 *620*	215 *710*	— —	— —	— —	— —
P11	215 *710*	230 *750*	255 *840*	290 *950*	230 *750*	245 *800*	270 *890*	305 *1000*	200 *660*	215 *710*	235 *770*	270 *890*	165 *540*	180 *590*	195 *640*	225 *740*	— —	— —	— —	— —
P12	140 *460*	150 *490*	170 *560*	190 *620*	150 *490*	160 *520*	175 *570*	200 *660*	130 *425*	140 *460*	155 *510*	175 *570*	110 *360*	115 *375*	130 *425*	145 *475*	— —	— —	— —	— —
M1	— —	— —	— —	— —	225 *740*	240 *790*	260 *850*	300 *980*	210 *690*	230 *750*	250 *820*	285 *940*	170 *560*	185 *610*	205 *670*	235 *770*	— —	— —	— —	— —
M2	— —	— —	— —	— —	185 *610*	200 *660*	215 *710*	250 *820*	175 *570*	190 *620*	205 *670*	235 *770*	145 *475*	155 *510*	170 *560*	195 *640*	— —	— —	— —	— —
M3	— —	— —	— —	— —	150 *490*	160 *520*	180 *590*	200 *660*	140 *460*	150 *490*	170 *560*	190 *620*	115 *375*	125 *410*	140 *460*	155 *510*	— —	— —	— —	— —
M4	— —	— —	— —	— —	115 *375*	125 *410*	140 *460*	155 *510*	110 *360*	120 *395*	130 *425*	150 *490*	90 *295*	95 *310*	105 *345*	125 *410*	— —	— —	— —	— —
M5	— —	— —	— —	— —	95 *310*	105 *345*	115 *375*	130 *425*	90 *295*	100 *330*	110 *360*	125 *410*	75 *245*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —
K1	300 *980*	320 *1050*	360 *1175*	405 *1325*	235 *770*	255 *840*	280 *920*	320 *1050*	— —	— —	— —	— —	170 *560*	180 *590*	205 *670*	230 *750*	— —	— —	— —	— —
K2	270 *890*	290 *950*	320 *1050*	365 *1200*	210 *690*	230 *750*	245 *800*	285 *940*	— —	— —	— —	— —	150 *490*	165 *540*	180 *590*	205 *670*	— —	— —	— —	— —
K3	230 *750*	245 *800*	270 *890*	310 *1025*	180 *590*	195 *640*	210 *690*	240 *790*	— —	— —	— —	— —	130 *425*	140 *460*	150 *490*	175 *570*	— —	— —	— —	— —
K4	220 *720*	235 *770*	255 *840*	295 *970*	170 *560*	185 *610*	200 *660*	230 *750*	— —	— —	— —	— —	125 *410*	135 *445*	145 *475*	165 *540*	— —	— —	— —	— —
K5	135 *445*	145 *475*	160 *520*	180 *590*	105 *345*	110 *360*	125 *410*	140 *460*	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —
K6	190 *620*	205 *670*	225 *740*	260 *850*	150 *490*	160 *520*	175 *570*	200 *660*	— —	— —	— —	— —	110 *360*	115 *375*	130 *425*	145 *475*	— —	— —	— —	— —
K7	170 *560*	185 *610*	205 *670*	230 *750*	130 *425*	140 *460*	160 *520*	180 *590*	— —	— —	— —	— —	95 *310*	105 *345*	115 *375*	130 *425*	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1225 *4025*	1325 *4350*	1475 *4850*	1700 *5575*	1550 *5075*	1675 *5500*	1875 *6150*	2100 *6900*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	500 *1650*	540 *1775*	590 *1925*	680 *2225*	630 *2075*	680 *2225*	750 *2450*	850 *2800*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	330 *1075*	360 *1175*	395 *1300*	455 *1500*	420 *1375*	450 *1475*	500 *1650*	570 *1875*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	380 *1250*	410 *1350*	455 *1500*	520 *1700*	480 *1575*	520 *1700*	580 *1900*	650 *2125*
S1	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	42 *140*	45 *150*	50 *165*	55 *180*	— —	— —	— —	— —
S2	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	44 *145*	49 *160*	55 *180*	34 *110*	36 *120*	40 *130*	46 *150*	— —	— —	— —	— —
S3	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	39 *130*	43 *140*	49 *160*	30 *100*	32 *105*	36 *120*	41 *135*	— —	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	95 *310*	60 *195*	65 *215*	70 *230*	80 *260*	— —	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	60 *195*	65 *215*	41 *135*	44 *145*	49 *160*	55 *180*	— —	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	— —	— —	28 *90*	31 *100*	34 *110*	39 *130*	24 *80*	25 *80*	28 *90*	32 *105*	— —	— —	— —	— —
H5	— —	— —	— —	— —	46 *150*	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —	36 *120*	39 *130*	43 *140*	49 *160*	— —	— —	— —	— —
H8	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	65 *215*	— —	— —	— —	— —	38 *125*	42 *140*	46 *150*	50 *165*	— —	— —	— —	— —
H11	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	80 *260*	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —
H12	— —	— —	— —	— —	95 *310*	100 *330*	115 *375*	125 *410*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	95 *310*	— —	— —	— —	— —
H21	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	42 *140*	46 *150*	50 *165*	— —	— —	— —	— —

R217/220.53-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501				MM4500			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	385	395	425	475	375	385	415	460	315	325	350	390	195	210	225	245
	—	—	—	—	*1275*	*1300*	*1400*	*1550*	*1225*	*1275*	*1350*	*1500*	*1025*	*1075*	*1150*	*1275*	*640*	*690*	*740*	*800*
P2	—	—	—	—	375	385	415	460	365	375	405	450	310	315	340	380	190	200	215	240
	—	—	—	—	*1225*	*1275*	*1350*	*1500*	*1200*	*1225*	*1325*	*1475*	*1025*	*1025*	*1125*	*1250*	*620*	*660*	*710*	*790*
P3	—	—	—	—	330	340	365	405	320	330	355	395	275	280	300	335	165	175	190	210
	—	—	—	—	*1075*	*1125*	*1200*	*1325*	*1050*	*1075*	*1175*	*1300*	*900*	*920*	*980*	*1100*	*540*	*570*	*620*	*690*
P4	—	—	—	—	290	300	320	355	285	290	315	350	240	245	265	295	145	155	165	185
	—	—	—	—	*950*	*980*	*1050*	*1175*	*940*	*950*	*1025*	*1150*	*790*	*800*	*870*	*970*	*475*	*510*	*540*	*610*
P5	—	—	—	—	285	295	315	340	280	285	305	330	235	240	260	280	140	150	160	175
	—	—	—	—	*940*	*970*	*1025*	*1125*	*920*	*940*	*1000*	*1075*	*770*	*790*	*850*	*920*	*460*	*490*	*520*	*570*
P6	—	—	—	—	320	330	355	380	315	320	345	375	265	270	290	315	160	170	180	200
	—	—	—	—	*1050*	*1075*	*1175*	*1250*	*1025*	*1050*	*1125*	*1225*	*870*	*890*	*950*	*1025*	*520*	*560*	*590*	*660*
P7	—	—	—	—	305	310	335	360	295	305	325	350	250	255	275	300	150	160	170	185
	—	—	—	—	*1000*	*1025*	*1100*	*1175*	*970*	*1000*	*1075*	*1150*	*820*	*840*	*900*	*980*	*490*	*520*	*560*	*610*
P8	—	—	—	—	280	285	310	340	270	280	300	330	230	235	255	280	140	145	160	175
	—	—	—	—	*920*	*940*	*1025*	*1125*	*890*	*920*	*980*	*1075*	*750*	*770*	*840*	*920*	*460*	*475*	*520*	*570*
P11	—	—	—	—	295	305	325	350	285	295	315	340	245	250	270	290	145	155	165	180
	—	—	—	—	*970*	*1000*	*1075*	*1150*	*940*	*970*	*1025*	*1125*	*800*	*820*	*890*	*950*	*475*	*510*	*540*	*590*
P12	—	—	—	—	195	200	215	230	190	195	210	230	160	170	180	195	95	100	110	120
	—	—	—	—	*640*	*660*	*710*	*750*	*620*	*640*	*690*	*750*	*520*	*560*	*590*	*640*	*310*	*330*	*360*	*395*
M1	—	—	—	—	—	—	—	—	190	200	220	245	170	180	195	215	160	170	185	205
	—	—	—	—	—	—	—	—	*620*	*660*	*720*	*800*	*560*	*590*	*640*	*710*	*520*	*560*	*610*	*670*
M2	—	—	—	—	—	—	—	—	160	170	185	200	140	150	165	180	135	145	155	170
	—	—	—	—	—	—	—	—	*520*	*560*	*610*	*660*	*460*	*490*	*540*	*590*	*445*	*475*	*510*	*560*
M3	—	—	—	—	—	—	—	—	130	135	145	165	115	120	130	145	110	115	125	140
	—	—	—	—	—	—	—	—	*425*	*445*	*475*	*540*	*375*	*395*	*425*	*475*	*360*	*375*	*410*	*460*
M4	—	—	—	—	—	—	—	—	100	105	115	125	90	95	100	110	85	90	95	105
	—	—	—	—	—	—	—	—	*330*	*345*	*375*	*410*	*295*	*310*	*330*	*360*	*280*	*295*	*310*	*345*
M5	—	—	—	—	—	—	—	—	85	90	95	105	75	80	85	95	70	75	80	90
	—	—	—	—	—	—	—	—	*280*	*295*	*310*	*345*	*245*	*260*	*280*	*310*	*230*	*245*	*260*	*295*
K1	295	315	340	380	380	390	420	465	370	380	405	455	310	320	345	385	—	—	—	—
	970	*1025*	*1125*	*1250*	*1250*	*1275*	*1375*	*1525*	*1225*	*1250*	*1325*	*1500*	*1025*	*1050*	*1125*	*1275*	—	—	—	—
K2	270	285	310	335	345	355	380	410	335	345	370	400	285	295	315	340	—	—	—	—
	890	*940*	*1025*	*1100*	*1125*	*1175*	*1250*	*1350*	*1100*	*1125*	*1225*	*1300*	*940*	*970*	*1025*	*1125*	—	—	—	—
K3	225	240	260	285	290	300	325	350	285	295	315	340	240	250	265	290	—	—	—	—
	740	*790*	*850*	*940*	*950*	*980*	*1075*	*1150*	*940*	*970*	*1025*	*1125*	*790*	*820*	*870*	*950*	—	—	—	—
K4	215	230	250	270	280	290	310	330	270	280	300	325	230	235	255	275	—	—	—	—
	710	*750*	*820*	*890*	*920*	*950*	*1025*	*1075*	*890*	*920*	*980*	*1075*	*750*	*770*	*840*	*900*	—	—	—	—
K5	130	140	150	170	170	175	190	205	165	170	185	205	140	145	155	175	—	—	—	—
	425	*460*	*490*	*560*	*560*	*570*	*620*	*670*	*540*	*560*	*610*	*670*	*460*	*475*	*510*	*570*	—	—	—	—
K6	190	205	220	240	245	255	270	295	240	245	265	285	205	210	225	245	—	—	—	—
	620	*670*	*720*	*790*	*800*	*840*	*890*	*970*	*790*	*800*	*870*	*940*	*670*	*690*	*740*	*800*	—	—	—	—
K7	170	180	195	215	220	225	240	265	215	220	235	260	180	185	200	220	—	—	—	—
	560	*590*	*640*	*710*	*720*	*740*	*790*	*870*	*710*	*720*	*770*	*850*	*590*	*610*	*660*	*720*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1275	1350	1450	1625	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*4175*	*4425*	*4750*	*5325*	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	510	550	590	650	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1675*	*1800*	*1925*	*2125*	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	345	365	395	435	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1200*	*1300*	*1425*	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	390	415	450	495	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1275*	*1350*	*1475*	*1625*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	41	44	47	50	26	27	29	33
	—	—	—	—	—	—	—	—	—	—	—	—	*135*	*145*	*155*	*165*	*85*	*90*	*95*	*110*
S2	—	—	—	—	—	—	—	—	—	—	—	—	33	35	38	42	21	22	24	26
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*115*	*125*	*140*	*70*	*70*	*80*	*85*
S3	—	—	—	—	—	—	—	—	—	—	—	—	30	31	34	37	18	19	21	23
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*100*	*110*	*120*	*60*	*60*	*70*	*75*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	60	65	75	36	38	42	46
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*195*	*215*	*245*	*120*	*125*	*140*	*150*
S12	—	—	—	—	—	—	—	—	—	—	—	—	40	43	46	50	33	35	38	42
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*150*	*165*	*110*	*115*	*125*	*140*
S13	—	—	—	—	—	—	—	—	—	—	—	—	23	25	27	29	19	21	22	24
	—	—	—	—	—	—	—	—	—	—	—	—	*75*	*80*	*90*	*95*	*60*	*70*	*70*	*80*
H5	—	—	—	—	50	55	60	65	—	—	—	—	37	39	42	47	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*120*	*130*	*140*	*155*	—	—	—	—
H8	—	—	—	—	55	55	65	70	—	—	—	—	40	42	46	50	—	—	—	—
	—	—	—	—	*180*	*180*	*215*	*230*	—	—	—	—	*130*	*140*	*150*	*165*	—	—	—	—
H11	—	—	—	—	65	70	75	80	—	—	—	—	47	50	55	60	—	—	—	—
	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—	*155*	*165*	*180*	*195*	—	—	—	—
H12	—	—	—	—	95	105	110	120	—	—	—	—	70	75	85	90	—	—	—	—
	—	—	—	—	*310*	*345*	*360*	*395*	—	—	—	—	*230*	*245*	*280*	*295*	—	—	—	—
H21	—	—	—	—	55	55	65	70	—	—	—	—	40	42	46	50	—	—	—	—
	—	—	—	—	*180*	*180*	*215*	*230*	—	—	—	—	*130*	*140*	*150*	*165*	—	—	—	—

Quattromill R220.53-15 – Metric

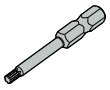




- For insert selection and cutting data recommendations, see page(s) 279-281
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.53-0063-15-5A	02486622	Arbor	63,0	5	7,5	45,0	78,0	22,0	47,0	40,0	8300	0,7	SE.X1505
R220.53-0080-15-6A	02486624	Arbor	80,0	6	7,5	45,0	96,0	27,0	62,0	50,0	7400	1,2	SE.X1505
R220.53-0080-15-7A	02486625	Arbor	80,0	7	7,5	45,0	96,0	27,0	62,0	50,0	7400	1,2	SE.X1505
R220.53-0100-15-7A	02486627	Arbor	100,0	7	7,5	45,0	116,0	32,0	77,0	50,0	6600	1,8	SE.X1505
R220.53-0100-15-9A	02486628	Arbor	100,0	9	7,5	45,0	116,0	32,0	77,0	50,0	6600	1,8	SE.X1505
R220.53-0125-15-8A	02486630	Arbor	125,0	8	7,5	45,0	141,0	40,0	90,0	63,0	5900	3,3	SE.X1505
R220.53-0125-15-10A	02486631	Arbor	125,0	10	7,5	45,0	141,0	40,0	90,0	63,0	5900	3,2	SE.X1505
R220.53-8160-15-10	02486633	Arbor	160,0	10	7,5	45,0	176,0	40,0	90,0	63,0	5200	4,7	SE.X1505
R220.53-8200-15-12	02486636	Arbor	200,0	12	7,5	45,0	216,0	60,0	130,0	63,0	4700	7,8	SE.X1505

Spare Parts, included in delivery

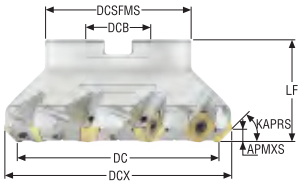
For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-0063	220.17-696	1/4HEX-T20PX50	C05013-T20P
R220.53-0080	–	1/4HEX-T20PX50	C05013-T20P
R220.53-0100-8200	–	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.53-0063	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	T00-20P50
R220.53-0080	1/4HEX-T-HANDLE-5.0-14.0NM	5802712	5.0NM	T00-20P50
R220.53-0100	1/4HEX-T-HANDLE-5.0-14.0NM	5803216	5.0NM	T00-20P50
R220.53-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	5.0NM	T00-20P50
R220.53-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	T00-20P50
R220.53-8200	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	5.0NM	T00-20P50

Torque and fixed keys, see page 872

Quattromill R220.53-15 – inch

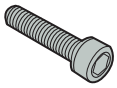
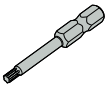




- For insert selection and cutting data recommendations, see page(s) 279-281
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.53-03.00-15-6A	02486638	Arbor	3.150	6	0.295	45.0	3.740	1.000	2.441	1.969	7400	2.870	SE.X1505
R220.53-04.00-15-7A	02486644	Arbor	3.937	7	0.295	45.0	4.528	1.500	3.543	1.969	6600	4.850	SE.X1505
R220.53-06.00-15-10	02486653	Arbor	6.299	10	0.295	45.0	6.890	2.000	3.543	2.480	5200	10.800	SE.X1505

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.53-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX50	C05013-T20P
R220.53-04.00	UF6S3/4UNFX1-3/4	1/4HEX-T20PX90	C05013-T20P
R220.53-06.00	–	1/4HEX-T20PX90	C05013-T20P

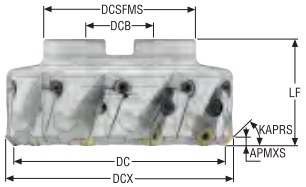
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.53-03.00-04.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.53-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

Quattromill R220.53-15C – Metric

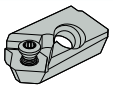
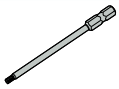




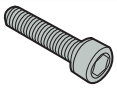
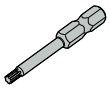
- For insert selection and cutting data recommendations, see page(s) 279-281
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.53-0125-15-8C	02510199	Arbor	125,0	8	7,5	45,0	141,0	40,0	90,0	63,0	5900	4,2	SE.X1505
R220.53-8160-15-7C	02510219	Arbor	160,0	7	7,5	45,0	176,0	40,0	90,0	63,0	5200	6,5	SE.X1505
R220.53-8160-15-10C	02510202	Arbor	160,0	10	7,5	45,0	176,0	40,0	90,0	63,0	5200	6,6	SE.X1505
R220.53-8200-15-12C	02510204	Arbor	200,0	12	7,5	45,0	216,0	60,0	130,0	63,0	4700	9,8	SE.X1505
R220.53-8250-15-10C	02510234	Arbor	250,0	10	7,5	45,0	266,0	60,0	130,0	63,0	4200	17,0	SE.X1505
R220.53-8250-15-16C	02510231	Arbor	250,0	16	7,5	45,0	260,0	60,0	130,0	63,0	4200	17,1	SE.X1505
R220.53-8315-15-12C	02510235	Arbor	315,0	12	7,5	45,0	331,0	60,0	225,0	80,0	3700	32,6	SE.X1505

Spare Parts, included in delivery

For cutter	Adjustment unit	Cassette	Cassette screw	Insert key	Insert screw
					
R220.53-0080-8315	AU1114T-T15P	SE15AR-53	FS96018	1/4HEX-T20PX90	C05010-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Insert clamping torque	Setting key	Torque key
						
R220.53-0080-0125	1/4HEX-T-HANDLE-5.0-14.0NM	5804020	–	5.0NM	1/4HEX-T15PX50	T00-20P50
R220.53-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	–	5.0NM	1/4HEX-T15PX50	T00-20P50
R220.53-8200-8250	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	–	5.0NM	1/4HEX-T15PX50	T00-20P50
R220.53-8315	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S16X50	MC6S20X50	5.0NM	1/4HEX-T15PX50	T00-20P50

Torque and fixed keys, see page 872

R220.53-15 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEMX1505AFTN-ME15 MP3501	4,5 *0.18*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P2	SEMX1505AFTN-ME15 MP3501	4,5 *0.18*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P3	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,46 *0.018*
P4	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.018*
P5	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.017*
P6	SEMX1505AFTN-M18 MP2501	4,5 *0.18*	0,34 *0.013*	0,34 *0.013*	0,36 *0.014*	0,44 *0.017*
P7	SEMX1505AFTN-M18 MP3501	4,5 *0.18*	0,34 *0.013*	0,34 *0.013*	0,36 *0.014*	0,44 *0.017*
P8	SEMX1505AFTN-M18 MP3501	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,46 *0.018*
P11	SEEX1505AFN-M12 MP2050	4,5 *0.18*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P12	SEEX1505AFN-M12 MP2050	3,5 *0.14*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
M1	SEEX1505AFN-M12 F40M	4,5 *0.18*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
M2	SEEX1505AFN-M12 MS2050	4,5 *0.18*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
M3	SEEX1505AFN-M12 MS2050	3,5 *0.14*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
M4	SEEX1505AFN-M12 MP2050	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
M5	SEEX1505AFN-M12 MP2050	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
K1	SEMX1505AFTN-M18 MK1500	4,5 *0.18*	0,38 *0.015*	0,38 *0.015*	0,40 *0.016*	0,50 *0.020*
K2	SEMX1505AFTN-M18 MK1500	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.017*
K3	SEMX1505AFTN-M18 MP1501	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.017*
K4	SEMX1505AFTN-M18 MP1501	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.017*
K5	SEMX1505AFTN-M18 MP1501	4,5 *0.18*	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
K6	SEMX1505AFTN-M18 MK2050	4,5 *0.18*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.017*
K7	SEMX1505AFTN-M18 MK2050	4,5 *0.18*	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
N1	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
N2	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
N3	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
N11	SEEX1505AFN-E10 H25	4,5 *0.18*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,38 *0.015*
S1	SEEX1505AFN-M12 MP2050	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S2	SEEX1505AFN-M12 MP2050	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S3	SEEX1505AFN-M12 MP2050	2,5 *0.10*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
S11	SEEX1505AFN-M12 MS2050	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S12	SEEX1505AFN-M12 MS2050	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
S13	SEEX1505AFN-M12 MS2050	2,5 *0.10*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H5	SEMX1505AFTN-MD20 MP3000	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
H8	SEMX1505AFTN-MD20 MP3000	3,0 *0.12*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H11	SEMX1505AFTN-MD20 MP1501	3,5 *0.14*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
H12	SEMX1505AFTN-MD20 MP1501	3,0 *0.12*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H21	SEMX1505AFTN-MD20 MP1501	3,0 *0.12*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*

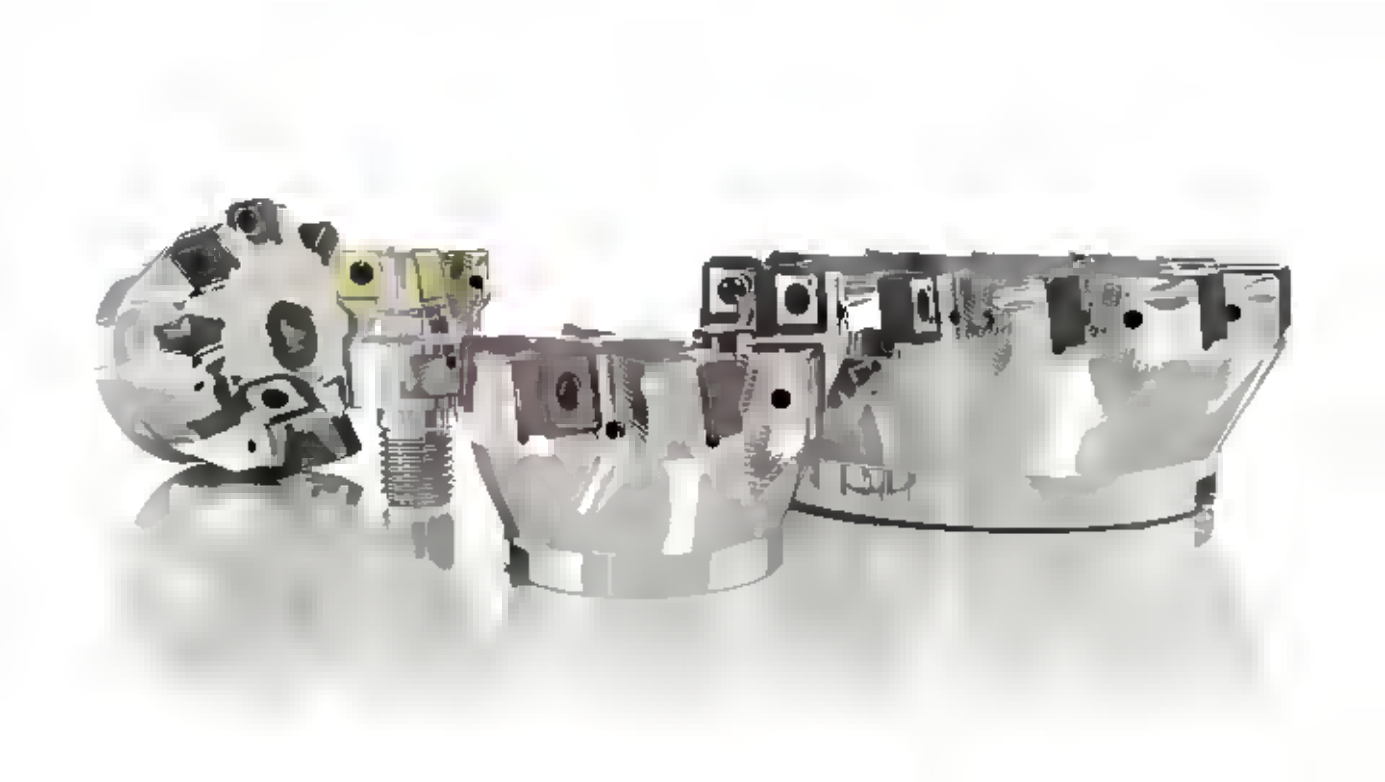
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.53-15 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MP3000				MS2050				F40M				MP2050				H25			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	255 *840*	275 *900*	305 *1000*	350 *1150*	230 *750*	250 *820*	275 *900*	310 *1025*	245 *800*	265 *870*	290 *950*	330 *1075*	195 *640*	215 *710*	235 *770*	270 *890*	275 *900*	300 *980*	335 *1100*	385 *1275*	— —	— —	— —	— —
P2	250 *820*	270 *890*	300 *980*	335 *1100*	220 *720*	240 *790*	270 *890*	305 *1000*	235 *770*	255 *840*	285 *940*	320 *1050*	190 *620*	210 *690*	230 *750*	260 *850*	270 *890*	290 *950*	325 *1075*	365 *1200*	— —	— —	— —	— —
P3	220 *720*	235 *770*	260 *850*	300 *980*	195 *640*	210 *690*	235 *770*	270 *890*	205 *670*	225 *740*	250 *820*	280 *920*	170 *560*	180 *590*	200 *660*	230 *750*	235 *770*	255 *840*	285 *940*	320 *1050*	— —	— —	— —	— —
P4	195 *640*	210 *690*	235 *770*	265 *870*	175 *570*	185 *610*	205 *670*	235 *770*	185 *610*	200 *660*	220 *720*	250 *820*	150 *490*	160 *520*	180 *590*	200 *660*	210 *690*	225 *740*	250 *820*	290 *950*	— —	— —	— —	— —
P5	185 *610*	200 *660*	225 *740*	255 *840*	165 *540*	180 *590*	200 *660*	225 *740*	175 *570*	190 *620*	210 *690*	235 *770*	140 *460*	155 *510*	170 *560*	195 *640*	205 *670*	220 *720*	240 *790*	275 *900*	— —	— —	— —	— —
P6	210 *690*	230 *750*	250 *820*	285 *940*	190 *620*	205 *670*	225 *740*	255 *840*	195 *640*	215 *710*	240 *790*	265 *870*	160 *520*	175 *570*	195 *640*	220 *720*	230 *750*	250 *820*	270 *890*	310 *1025*	— —	— —	— —	— —
P7	200 *660*	215 *710*	235 *770*	270 *890*	180 *590*	190 *620*	210 *690*	240 *790*	185 *610*	200 *660*	225 *740*	250 *820*	155 *510*	165 *540*	180 *590*	205 *670*	215 *710*	235 *770*	255 *840*	290 *950*	— —	— —	— —	— —
P8	185 *610*	200 *660*	220 *720*	250 *820*	165 *540*	180 *590*	195 *640*	225 *740*	175 *570*	185 *610*	210 *690*	235 *770*	140 *460*	155 *510*	170 *560*	195 *640*	200 *660*	215 *710*	240 *790*	270 *890*	— —	— —	— —	— —
P11	195 *640*	210 *690*	230 *750*	260 *850*	175 *570*	185 *610*	205 *670*	235 *770*	180 *590*	195 *640*	220 *720*	245 *800*	150 *490*	160 *520*	175 *570*	200 *660*	210 *690*	225 *740*	250 *820*	285 *940*	— —	— —	— —	— —
P12	125 *410*	135 *445*	150 *490*	175 *570*	115 *375*	125 *410*	135 *445*	155 *510*	120 *395*	130 *425*	140 *460*	160 *520*	95 *310*	105 *345*	115 *375*	135 *445*	135 *445*	145 *475*	165 *540*	185 *610*	— —	— —	— —	— —
M1	— —	— —	— —	— —	165 *540*	180 *590*	200 *660*	225 *740*	190 *620*	205 *670*	230 *750*	260 *850*	155 *510*	165 *540*	185 *610*	210 *690*	195 *640*	210 *690*	235 *770*	265 *870*	— —	— —	— —	— —
M2	— —	— —	— —	— —	140 *460*	150 *490*	165 *540*	190 *620*	160 *520*	170 *560*	190 *620*	215 *710*	125 *410*	140 *460*	155 *510*	175 *570*	165 *540*	175 *570*	195 *640*	220 *720*	— —	— —	— —	— —
M3	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	155 *510*	130 *425*	140 *460*	155 *510*	175 *570*	105 *345*	110 *360*	125 *410*	145 *475*	130 *425*	140 *460*	160 *520*	175 *570*	— —	— —	— —	— —
M4	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	120 *395*	100 *330*	110 *360*	120 *395*	135 *445*	80 *260*	90 *295*	100 *330*	110 *360*	100 *330*	110 *360*	120 *395*	140 *460*	— —	— —	— —	— —
M5	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	100 *330*	85 *280*	90 *295*	100 *330*	115 *375*	70 *230*	75 *245*	80 *260*	95 *310*	85 *280*	90 *295*	100 *330*	115 *375*	— —	— —	— —	— —
K1	270 *890*	290 *950*	320 *1050*	365 *1200*	175 *570*	190 *620*	210 *690*	240 *790*	— —	— —	— —	— —	150 *490*	165 *540*	180 *590*	205 *670*	— —	— —	— —	— —	— —	— —	— —	— —
K2	240 *790*	255 *840*	290 *950*	330 *1075*	155 *510*	170 *560*	190 *620*	215 *710*	— —	— —	— —	— —	135 *445*	145 *475*	165 *540*	185 *610*	— —	— —	— —	— —	— —	— —	— —	— —
K3	200 *660*	220 *720*	245 *800*	280 *920*	130 *425*	145 *475*	160 *520*	180 *590*	— —	— —	— —	— —	115 *375*	125 *410*	140 *460*	155 *510*	— —	— —	— —	— —	— —	— —	— —	— —
K4	190 *620*	210 *690*	235 *770*	265 *870*	125 *410*	135 *445*	155 *510*	175 *570*	— —	— —	— —	— —	110 *360*	115 *375*	130 *425*	150 *490*	— —	— —	— —	— —	— —	— —	— —	— —
K5	120 *395*	130 *425*	145 *475*	165 *540*	80 *260*	85 *280*	95 *310*	105 *345*	— —	— —	— —	— —	65 *215*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	— —	— —
K6	170 *560*	185 *610*	205 *670*	235 *770*	110 *360*	120 *395*	135 *445*	155 *510*	— —	— —	— —	— —	95 *310*	105 *345*	115 *375*	130 *425*	— —	— —	— —	— —	— —	— —	— —	— —
K7	150 *490*	165 *540*	185 *610*	210 *690*	100 *330*	110 *360*	120 *395*	135 *445*	— —	— —	— —	— —	85 *280*	95 *310*	105 *345*	120 *395*	— —	— —	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	1275 *4175*	1375 *4500*	1550 *5075*	1750 *5750*	— —	— —	— —	— —	1100 *3600*	1175 *3850*	1325 *4350*	1475 *4850*	— —	— —	— —	— —	1450 *4750*	1550 *5075*	1700 *5575*	1950 *6400*
N2	— —	— —	— —	— —	510 *1675*	560 *1825*	630 *2075*	710 *2325*	— —	— —	— —	— —	440 *1450*	475 *1550*	540 *1775*	600 *1975*	— —	— —	— —	— —	580 *1900*	630 *2075*	690 *2275*	790 *2600*
N3	— —	— —	— —	— —	340 *1125*	370 *1225*	420 *1375*	470 *1550*	— —	— —	— —	— —	295 *970*	320 *1050*	360 *1175*	400 *1300*	— —	— —	— —	— —	385 *1275*	420 *1375*	460 *1500*	520 *1700*
N11	— —	— —	— —	— —	390 *1275*	425 *1400*	480 *1575*	540 *1775*	— —	— —	— —	— —	335 *1100*	365 *1200*	410 *1350*	460 *1500*	— —	— —	— —	— —	445 *1450*	480 *1575*	520 *1700*	600 *1975*
S1	— —	— —	— —	— —	41 *135*	44 *145*	49 *160*	55 *180*	47 *155*	50 *165*	55 *180*	65 *215*	38 *125*	41 *135*	46 *150*	50 *165*	50 *165*	55 *180*	60 *195*	70 *230*	— —	— —	— —	— —
S2	— —	— —	— —	— —	33 *110*	36 *120*	40 *130*	45 *150*	38 *125*	41 *135*	45 *150*	50 *165*	31 *100*	33 *110*	37 *120*	42 *140*	40 *130*	43 *140*	48 *155*	55 *180*	— —	— —	— —	— —
S3	— —	— —	— —	— —	29 *95*	31 *100*	35 *115*	40 *130*	33 *110*	36 *120*	39 *130*	45 *150*	27 *90*	29 *95*	33 *110*	37 *120*	36 *120*	38 *125*	42 *140*	48 *155*	— —	— —	— —	— —
S11	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	80 *260*	65 *215*	70 *230*	80 *260*	90 *295*	55 *180*	55 *180*	65 *215*	70 *230*	70 *230*	75 *245*	85 *280*	95 *310*	— —	— —	— —	— —
S12	— —	— —	— —	— —	39 *130*	43 *140*	47 *155*	55 *180*	44 *145*	49 *160*	55 *180*	60 *195*	36 *120*	39 *130*	44 *145*	50 *165*	48 *155*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —
S13	— —	— —	— —	— —	23 *75*	25 *80*	28 *90*	32 *105*	26 *85*	28 *90*	31 *100*	36 *120*	21 *70*	23 *75*	26 *85*	29 *95*	28 *90*	30 *100*	33 *110*	38 *125*	— —	— —	— —	— —
H5	— —	— —	— —	— —	35 *115*	38 *125*	42 *140*	48 *155*	— —	— —	— —	— —	32 *105*	35 *115*	39 *130*	44 *145*	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	38 *125*	41 *135*	46 *150*	50 *165*	— —	— —	— —	— —	35 *115*	38 *125*	42 *140*	47 *155*	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	45 *150*	48 *155*	55 *180*	60 *195*	— —	— —	— —	— —	41 *135*	44 *145*	49 *160*	55 *180*	50 *165*	55 *180*	65 *215*	70 *230*	— —	— —	— —	— —
H12	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	85 *280*	90 *295*	95 *310*	105 *345*	120 *395*	— —	— —	— —	— —
H21	— —	— —	— —	— —	38 *125*	41 *135*	46 *150*	50 *165*	— —	— —	— —	— —	35 *115*	38 *125*	42 *140*	47 *155*	44 *145*	48 *155*	50 *165*	60 *195*	— —	— —	— —	— —

R220.53-15 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	345	375	410	460	335	360	395	450	295	320	350	400
	—	—	—	—	*1125*	*1225*	*1350*	*1500*	*1100*	*1175*	*1300*	*1475*	*970*	*1050*	*1150*	*1300*
P2	—	—	—	—	340	365	400	445	325	350	385	430	285	310	340	380
	—	—	—	—	*1125*	*1200*	*1300*	*1450*	*1075*	*1150*	*1275*	*1400*	*940*	*1025*	*1125*	*1250*
P3	—	—	—	—	300	320	350	395	290	310	340	380	255	275	300	340
	—	—	—	—	*980*	*1050*	*1150*	*1300*	*950*	*1025*	*1125*	*1250*	*840*	*900*	*980*	*1125*
P4	—	—	—	—	260	280	315	345	255	275	305	335	225	240	270	300
	—	—	—	—	*850*	*920*	*1025*	*1125*	*840*	*900*	*1000*	*1100*	*740*	*790*	*890*	*980*
P5	—	—	—	—	250	270	300	335	240	260	290	325	215	230	260	290
	—	—	—	—	*820*	*890*	*980*	*1100*	*790*	*850*	*950*	*1075*	*710*	*750*	*850*	*950*
P6	—	—	—	—	290	310	335	375	280	300	325	365	245	265	290	325
	—	—	—	—	*950*	*1025*	*1100*	*1225*	*920*	*980*	*1075*	*1200*	*800*	*870*	*950*	*1075*
P7	—	—	—	—	270	290	320	355	265	285	310	345	230	250	275	310
	—	—	—	—	*890*	*950*	*1050*	*1175*	*870*	*940*	*1025*	*1125*	*750*	*820*	*900*	*1025*
P8	—	—	—	—	250	270	295	330	240	260	285	320	215	230	255	285
	—	—	—	—	*820*	*890*	*970*	*1075*	*790*	*850*	*940*	*1050*	*710*	*750*	*840*	*940*
P11	—	—	—	—	265	285	310	345	255	275	300	335	225	245	265	300
	—	—	—	—	*870*	*940*	*1025*	*1125*	*840*	*900*	*980*	*1100*	*740*	*800*	*870*	*980*
P12	—	—	—	—	175	190	205	230	170	185	200	225	155	165	180	200
	—	—	—	—	*570*	*620*	*670*	*750*	*560*	*610*	*660*	*740*	*510*	*540*	*590*	*660*
M1	—	—	—	—	—	—	—	—	180	195	215	240	165	180	200	225
	—	—	—	—	—	—	—	—	*590*	*640*	*710*	*790*	*540*	*590*	*660*	*740*
M2	—	—	—	—	—	—	—	—	145	160	180	205	135	150	165	190
	—	—	—	—	—	—	—	—	*475*	*520*	*590*	*670*	*445*	*490*	*540*	*620*
M3	—	—	—	—	—	—	—	—	120	130	145	165	110	120	135	155
	—	—	—	—	—	—	—	—	*395*	*425*	*475*	*540*	*360*	*395*	*445*	*510*
M4	—	—	—	—	—	—	—	—	95	100	115	130	90	95	105	120
	—	—	—	—	—	—	—	—	*310*	*330*	*375*	*425*	*295*	*310*	*345*	*395*
M5	—	—	—	—	—	—	—	—	80	85	95	105	75	80	90	100
	—	—	—	—	—	—	—	—	*260*	*280*	*310*	*345*	*245*	*260*	*295*	*330*
K1	280	300	330	375	340	365	400	445	330	355	390	435	290	315	345	385
	920	*980*	*1075*	*1225*	*1125*	*1200*	*1300*	*1450*	*1075*	*1175*	*1275*	*1425*	*950*	*1025*	*1125*	*1275*
K2	245	265	300	340	305	325	365	405	290	315	350	395	260	280	315	350
	800	*870*	*980*	*1125*	*1000*	*1075*	*1200*	*1325*	*950*	*1025*	*1150*	*1300*	*850*	*920*	*1025*	*1150*
K3	210	225	250	290	255	275	305	345	245	265	300	335	220	235	265	295
	690	*740*	*820*	*950*	*840*	*900*	*1000*	*1125*	*800*	*870*	*980*	*1100*	*720*	*770*	*870*	*970*
K4	200	215	240	275	245	265	295	325	235	255	285	320	210	225	250	285
	660	*710*	*790*	*900*	*800*	*870*	*970*	*1075*	*770*	*840*	*940*	*1050*	*690*	*740*	*820*	*940*
K5	125	135	150	170	155	165	180	200	150	160	175	195	130	140	160	175
	410	*445*	*490*	*560*	*510*	*540*	*590*	*660*	*490*	*520*	*570*	*640*	*425*	*460*	*520*	*570*
K6	175	190	210	240	215	230	260	290	210	225	250	280	185	200	220	250
	570	*620*	*690*	*790*	*710*	*750*	*850*	*950*	*690*	*740*	*820*	*920*	*610*	*660*	*720*	*820*
K7	160	170	190	215	195	210	235	260	190	205	225	250	170	180	200	225
	520	*560*	*620*	*710*	*640*	*690*	*770*	*850*	*620*	*670*	*740*	*820*	*560*	*590*	*660*	*740*
N1	—	—	—	—	—	—	—	—	—	—	—	—	1225	1325	1500	1675
	—	—	—	—	—	—	—	—	—	—	—	—	*4025*	*4350*	*4925*	*5500*
N2	—	—	—	—	—	—	—	—	—	—	—	—	495	540	600	680
	—	—	—	—	—	—	—	—	—	—	—	—	*1625*	*1775*	*1975*	*2225*
N3	—	—	—	—	—	—	—	—	—	—	—	—	330	360	405	450
	—	—	—	—	—	—	—	—	—	—	—	—	*1075*	*1175*	*1325*	*1475*
N11	—	—	—	—	—	—	—	—	—	—	—	—	380	410	460	520
	—	—	—	—	—	—	—	—	—	—	—	—	*1250*	*1350*	*1500*	*1700*
S1	—	—	—	—	—	—	—	—	—	—	—	—	41	44	49	55
	—	—	—	—	—	—	—	—	—	—	—	—	*135*	*145*	*160*	*180*
S2	—	—	—	—	—	—	—	—	—	—	—	—	33	36	40	45
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*150*
S3	—	—	—	—	—	—	—	—	—	—	—	—	29	32	35	40
	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*105*	*115*	*130*
S11	—	—	—	—	—	—	—	—	—	—	—	—	55	60	70	80
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*230*	*260*
S12	—	—	—	—	—	—	—	—	—	—	—	—	39	42	47	55
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	—	—	—	23	25	28	31
	—	—	—	—	—	—	—	—	—	—	—	—	*75*	*80*	*90*	*100*
H5	—	—	—	—	47	50	55	65	—	—	—	—	36	39	44	50
	—	—	—	—	*155*	*165*	*180*	*215*	—	—	—	—	*120*	*130*	*145*	*165*
H8	—	—	—	—	50	55	60	70	—	—	—	—	40	43	47	55
	—	—	—	—	*165*	*180*	*195*	*230*	—	—	—	—	*130*	*140*	*155*	*180*
H11	—	—	—	—	60	65	70	80	—	—	—	—	46	50	55	65
	—	—	—	—	*195*	*215*	*230*	*260*	—	—	—	—	*150*	*165*	*180*	*215*
H12	—	—	—	—	90	100	110	125	—	—	—	—	70	75	85	95
	—	—	—	—	*295*	*330*	*360*	*410*	—	—	—	—	*230*	*245*	*280*	*310*
H21	—	—	—	—	50	55	60	70	—	—	—	—	40	43	47	55
	—	—	—	—	*165*	*180*	*195*	*230*	—	—	—	—	*130*	*140*	*155*	*180*

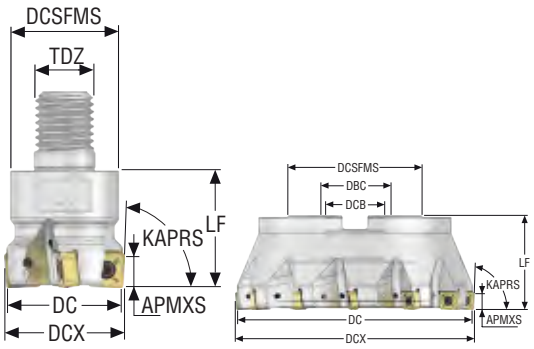


R220.88 (SNMU)

The R220.88 cutters with SNMU12/16 inserts provide high depth-of-cut capabilities, along with an economical eight cutting edges per insert. These cutters provide strong performance in machining steels and cast iron and are available in two insert sizes, 12 and 16. This tool is ideal for roughing and semi-finishing operations.

- Insert size 12, cutter range 40-160mm (1.5-6.0 inch)
- Insert size 16, cutter range 63-160mm (2.5-6.0 inch)

R220.88-12 – Metric

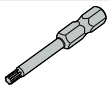
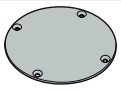




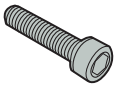
- For insert selection and cutting data recommendations, see page(s) 287-288
- For complete insert programme, see page(s) 834
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R217.88-2040.RE-12-4SAP	10130009	Combimaster	40,0	4	9,0	88.0	41,4	–	37,0	40,0	12600	0,3	SN.U1204
R220.88-0040-12-4SAP	10130008	Arbor	40,0	4	9,0	88.0	41,4	16,0	35,0	40,0	12600	0,3	SN.U1204
R220.88-0050-12-4SAP	10134775	Arbor	50,0	4	9,0	88.0	51,2	22,0	47,0	40,0	12600	0,4	SN.U1204
R220.88-0050-12-5SAP	10134776	Arbor	50,0	5	9,0	88.0	51,2	22,0	47,0	40,0	12600	0,4	SN.U1204
R220.88-0063-12-6SAP	10134777	Arbor	63,0	6	9,0	88.0	64,5	22,0	47,0	40,0	11200	0,5	SN.U1204
R220.88-0063-12-7SAP	10134778	Arbor	63,0	7	9,0	88.0	64,5	22,0	47,0	40,0	11200	0,5	SN.U1204
R220.88-0080-12-7SAP	10134779	Arbor	80,0	7	9,0	88.0	81,16	27,0	62,0	50,0	9900	1,2	SN.U1204
R220.88-0080-12-9SAP	10134780	Arbor	80,0	9	9,0	88.0	81,16	27,0	62,0	50,0	9900	1,1	SN.U1204
R220.88-0100-12-8SAP	10134782	Arbor	100,0	8	9,0	88.0	101,15	32,0	77,0	50,0	8900	1,9	SN.U1204
R220.88-0100-12-11SAP	10134781	Arbor	100,0	11	9,0	88.0	101,15	32,0	77,0	50,0	8900	1,9	SN.U1204
R220.88-0125-12-10SAP	10134783	Arbor	125,0	10	9,0	88.0	126,15	40,0	90,0	63,0	7900	3,7	SN.U1204
R220.88-0125-12-13SAP	10134784	Arbor	125,0	13	9,0	88.0	126,15	40,0	90,0	63,0	7900	3,7	SN.U1204
R220.88-8160-12-12SAP	10134785	Arbor	160,0	12	9,0	88.0	161,14	40,0	90,0	63,0	7000	5,6	SN.U1204
R220.88-8160-12-16SAP	10134786	Arbor	160,0	16	9,0	88.0	161,14	40,0	90,0	63,0	7000	5,6	SN.U1204

Spare Parts, included in delivery

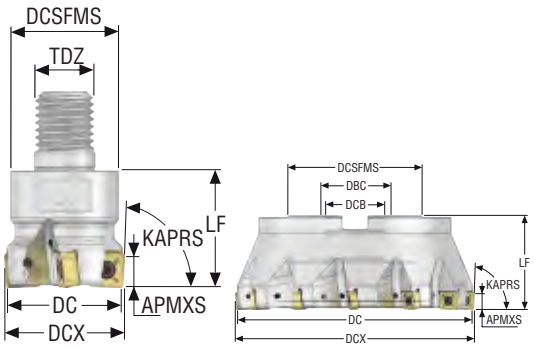
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.88-..	–	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0040	220.17-690	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0050-0063	220.17-692	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0080	MC6S12X35	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-0100	MC6S16X35	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-0125	MC6S20X40	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-8160	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220.88-0040-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.88-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R220.88-12 – inch

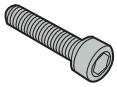
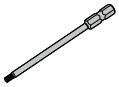
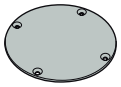




- For insert selection and cutting data recommendations, see page(s) 287-288
- For complete insert programme, see page(s) 834
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R217.88-01.50-20RE-12-4SAP	10134800	Combimaster	1.500	4	0.354	88.0	1.563	–	1.457	1.575	12600	0.660	SN.U1204
R220.88-01.50-12-4SAP	10134787	Arbor	1.500	4	0.354	88.0	1.558	0.500	1.378	1.575	12600	0.660	SN.U1204
R220.88-02.00-12-4SAP	10134788	Arbor	2.000	4	0.354	88.0	2.051	0.750	1.850	1.575	12600	0.880	SN.U1204
R220.88-02.00-12-5SAP	10134789	Arbor	2.000	5	0.354	88.0	2.051	0.750	1.850	1.575	12600	0.880	SN.U1204
R220.88-02.50-12-6SAP	10134790	Arbor	2.500	6	0.354	88.0	2.549	0.750	1.850	1.575	11200	1.540	SN.U1204
R220.88-02.50-12-7SAP	10134791	Arbor	2.500	7	0.354	88.0	2.549	0.750	1.850	1.575	11200	1.320	SN.U1204
R220.88-03.00-12-7SAP	10134792	Arbor	3.000	7	0.354	88.0	3.046	1.000	2.441	1.969	9900	2.650	SN.U1204
R220.88-03.00-12-9SAP	10134793	Arbor	3.000	9	0.354	88.0	3.046	1.000	2.441	1.969	9900	2.430	SN.U1204
R220.88-04.00-12-8SAP	10134795	Arbor	4.000	8	0.354	88.0	4.039	1.500	3.031	1.969	8900	4.190	SN.U1204
R220.88-04.00-12-11SAP	10134794	Arbor	4.000	11	0.354	88.0	4.039	1.500	3.031	1.969	8900	4.190	SN.U1204
R220.88-05.00-12-10SAP	10134796	Arbor	5.000	10	0.354	88.0	5.039	1.500	3.543	2.480	7900	8.380	SN.U1204
R220.88-05.00-12-13SAP	10134797	Arbor	5.000	13	0.354	88.0	5.039	1.500	3.543	2.480	7900	8.380	SN.U1204
R220.88-06.00-12-12SAP	10134798	Arbor	6.000	12	0.354	88.0	6.039	2.000	4.331	2.480	7000	10.800	SN.U1204
R220.88-06.00-12-16SAP	10134799	Arbor	6.000	16	0.354	88.0	6.039	2.000	4.331	2.480	7000	10.800	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.88-..	–	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-01.50	UC6S1/4UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T15PX50	C04011-T15P	–	–
R220.88-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T15PX90	C04011-T15P	–	–
R220.88-06.00	–	1/4HEX-T15PX90	C04011-T15P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220-01.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35
R217/220-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R220.88-12 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMU120410TN-M10 MS2050	5,0 *0.20*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,18 *0.0070*
P2	SNMU120410TN-M10 MS2050	5,0 *0.20*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,18 *0.0070*
P3	SNMU120410TN-M10 MP2501	5,0 *0.20*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,17 *0.0065*
P4	SNMU120412TN-M16 MP2501	5,0 *0.20*	0,24 *0.0095*	0,24 *0.0095*	0,24 *0.0095*	0,30 *0.012*
P5	SNMU120412TN-M16 MP2501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
P6	SNMU120412TN-M16 MP2501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
P7	SNMU120410TN-M10 MP3501	5,0 *0.20*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0055*	0,17 *0.0065*
P8	SNMU120410TN-M10 MP3501	5,0 *0.20*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,17 *0.0065*
P11	SNMU120410TN-M10 MS2500	5,0 *0.20*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0055*	0,17 *0.0065*
P12	SNMU120410TN-M10 MS2500	4,5 *0.18*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,11 *0.0044*
M1	SNMU120410TN-M10 F40M	5,0 *0.20*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,18 *0.0070*
M2	SNMU120410TN-M10 MS2050	5,0 *0.20*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,17 *0.0065*
M3	SNMU120410TN-M10 MS2050	4,5 *0.18*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*
M4	SNMU120410TN-M10 MS2050	3,0 *0.12*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,12 *0.0048*
M5	SNMU120410TN-M10 MS2050	3,0 *0.12*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,12 *0.0048*
K1	SNMU120412TN-M16 MK1500	5,0 *0.20*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
K2	SNMU120412TN-M16 MK1500	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
K3	SNMU120412TN-M16 MP1501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
K4	SNMU120412TN-M16 MP1501	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
K5	SNMU120412TN-M16 MK2050	5,0 *0.20*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
K6	SNMU120412TN-M16 MK2050	5,0 *0.20*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
K7	SNMU120412TN-M16 MK2050	5,0 *0.20*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
H5	SNMU120410TN-MD13 MP1501	4,5 *0.18*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,19 *0.0075*
H8	SNMU120410TN-MD13 MP1501	4,0 *0.16*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
H11	SNMU120410TN-MD13 MP1501	4,5 *0.18*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,19 *0.0075*
H12	SNMU120410TN-MD13 MP1501	4,0 *0.16*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
H21	SNMU120410TN-MD13 MP1501	4,0 *0.16*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.88-12 – Cutting data v_c = (m/min)/*(sf/min)*

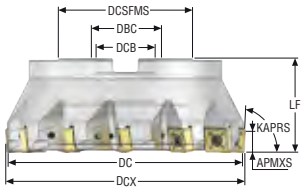
SMG	MK2050				MP3000				MS2050				F40M			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	295 *970*	315 *1025*	345 *1125*	395 *1300*	280 *920*	305 *1000*	330 *1075*	380 *1250*	240 *790*	260 *850*	280 *920*	320 *1050*	225 *740*	245 *800*	265 *870*	305 *1000*
P2	280 *920*	300 *980*	335 *1100*	385 *1275*	270 *890*	290 *950*	325 *1075*	370 *1225*	230 *750*	245 *800*	275 *900*	315 *1025*	215 *710*	230 *750*	260 *850*	295 *970*
P3	245 *800*	265 *870*	295 *970*	335 *1100*	235 *770*	255 *840*	285 *940*	320 *1050*	200 *660*	215 *710*	240 *790*	275 *900*	190 *620*	205 *670*	225 *740*	260 *850*
P4	215 *710*	235 *770*	260 *850*	295 *970*	210 *690*	225 *740*	250 *820*	285 *940*	175 *570*	190 *620*	210 *690*	240 *790*	165 *540*	180 *590*	200 *660*	225 *740*
P5	210 *690*	230 *750*	250 *820*	280 *920*	205 *670*	220 *720*	240 *790*	270 *890*	170 *560*	185 *610*	200 *660*	230 *750*	165 *540*	175 *570*	190 *620*	215 *710*
P6	235 *770*	255 *840*	280 *920*	315 *1025*	230 *750*	245 *800*	270 *890*	305 *1000*	195 *640*	210 *690*	225 *740*	260 *850*	180 *590*	195 *640*	215 *710*	245 *800*
P7	225 *740*	240 *790*	265 *870*	300 *980*	215 *710*	230 *750*	255 *840*	285 *940*	185 *610*	195 *640*	215 *710*	245 *800*	170 *560*	185 *610*	200 *660*	230 *750*
P8	205 *670*	225 *740*	250 *820*	280 *920*	200 *660*	215 *710*	240 *790*	270 *890*	170 *560*	180 *590*	200 *660*	230 *750*	160 *520*	170 *560*	190 *620*	215 *710*
P11	220 *720*	235 *770*	255 *840*	290 *950*	210 *690*	225 *740*	245 *800*	280 *920*	175 *570*	190 *620*	210 *690*	235 *770*	165 *540*	180 *590*	195 *640*	225 *740*
P12	140 *460*	155 *510*	165 *540*	190 *620*	135 *445*	145 *475*	160 *520*	185 *610*	115 *375*	125 *410*	135 *445*	155 *510*	110 *360*	120 *395*	130 *425*	145 *475*
M1	— —	— —	— —	— —	200 *660*	215 *710*	240 *790*	275 *900*	185 *610*	200 *660*	220 *720*	250 *820*	175 *570*	185 *610*	210 *690*	240 *790*
M2	— —	— —	— —	— —	170 *560*	185 *610*	200 *660*	225 *740*	155 *510*	165 *540*	180 *590*	205 *670*	145 *475*	160 *520*	170 *560*	195 *640*
M3	— —	— —	— —	— —	135 *445*	145 *475*	160 *520*	185 *610*	125 *410*	135 *445*	150 *490*	170 *560*	115 *375*	125 *410*	140 *460*	160 *520*
M4	— —	— —	— —	— —	105 *345*	115 *375*	125 *410*	140 *460*	100 *330*	105 *345*	115 *375*	130 *425*	90 *295*	100 *330*	110 *360*	120 *395*
M5	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	120 *395*	80 *260*	85 *280*	95 *310*	110 *360*	75 *245*	80 *260*	90 *295*	100 *330*
K1	300 *980*	325 *1075*	365 *1200*	415 *1350*	215 *710*	230 *750*	255 *840*	290 *950*	— —	— —	— —	— —	170 *560*	185 *610*	205 *670*	235 *770*
K2	275 *900*	295 *970*	320 *1050*	365 *1200*	195 *640*	210 *690*	225 *740*	255 *840*	— —	— —	— —	— —	155 *510*	165 *540*	180 *590*	205 *670*
K3	230 *750*	250 *820*	270 *890*	310 *1025*	165 *540*	175 *570*	190 *620*	215 *710*	— —	— —	— —	— —	130 *425*	140 *460*	155 *510*	175 *570*
K4	220 *720*	240 *790*	260 *850*	295 *970*	155 *510*	170 *560*	185 *610*	210 *690*	— —	— —	— —	— —	125 *410*	135 *445*	145 *475*	165 *540*
K5	135 *445*	145 *475*	160 *520*	180 *590*	95 *310*	100 *330*	115 *375*	130 *425*	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	100 *330*
K6	195 *640*	210 *690*	230 *750*	260 *850*	135 *445*	150 *490*	160 *520*	185 *610*	— —	— —	— —	— —	110 *360*	120 *395*	130 *425*	145 *475*
K7	170 *560*	185 *610*	205 *670*	230 *750*	120 *395*	130 *425*	145 *475*	165 *540*	— —	— —	— —	— —	95 *310*	105 *345*	115 *375*	130 *425*
H5	— —	— —	— —	— —	43 *140*	46 *150*	50 *165*	55 *180*	— —	— —	— —	— —	36 *120*	39 *130*	43 *140*	49 *160*
H8	— —	— —	— —	— —	45 *150*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	39 *130*	42 *140*	46 *150*	50 *165*
H11	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	75 *245*	— —	— —	— —	— —	46 *150*	50 *165*	55 *180*	60 *195*
H12	— —	— —	— —	— —	85 *280*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	95 *310*

R217/220.88-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501				MS2500			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	330	355	395	435	320	345	385	420	355	380	405	450	325	350	380	435
	—	—	—	—	*1075*	*1175*	*1300*	*1425*	*1050*	*1125*	*1275*	*1375*	*1175*	*1250*	*1325*	*1475*	*1075*	*1150*	*1250*	*1425*
P2	—	—	—	—	320	345	380	420	310	335	370	410	340	360	395	440	310	335	370	425
	—	—	—	—	*1050*	*1125*	*1250*	*1375*	*1025*	*1100*	*1225*	*1350*	*1125*	*1175*	*1300*	*1450*	*1025*	*1100*	*1225*	*1400*
P3	—	—	—	—	280	300	335	370	275	295	325	360	295	315	345	380	270	295	325	370
	—	—	—	—	*920*	*980*	*1100*	*1225*	*900*	*970*	*1075*	*1175*	*970*	*1025*	*1125*	*1250*	*890*	*970*	*1075*	*1225*
P4	—	—	—	—	250	265	295	325	240	260	285	320	260	280	305	335	240	260	290	325
	—	—	—	—	*820*	*870*	*970*	*1075*	*790*	*850*	*940*	*1050*	*850*	*920*	*1000*	*1100*	*790*	*850*	*950*	*1075*
P5	—	—	—	—	245	260	280	320	240	255	275	310	255	270	290	320	235	250	275	310
	—	—	—	—	*800*	*850*	*920*	*1050*	*790*	*840*	*900*	*1025*	*840*	*890*	*950*	*1050*	*770*	*820*	*900*	*1025*
P6	—	—	—	—	275	295	315	360	265	285	310	350	290	305	325	360	265	285	310	350
	—	—	—	—	*900*	*970*	*1025*	*1175*	*870*	*940*	*1025*	*1150*	*950*	*1000*	*1075*	*1175*	*870*	*940*	*1025*	*1150*
P7	—	—	—	—	260	280	300	340	250	270	290	330	270	290	310	340	250	265	290	330
	—	—	—	—	*850*	*920*	*980*	*1125*	*820*	*890*	*950*	*1075*	*890*	*950*	*1025*	*1125*	*820*	*870*	*950*	*1075*
P8	—	—	—	—	235	255	280	310	230	245	275	305	250	265	290	320	230	245	275	310
	—	—	—	—	*770*	*840*	*920*	*1025*	*750*	*800*	*900*	*1000*	*820*	*870*	*950*	*1050*	*750*	*800*	*900*	*1025*
P11	—	—	—	—	255	270	290	330	245	265	280	320	265	280	300	330	240	260	285	320
	—	—	—	—	*840*	*890*	*950*	*1075*	*800*	*870*	*920*	*1050*	*870*	*920*	*980*	*1075*	*790*	*850*	*940*	*1050*
P12	—	—	—	—	170	180	195	215	165	175	190	210	170	180	195	210	160	170	185	210
	—	—	—	—	*560*	*590*	*640*	*710*	*540*	*570*	*620*	*690*	*560*	*590*	*640*	*690*	*520*	*560*	*610*	*690*
M1	—	—	—	—	—	—	—	—	170	180	200	230	185	200	220	250	220	240	265	305
	—	—	—	—	—	—	—	—	*560*	*590*	*660*	*750*	*610*	*660*	*720*	*820*	*720*	*790*	*870*	*1000*
M2	—	—	—	—	—	—	—	—	140	155	165	195	155	165	180	205	185	200	220	250
	—	—	—	—	—	—	—	—	*460*	*510*	*540*	*640*	*510*	*540*	*590*	*670*	*610*	*660*	*720*	*820*
M3	—	—	—	—	—	—	—	—	115	125	135	160	125	135	150	170	150	160	180	205
	—	—	—	—	—	—	—	—	*375*	*410*	*445*	*520*	*410*	*445*	*490*	*560*	*490*	*520*	*590*	*670*
M4	—	—	—	—	—	—	—	—	90	95	105	120	100	105	115	130	120	125	140	155
	—	—	—	—	—	—	—	—	*295*	*310*	*345*	*395*	*330*	*345*	*375*	*425*	*395*	*410*	*460*	*510*
M5	—	—	—	—	—	—	—	—	75	80	90	100	80	85	95	110	100	105	115	130
	—	—	—	—	—	—	—	—	*245*	*260*	*295*	*330*	*260*	*280*	*310*	*360*	*330*	*345*	*375*	*425*
K1	260	285	315	355	325	350	380	425	315	340	370	415	340	365	400	440	245	265	295	335
	850	*940*	*1025*	*1175*	*1075*	*1150*	*1250*	*1400*	*1025*	*1125*	*1225*	*1350*	*1125*	*1200*	*1300*	*1450*	*800*	*870*	*970*	*1100*
K2	235	255	280	320	295	315	340	385	290	310	330	375	310	330	350	390	220	240	260	295
	770	*840*	*920*	*1050*	*970*	*1025*	*1125*	*1275*	*950*	*1025*	*1075*	*1225*	*1025*	*1075*	*1150*	*1275*	*720*	*790*	*850*	*970*
K3	200	215	235	275	250	270	290	325	245	260	280	320	260	280	300	330	190	205	220	250
	660	*710*	*770*	*900*	*820*	*890*	*950*	*1075*	*800*	*850*	*920*	*1050*	*850*	*920*	*980*	*1075*	*620*	*670*	*720*	*820*
K4	190	205	225	260	240	255	275	310	235	250	270	305	250	265	285	315	180	195	210	240
	620	*670*	*740*	*850*	*790*	*840*	*900*	*1025*	*770*	*820*	*890*	*1000*	*820*	*870*	*940*	*1025*	*590*	*640*	*690*	*790*
K5	120	125	140	160	150	160	170	190	145	155	165	185	155	160	175	190	110	120	130	145
	395	*410*	*460*	*520*	*490*	*520*	*560*	*620*	*475*	*510*	*540*	*610*	*510*	*520*	*570*	*620*	*360*	*395*	*425*	*475*
K6	170	180	200	230	210	225	240	275	205	220	235	270	220	235	250	275	160	170	185	210
	560	*590*	*660*	*750*	*690*	*740*	*790*	*900*	*670*	*720*	*770*	*890*	*720*	*770*	*820*	*900*	*520*	*560*	*610*	*690*
K7	150	165	175	205	190	200	215	245	185	195	210	240	195	205	225	245	140	150	165	190
	490	*540*	*570*	*670*	*620*	*660*	*710*	*800*	*610*	*640*	*690*	*790*	*640*	*670*	*740*	*800*	*460*	*490*	*540*	*620*
H5	—	—	—	—	45	48	55	60	—	—	—	—	40	43	47	55	47	50	55	65
	—	—	—	—	*150*	*155*	*180*	*195*	—	—	—	—	*130*	*140*	*155*	*180*	*155*	*165*	*180*	*215*
H8	—	—	—	—	49	50	60	65	—	—	—	—	43	46	50	55	50	55	60	65
	—	—	—	—	*160*	*165*	*195*	*215*	—	—	—	—	*140*	*150*	*165*	*180*	*165*	*180*	*195*	*215*
H11	—	—	—	—	55	60	70	75	—	—	—	—	50	55	60	70	60	65	70	80
	—	—	—	—	*180*	*195*	*230*	*245*	—	—	—	—	*165*	*180*	*195*	*230*	*195*	*215*	*230*	*260*
H12	—	—	—	—	85	95	105	115	—	—	—	—	75	85	90	105	100	110	120	135
	—	—	—	—	*280*	*310*	*345*	*375*	—	—	—	—	*245*	*280*	*295*	*345*	*330*	*360*	*395*	*445*

R220.88-16 – Metric

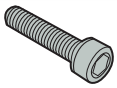
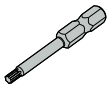
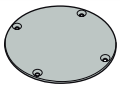




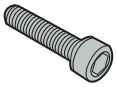
- For insert selection and cutting data recommendations, see page(s) 292-293
- For complete insert programme, see page(s) 834
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.88-0063-16-5SAP	10134810	Arbor	63,0	5	13,0	88,0	64,75	22,0	47,0	40,0	7100	0,5	SN.U1606
R220.88-0080-16-6SAP	10134811	Arbor	80,0	6	13,0	88,0	81,62	27,0	62,0	50,0	6300	1,2	SN.U1606
R220.88-0080-16-7SAP	10134812	Arbor	80,0	7	13,0	88,0	81,62	27,0	62,0	50,0	6300	1,2	SN.U1606
R220.88-0100-16-8SAP	10134813	Arbor	100,0	8	13,0	88,0	101,6	32,0	77,0	50,0	5600	1,9	SN.U1606
R220.88-0100-16-9SAP	10134814	Arbor	100,0	9	13,0	88,0	101,6	32,0	77,0	50,0	5600	1,9	SN.U1606
R220.88-0125-16-10SAP	10134815	Arbor	125,0	10	13,0	88,0	126,6	40,0	90,0	63,0	5000	3,7	SN.U1606
R220.88-0125-16-11SAP	10134816	Arbor	125,0	11	13,0	88,0	126,6	40,0	90,0	63,0	5000	3,6	SN.U1606
R220.88-8160-16-12SAP	10134817	Arbor	160,0	12	13,0	88,0	161,58	40,0	90,0	63,0	4400	5,4	SN.U1204
R220.88-8160-16-13SAP	10134818	Arbor	160,0	13	13,0	88,0	161,58	40,0	90,0	63,0	4400	5,4	SN.U1204

Spare Parts, included in delivery

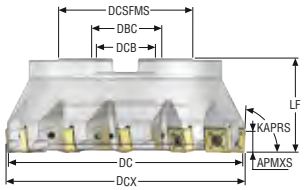
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.88-0063	220.17-692	1/4HEX-T20PX50	C05013-T20P	–	–
R220.88-0080	MC6S12X35	1/4HEX-T20PX50	C05013-T20P	–	–
R220.88-0100	MC6S16X35	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-0125	MC6S20X40	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-8160	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.88-0063-0125	1/4HEX-T-HANDLE-5.0-14.0NM	–	5.0NM	T00-20P50
R220.88-8160	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.88-16 – inch

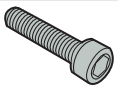
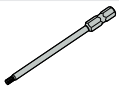
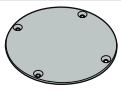




- For insert selection and cutting data recommendations, see page(s) 292-293
- For complete insert programme, see page(s) 834
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.88-03.00-16-6SAP	10134819	Arbor	3.000	6	0.512	88.0	3.064	1.000	2.441	1.969	6300	2.650	SN.U1606
R220.88-03.00-16-7SAP	10134820	Arbor	3.000	7	0.512	88.0	3.064	1.000	2.441	1.969	6300	2.430	SN.U1606
R220.88-04.00-16-8SAP	10134821	Arbor	4.000	8	0.512	88.0	4.063	1.500	3.031	1.969	5600	3.970	SN.U1606
R220.88-04.00-16-9SAP	10134822	Arbor	4.000	9	0.512	88.0	4.063	1.500	3.031	1.969	5600	3.970	SN.U1606
R220.88-05.00-16-10SAP	10134823	Arbor	5.000	10	0.512	88.0	5.063	1.500	3.543	2.480	5000	8.160	SN.U1606
R220.88-05.00-16-11SAP	10134824	Arbor	5.000	11	0.512	88.0	5.063	1.500	3.543	2.480	5000	7.940	SN.U1606
R220.88-06.00-16-12SAP	10134825	Arbor	6.000	12	0.512	88.0	6.062	2.000	4.331	2.480	4400	10.580	SN.U1204
R220.88-06.00-16-13SAP	10134826	Arbor	6.000	13	0.512	88.0	6.062	2.000	4.331	2.480	4400	10.580	SN.U1204

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.88-03.00	UC6S1/2UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-04.00-05.00	UC6S3/4UNFX1-1/4	1/4HEX-T20PX90	C05013-T20P	–	–
R220.88-06.00	–	1/4HEX-T20PX90	C05013-T20P	SC-160-90	MF6S4X10

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.88-03.00-05.00	1/4HEX-T-HANDLE-5.0-14.0NM	–	44.3IN.LBS	T00-20P50
R220.88-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R220.88-16 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNMU160612TN-M10 MP3000	8,0 *0.32*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
P2	SNMU160612TN-M10 MP3000	8,0 *0.32*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
P3	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,26 *0.010*	0,26 *0.010*	0,26 *0.010*	0,32 *0.013*
P4	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,26 *0.010*	0,26 *0.010*	0,26 *0.010*	0,32 *0.013*
P5	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
P6	SNMU160612TN-M18 MP2501	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,25 *0.010*	0,32 *0.013*
P7	SNMU160612TN-M18 MP3501	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,25 *0.010*	0,32 *0.013*
P8	SNMU160612TN-M18 MP3501	8,0 *0.32*	0,26 *0.010*	0,26 *0.010*	0,26 *0.010*	0,32 *0.013*
P11	SNMU160612TN-M18 MP3501	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,25 *0.010*	0,32 *0.013*
P12	SNMU160612TN-M18 MP3501	6,0 *0.24*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
K1	SNMU160612TN-M18 MK1500	8,0 *0.32*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
K2	SNMU160612TN-M18 MK1500	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
K3	SNMU160612TN-M18 MP1501	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
K4	SNMU160612TN-M18 MP1501	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
K5	SNMU160612TN-M18 MK2050	8,0 *0.32*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
K6	SNMU160612TN-M18 MK2050	8,0 *0.32*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
K7	SNMU160612TN-M18 MK2050	8,0 *0.32*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,28 *0.011*
H5	SNMU160612TN-MD16 MP1501	6,0 *0.24*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
H8	SNMU160612TN-MD16 MP1501	5,0 *0.20*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,18 *0.0070*
H11	SNMU160612TN-MD16 MP1501	6,0 *0.24*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
H12	SNMU160612TN-MD16 MP1501	5,0 *0.20*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,18 *0.0070*
H21	SNMU160612TN-MD16 MP1501	5,0 *0.20*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,18 *0.0070*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.88-16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MP3000				F40M			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	225 *740*	245 *800*	275 *900*	315 *1025*	265 *870*	285 *940*	315 *1025*	355 *1175*	175 *570*	190 *620*	210 *690*	240 *790*
P2	220 *720*	240 *790*	270 *890*	305 *1000*	255 *840*	275 *900*	305 *1000*	345 *1125*	170 *560*	185 *610*	205 *670*	235 *770*
P3	195 *640*	210 *690*	235 *770*	270 *890*	225 *740*	240 *790*	270 *890*	305 *1000*	150 *490*	160 *520*	180 *590*	205 *670*
P4	170 *560*	185 *610*	210 *690*	235 *770*	200 *660*	215 *710*	235 *770*	265 *870*	130 *425*	145 *475*	160 *520*	180 *590*
P5	165 *540*	180 *590*	200 *660*	225 *740*	190 *620*	205 *670*	225 *740*	260 *850*	130 *425*	140 *460*	155 *510*	175 *570*
P6	185 *610*	200 *660*	225 *740*	255 *840*	215 *710*	235 *770*	255 *840*	290 *950*	145 *475*	155 *510*	175 *570*	195 *640*
P7	175 *570*	190 *620*	215 *710*	240 *790*	205 *670*	220 *720*	240 *790*	275 *900*	135 *445*	145 *475*	165 *540*	185 *610*
P8	165 *540*	175 *570*	200 *660*	225 *740*	190 *620*	205 *670*	225 *740*	255 *840*	125 *410*	135 *445*	155 *510*	175 *570*
P11	170 *560*	185 *610*	205 *670*	235 *770*	200 *660*	215 *710*	235 *770*	265 *870*	130 *425*	140 *460*	160 *520*	180 *590*
P12	115 *375*	125 *410*	135 *445*	155 *510*	130 *425*	140 *460*	155 *510*	175 *570*	90 *295*	95 *310*	105 *345*	120 *395*
M1	— —	— —	— —	— —	190 *620*	205 *670*	230 *750*	260 *850*	135 *445*	150 *490*	165 *540*	190 *620*
M2	— —	— —	— —	— —	160 *520*	170 *560*	190 *620*	215 *710*	115 *375*	125 *410*	135 *445*	155 *510*
M3	— —	— —	— —	— —	130 *425*	140 *460*	155 *510*	175 *570*	95 *310*	105 *345*	115 *375*	130 *425*
M4	— —	— —	— —	— —	100 *330*	110 *360*	120 *395*	135 *445*	75 *245*	80 *260*	90 *295*	100 *330*
M5	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	110 *360*	60 *195*	65 *215*	75 *245*	85 *280*
K1	240 *790*	255 *840*	290 *950*	330 *1075*	200 *660*	220 *720*	245 *800*	275 *900*	135 *445*	145 *475*	165 *540*	185 *610*
K2	215 *710*	230 *750*	255 *840*	290 *950*	180 *590*	195 *640*	215 *710*	245 *800*	120 *395*	130 *425*	145 *475*	165 *540*
K3	180 *590*	195 *640*	215 *710*	245 *800*	150 *490*	165 *540*	180 *590*	210 *690*	105 *345*	110 *360*	125 *410*	140 *460*
K4	175 *570*	185 *610*	205 *670*	235 *770*	145 *475*	155 *510*	175 *570*	200 *660*	100 *330*	105 *345*	115 *375*	135 *445*
K5	110 *360*	115 *375*	125 *410*	145 *475*	90 *295*	95 *310*	110 *360*	120 *395*	60 *195*	65 *215*	70 *230*	85 *280*
K6	155 *510*	165 *540*	185 *610*	210 *690*	125 *410*	135 *445*	155 *510*	175 *570*	85 *280*	95 *310*	105 *345*	115 *375*
K7	140 *460*	150 *490*	160 *520*	190 *620*	115 *375*	125 *410*	140 *460*	155 *510*	80 *260*	85 *280*	90 *295*	105 *345*
H5	— —	— —	— —	— —	40 *130*	43 *140*	48 *155*	55 *180*	29 *95*	32 *105*	35 *115*	39 *130*
H8	— —	— —	— —	— —	43 *140*	47 *155*	50 *165*	55 *180*	32 *105*	34 *110*	38 *125*	43 *140*
H11	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	37 *120*	40 *130*	44 *145*	50 *165*
H12	— —	— —	— —	— —	85 *280*	90 *295*	95 *310*	110 *360*	55 *180*	60 *195*	70 *230*	75 *245*

R217/220.88-16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	310	335	375	420	300	325	365	410	265	285	320	365
	—	—	—	—	*1025*	*1100*	*1225*	*1375*	*980*	*1075*	*1200*	*1350*	*870*	*940*	*1050*	*1200*
P2	—	—	—	—	305	325	365	410	290	315	355	400	255	275	315	355
	—	—	—	—	*1000*	*1075*	*1200*	*1350*	*950*	*1025*	*1175*	*1300*	*840*	*900*	*1025*	*1175*
P3	—	—	—	—	270	290	325	360	260	280	315	350	230	250	280	310
	—	—	—	—	*890*	*950*	*1075*	*1175*	*850*	*920*	*1025*	*1150*	*750*	*820*	*920*	*1025*
P4	—	—	—	—	240	255	285	320	230	245	275	310	200	220	245	275
	—	—	—	—	*790*	*840*	*940*	*1050*	*750*	*800*	*900*	*1025*	*660*	*720*	*800*	*900*
P5	—	—	—	—	230	250	270	305	225	240	265	295	195	210	235	265
	—	—	—	—	*750*	*820*	*890*	*1000*	*740*	*790*	*870*	*970*	*640*	*690*	*770*	*870*
P6	—	—	—	—	260	280	310	340	250	270	300	330	220	240	265	295
	—	—	—	—	*850*	*920*	*1025*	*1125*	*820*	*890*	*980*	*1075*	*720*	*790*	*870*	*970*
P7	—	—	—	—	245	265	295	320	235	255	285	315	210	225	250	280
	—	—	—	—	*800*	*870*	*970*	*1050*	*770*	*840*	*940*	*1025*	*690*	*740*	*820*	*920*
P8	—	—	—	—	225	245	270	305	220	235	265	295	195	210	235	265
	—	—	—	—	*740*	*800*	*890*	*1000*	*720*	*770*	*870*	*970*	*640*	*690*	*770*	*870*
P11	—	—	—	—	240	255	285	315	230	245	275	305	205	220	245	270
	—	—	—	—	*790*	*840*	*940*	*1025*	*750*	*800*	*900*	*1000*	*670*	*720*	*800*	*890*
P12	—	—	—	—	165	175	190	210	160	170	185	205	145	155	165	185
	—	—	—	—	*540*	*570*	*620*	*690*	*520*	*560*	*610*	*670*	*475*	*510*	*540*	*610*
K1	250	270	305	350	305	330	370	415	295	320	355	405	260	280	315	355
	820	*890*	*1000*	*1150*	*1000*	*1075*	*1225*	*1350*	*970*	*1050*	*1175*	*1325*	*850*	*920*	*1025*	*1175*
K2	225	245	270	310	280	300	330	370	270	290	320	360	240	255	285	320
	740	*800*	*890*	*1025*	*920*	*980*	*1075*	*1225*	*890*	*950*	*1050*	*1175*	*790*	*840*	*940*	*1050*
K3	190	205	230	260	235	255	280	310	230	245	270	305	200	215	240	270
	620	*670*	*750*	*850*	*770*	*840*	*920*	*1025*	*750*	*800*	*890*	*1000*	*660*	*710*	*790*	*890*
K4	185	200	220	250	225	240	265	295	220	235	260	290	190	205	230	255
	610	*660*	*720*	*820*	*740*	*790*	*870*	*970*	*720*	*770*	*850*	*950*	*620*	*670*	*750*	*840*
K5	115	125	135	155	140	150	165	185	135	145	160	180	120	130	140	160
	375	*410*	*445*	*510*	*460*	*490*	*540*	*610*	*445*	*475*	*520*	*590*	*395*	*425*	*460*	*520*
K6	160	175	195	220	200	215	235	260	190	205	225	255	170	180	200	225
	520	*570*	*640*	*720*	*660*	*710*	*770*	*850*	*620*	*670*	*740*	*840*	*560*	*590*	*660*	*740*
K7	145	155	170	200	180	195	210	235	175	190	205	230	155	165	180	205
	475	*510*	*560*	*660*	*590*	*640*	*690*	*770*	*570*	*620*	*670*	*750*	*510*	*540*	*590*	*670*
H5	—	—	—	—	44	47	50	60	—	—	—	—	34	37	40	45
	—	—	—	—	*145*	*155*	*165*	*195*	—	—	—	—	*110*	*120*	*130*	*150*
H11	—	—	—	—	55	60	65	75	—	—	—	—	43	47	50	60
	—	—	—	—	*180*	*195*	*215*	*245*	—	—	—	—	*140*	*155*	*165*	*195*
H12	—	—	—	—	85	90	100	115	—	—	—	—	65	70	80	90
	—	—	—	—	*280*	*295*	*330*	*375*	—	—	—	—	*215*	*230*	*260*	*295*



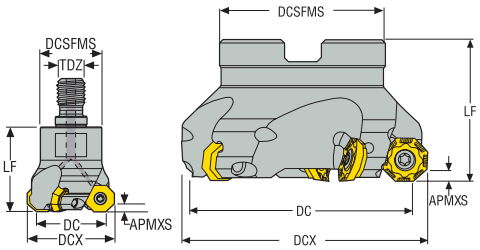
OCTOMILL 05/07

Octomill™ 05 and 07 provide one of the most comprehensive ranges of face milling cutters on the market. Designed to handle many applications, Octomill 05 and 07 offer high performance and process security. These cutters excel in medium to rough machining in steel and stainless steel. With eight edges, the cutters are more economical than traditional cutters due to a lower cost per cutting edge.

- Insert size 05, cutter range 32-315mm (1.5-4 inch)
- Insert size 07, cutter range 50-315mm (2.5-6 inch)
- Octomill 05 is for small machines and Octomill 07 is for medium sized machines

Octomill R217/R220.43-05 – Metric

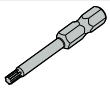




- For insert selection and cutting data recommendations, see page(s) 300 - 302
- For complete insert programme, see page(s) 815
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm		mm	mm		kg	
R217.43-1632.RE-05.3A	00005768	Combimaster	32,0	3	3,5	43,0	40,0	–	M16	30,0	40,0	14800	0,3	OFEX/OFMT05
R217.43-1642.RE-05.3A	00005769	Combimaster	42,0	3	3,5	43,0	50,0	–	M16	30,0	40,0	13000	0,3	OFEX/OFMT05
R220.43-0032-05	75069157	Arbor	32,0	3	3,5	43,0	41,0	16,0	–	35,0	40,0	14800	0,3	OFEX/OFMT05
R220.43-0040-05	75069158	Arbor	40,0	3	3,5	43,0	49,0	16,0	–	35,0	40,0	13200	0,3	OFEX/OFMT05
R220.43-0040-05-4A	00026516	Arbor	40,0	4	3,5	43,0	49,0	16,0	–	35,0	40,0	13200	0,3	OFEX/OFMT05
R220.43-0050-05	75069159	Arbor	50,0	4	3,5	43,0	59,0	22,0	–	47,0	40,0	11900	0,5	OFEX/OFMT05
R220.43-0050-05-5A	00026517	Arbor	50,0	5	3,5	43,0	59,0	22,0	–	47,0	40,0	11900	0,5	OFEX/OFMT05
R220.43-0063-05	75069160	Arbor	63,0	5	3,5	43,0	72,0	22,0	–	47,0	40,0	10600	0,6	OFEX/OFMT05
R220.43-0063-05-6A	00026518	Arbor	63,0	6	3,5	43,0	72,0	22,0	–	47,0	40,0	10600	0,6	OFEX/OFMT05
R220.43-0080-05	75069161	Arbor	80,0	6	3,5	43,0	89,0	27,0	–	62,0	50,0	9400	1,2	OFEX/OFMT05
R220.43-0080-05-8A	00026519	Arbor	80,0	8	3,5	43,0	89,0	27,0	–	62,0	50,0	9400	0,9	OFEX/OFMT05
R220.43-0100-05	75069162	Arbor	100,0	7	3,5	43,0	109,0	32,0	–	77,0	50,0	8400	1,9	OFEX/OFMT05
R220.43-0125-05	75079618	Arbor	125,0	8	3,5	43,0	134,0	40,0	–	90,0	63,0	7500	3,3	OFEX/OFMT05
R220.43-8160-05	75080766	Arbor	160,0	10	3,5	43,0	169,0	40,0	–	90,0	63,0	6600	5,5	OFEX/OFMT05

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.43-..	–	1/4HEX-T15PX50	C04008-T15P
R220.43-0032	220.17-690	1/4HEX-T15PX50	C04008-T15P
R220.43-0040	TCEI0825	1/4HEX-T15PX50	C04008-T15P
R220.43-0050-0063	220.17-692	1/4HEX-T15PX50	C04008-T15P
R220.43-0080	–	1/4HEX-T15PX50	C04008-T15P
R220.43-0100-8160	–	1/4HEX-T15PX90	C04008-T15P

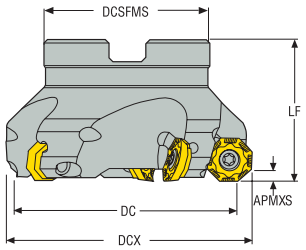
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R217/220.43-0032-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	T00-15P35
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	3.5NM	T00-15P35
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	3.5NM	T00-15P35
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Octomill R220.43-05 – inch

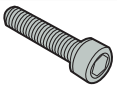
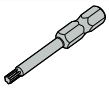




- For insert selection and cutting data recommendations, see page(s) 300 - 302
- For complete insert programme, see page(s) 815
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.43-01.50-05	00086837	Arbor	1.575	3	0.138	43.0	2.047	0.500	1.378	1.575	13200	0.660	OFEX/OFMT05
R220.43-02.00-05	00086838	Arbor	1.969	4	0.138	43.0	2.441	0.750	1.850	1.575	11900	1.100	OFEX/OFMT05
R220.43-02.50-05	00086839	Arbor	2.480	5	0.138	43.0	2.953	0.750	1.850	1.575	10600	1.320	OFEX/OFMT05
R220.43-03.00-05	00086840	Arbor	3.150	6	0.138	43.0	3.622	1.000	2.441	1.969	9400	2.430	OFEX/OFMT05
R220.43-04.00-05	00086841	Arbor	3.937	7	0.138	43.0	4.291	1.500	3.543	1.969	8400	3.970	OFEX/OFMT05

Spare Parts, included in delivery

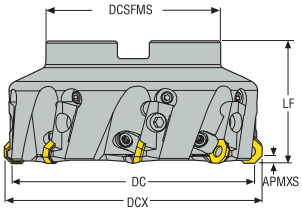
For cutter	Arbor screw	Insert key	Insert screw
			
R220.43-1.50	–	1/4HEX-T15PX50	C04008-T15P
R220.43-02.00	UC6S3/8UNFX1	1/4HEX-T15PX50	C04008-T15P
R220.43-02.50-03.00	–	1/4HEX-T15PX50	C04008-T15P
R220.43-04.00	–	1/4HEX-T15PX90	C04008-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.43-1.50	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	31.0IN.LBS	T00-15P35
R220.43-02.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Octomill R220.43-05C/CT/CG – Metric





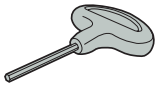
- For insert selection and cutting data recommendations, see page(s) 300 - 302
- For complete insert programme, see page(s) 815
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.43-0100-05C	00090985	Arbor	100,0	6	3,5	43,0	109,0	32,0	77,0	50,0	4300	2,5	OFEX05T305
R220.43-0125-05C	00090988	Arbor	125,0	8	3,5	43,0	134,0	40,0	90,0	63,0	3800	3,7	OFEX05T305
R220.43-0125-05CT	00090989	Arbor	125,0	10	3,5	43,0	134,0	40,0	90,0	63,0	3800	4,0	OFEX05T305
R220.43-8160-05C	00090991	Arbor	160,0	10	3,5	43,0	169,0	40,0	90,0	63,0	3300	5,8	OFEX05T305
R220.43-8160-05CT	00090992	Arbor	160,0	14	3,5	43,0	169,0	40,0	90,0	63,0	3300	5,8	OFEX05T305
R220.43-8200-05C	00090994	Arbor	200,0	12	3,5	43,0	209,0	60,0	130,0	63,0	3000	8,4	OFEX05T305
R220.43-8250-05C	00090997	Arbor	250,0	16	3,5	43,0	259,0	60,0	130,0	63,0	2700	14,3	OFEX05T305

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.43-0100	AU1114T-T15P	MC6S16X35	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-0125C	AU1114T-T15P	–	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-0125	AU1114T-T15P	–	OF05AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P
R220.43-8160C/CG	AU1114T-T15P	–	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160CT	AU1114T-T15P	–	OF05AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P
R220.43-8200-8250C/CG	AU1114T-T15P	–	OF05AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Nest key	Setting key
				
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	H05-4	T15P-4
R220.43-0125C	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	H05-4	T15P-4
R220.43-0125CT	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	T15P-4
R220.43-8160C/CG	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	H05-4	T15P-4
R220.43-8160CT	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	–	T15P-4
R220.43-8200-8250C/CG	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	H05-4	T15P-4

Torque and fixed keys, see page 872

R220.43-05 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,18 *0.0070*	0,22 *0.0085*
P2	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
P3	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P4	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
P5	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
P6	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
P7	OFEX05T305TN-M08 MP2501	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
P8	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P11	OFEX05T305TN-M08 MP3501	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
P12	OFEX05T305TN-M08 MP3501	1,7 *0.065*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,14 *0.0055*
M1	OFEX05T305TN-ME07 F40M	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,16 *0.0065*	0,20 *0.0080*
M2	OFEX05T305TN-ME07 F40M	2,0 *0.080*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,18 *0.0070*
M3	OFEX05T305TN-ME07 F40M	1,7 *0.065*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
M4	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*
M5	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*
K1	OFEX05T305TN-M08 MK1500	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
K2	OFEX05T305TN-M08 MK1500	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
K3	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
K4	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
K5	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
K6	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
K7	OFEX05T305TN-D09 MP1501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
N1	OFEX05T305N-E04 H15	2,0 *0.080*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
N2	OFEX05T305N-E04 H15	2,0 *0.080*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
N3	OFEX05T305N-E04 H15	2,0 *0.080*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
N11	OFEX05T305N-E04 H15	2,0 *0.080*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
S1	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*
S2	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*
S3	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,12 *0.0048*
S11	OFEX05T305TN-ME07 F40M	1,5 *0.060*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
S12	OFEX05T305TN-ME07 F40M	1,5 *0.060*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
S13	OFEX05T305TN-ME07 F40M	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*
H5	OFEX05T305TN-D09 MP1501	1,7 *0.065*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*
H8	OFEX05T305TN-D09 MP1501	1,5 *0.060*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,13 *0.0050*
H11	OFEX05T305TN-D09 MP1501	1,7 *0.065*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*
H12	OFEX05T305TN-D09 MP1501	1,5 *0.060*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,13 *0.0050*
H21	OFEX05T305TN-D09 MP1501	1,5 *0.060*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,13 *0.0050*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

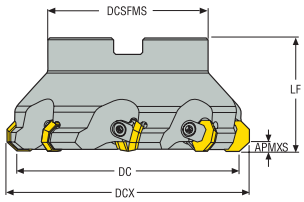
R217/220.43-05 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				F30M				F40M				H15				PCD20			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	285	305	335	375	235	255	285	320	—	—	—	—	—	—	—	—
	—	—	—	—	*940*	*1000*	*1100*	*1225*	*770*	*840*	*940*	*1050*	—	—	—	—	—	—	—	—
P2	—	—	—	—	275	295	320	365	230	250	270	310	—	—	—	—	—	—	—	—
	—	—	—	—	*900*	*970*	*1050*	*1200*	*750*	*820*	*890*	*1025*	—	—	—	—	—	—	—	—
P3	—	—	—	—	240	255	280	315	200	215	235	270	—	—	—	—	—	—	—	—
	—	—	—	—	*790*	*840*	*920*	*1025*	*660*	*710*	*770*	*890*	—	—	—	—	—	—	—	—
P4	—	—	—	—	210	225	250	280	180	190	210	235	—	—	—	—	—	—	—	—
	—	—	—	—	*690*	*740*	*820*	*920*	*590*	*620*	*690*	*770*	—	—	—	—	—	—	—	—
P5	—	—	—	—	205	220	235	270	170	185	205	230	—	—	—	—	—	—	—	—
	—	—	—	—	*670*	*720*	*770*	*890*	*560*	*610*	*670*	*750*	—	—	—	—	—	—	—	—
P6	—	—	—	—	230	245	265	300	195	210	225	260	—	—	—	—	—	—	—	—
	—	—	—	—	*750*	*800*	*870*	*980*	*640*	*690*	*740*	*850*	—	—	—	—	—	—	—	—
P7	—	—	—	—	215	230	250	285	185	195	215	245	—	—	—	—	—	—	—	—
	—	—	—	—	*710*	*750*	*820*	*940*	*610*	*640*	*710*	*800*	—	—	—	—	—	—	—	—
P8	—	—	—	—	200	215	235	265	170	185	200	225	—	—	—	—	—	—	—	—
	—	—	—	—	*660*	*710*	*770*	*870*	*560*	*610*	*660*	*740*	—	—	—	—	—	—	—	—
P11	—	—	—	—	210	225	245	275	175	190	210	240	—	—	—	—	—	—	—	—
	—	—	—	—	*690*	*740*	*800*	*900*	*570*	*620*	*690*	*790*	—	—	—	—	—	—	—	—
P12	—	—	—	—	135	145	160	175	115	125	135	155	—	—	—	—	—	—	—	—
	—	—	—	—	*445*	*475*	*520*	*570*	*375*	*410*	*445*	*510*	—	—	—	—	—	—	—	—
M1	—	—	—	—	220	240	260	295	185	200	220	250	—	—	—	—	—	—	—	—
	—	—	—	—	*720*	*790*	*850*	*970*	*610*	*660*	*720*	*820*	—	—	—	—	—	—	—	—
M2	—	—	—	—	185	195	215	240	155	165	180	210	—	—	—	—	—	—	—	—
	—	—	—	—	*610*	*640*	*710*	*790*	*510*	*540*	*590*	*690*	—	—	—	—	—	—	—	—
M3	—	—	—	—	145	155	170	195	125	135	145	165	—	—	—	—	—	—	—	—
	—	—	—	—	*475*	*510*	*560*	*640*	*410*	*445*	*475*	*540*	—	—	—	—	—	—	—	—
M4	—	—	—	—	115	120	130	150	95	105	115	130	—	—	—	—	—	—	—	—
	—	—	—	—	*375*	*395*	*425*	*490*	*310*	*345*	*375*	*425*	—	—	—	—	—	—	—	—
M5	—	—	—	—	95	100	110	125	80	85	95	105	—	—	—	—	—	—	—	—
	—	—	—	—	*310*	*330*	*360*	*410*	*260*	*280*	*310*	*345*	—	—	—	—	—	—	—	—
K1	300	320	350	395	220	235	255	290	185	195	215	250	—	—	—	—	—	—	—	—
	980	*1050*	*1150*	*1300*	*720*	*770*	*840*	*950*	*610*	*640*	*710*	*820*	—	—	—	—	—	—	—	—
K2	260	280	310	350	195	210	225	255	160	175	190	220	—	—	—	—	—	—	—	—
	850	*920*	*1025*	*1150*	*640*	*690*	*740*	*840*	*520*	*570*	*620*	*720*	—	—	—	—	—	—	—	—
K3	220	240	260	295	165	175	190	215	135	145	165	185	—	—	—	—	—	—	—	—
	720	*790*	*850*	*970*	*540*	*570*	*620*	*710*	*445*	*475*	*540*	*610*	—	—	—	—	—	—	—	—
K4	210	225	250	285	155	170	180	205	130	140	155	180	—	—	—	—	—	—	—	—
	690	*740*	*820*	*940*	*510*	*560*	*590*	*670*	*425*	*460*	*510*	*590*	—	—	—	—	—	—	—	—
K5	130	140	150	170	95	100	110	125	80	85	95	105	—	—	—	—	—	—	—	—
	425	*460*	*490*	*560*	*310*	*330*	*360*	*410*	*260*	*280*	*310*	*345*	—	—	—	—	—	—	—	—
K6	185	200	220	250	140	150	160	180	115	125	135	155	—	—	—	—	—	—	—	—
	610	*660*	*720*	*820*	*460*	*490*	*520*	*590*	*375*	*410*	*445*	*510*	—	—	—	—	—	—	—	—
K7	165	175	195	220	120	130	145	160	105	110	120	135	—	—	—	—	—	—	—	—
	540	*570*	*640*	*720*	*395*	*425*	*475*	*520*	*345*	*360*	*395*	*445*	—	—	—	—	—	—	—	—
N1	2200	2375	2625	2925	1600	1725	1900	2175	1325	1425	1600	1800	1750	1875	2075	2325	2050	2050	2050	2050
	7225	*7800*	*8600*	*9600*	*5250*	*5650*	*6225*	*7125*	*4350*	*4675*	*5250*	*5900*	*5750*	*6150*	*6800*	*7625*	*6725*	*6725*	*6725*	*6725*
N2	890	960	1050	1175	640	690	770	870	540	580	640	730	700	760	840	940	1450	1450	1450	1450
	2925	*3150*	*3450*	*3850*	*2100*	*2275*	*2525*	*2850*	*1775*	*1900*	*2100*	*2400*	*2300*	*2500*	*2750*	*3075*	*4750*	*4750*	*4750*	*4750*
N3	590	640	700	790	430	465	510	580	355	385	430	485	470	500	560	630	—	—	—	—
	1925	*2100*	*2300*	*2600*	*1400*	*1525*	*1675*	*1900*	*1175*	*1275*	*1400*	*1600*	*1550*	*1650*	*1825*	*2075*	—	—	—	—
N11	680	730	800	900	490	530	590	670	410	440	490	550	540	580	640	720	900	900	900	900
	2225	*2400*	*2625*	*2950*	*1600*	*1750*	*1925*	*2200*	*1350*	*1450*	*1600*	*1800*	*1775*	*1900*	*2100*	*2350*	*2950*	*2950*	*2950*	*2950*
S1	—	—	—	—	—	—	—	—	45	48	55	60	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*150*	*155*	*180*	*195*	—	—	—	—	—	—	—	—
S2	—	—	—	—	—	—	—	—	36	39	43	48	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*155*	—	—	—	—	—	—	—	—
S3	—	—	—	—	—	—	—	—	32	34	38	42	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*105*	*110*	*125*	*140*	—	—	—	—	—	—	—	—
S11	—	—	—	—	—	—	—	—	60	65	75	85	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*195*	*215*	*245*	*280*	—	—	—	—	—	—	—	—
S12	—	—	—	—	—	—	—	—	43	46	50	60	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*195*	—	—	—	—	—	—	—	—
S13	—	—	—	—	—	—	—	—	25	27	30	34	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*80*	*90*	*100*	*110*	—	—	—	—	—	—	—	—
H5	—	—	—	—	45	48	55	60	38	41	45	50	—	—	—	—	—	—	—	—
	—	—	—	—	*150*	*155*	*180*	*195*	*125*	*135*	*150*	*165*	—	—	—	—	—	—	—	—
H8	—	—	—	—	47	50	55	60	40	43	48	55	—	—	—	—	—	—	—	—
	—	—	—	—	*155*	*165*	*180*	*195*	*130*	*140*	*155*	*180*	—	—	—	—	—	—	—	—
H11	—	—	—	—	55	60	65	75	49	50	55	65	—	—	—	—	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*245*	*160*	*165*	*180*	*215*	—	—	—	—	—	—	—	—
H12	—	—	—	—	85	90	100	110	70	80	85	95	—	—	—	—	—	—	—	—
	—	—	—	—	*280*	*295*	*330*	*360*	*230*	*260*	*280*	*310*	—	—	—	—	—	—	—	—
H21	—	—	—	—	47	50	55	60	40	43	48	55	—	—	—	—	—	—	—	—
	—	—	—	—	*155*	*165*	*180*	*195*	*130*	*140*	*155*	*180*	—	—	—	—	—	—	—	—

R217/220.43-05 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501				T25M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	415	425	455	495	420	430	460	500	375	385	410	450	285	305	325	360
	—	—	—	—	*1350*	*1400*	*1500*	*1625*	*1375*	*1400*	*1500*	*1650*	*1225*	*1275*	*1350*	*1475*	*940*	*1000*	*1075*	*1175*
P2	—	—	—	—	405	415	440	470	410	420	445	480	365	375	400	430	280	295	315	350
	—	—	—	—	*1325*	*1350*	*1450*	*1550*	*1350*	*1375*	*1450*	*1575*	*1200*	*1225*	*1300*	*1400*	*920*	*970*	*1025*	*1150*
P3	—	—	—	—	350	365	385	415	355	370	390	415	320	330	350	375	245	260	280	310
	—	—	—	—	*1150*	*1200*	*1275*	*1350*	*1175*	*1225*	*1275*	*1350*	*1050*	*1075*	*1150*	*1225*	*800*	*850*	*920*	*1025*
P4	—	—	—	—	310	320	340	370	315	325	345	370	280	290	310	335	215	225	245	270
	—	—	—	—	*1025*	*1050*	*1125*	*1225*	*1025*	*1075*	*1125*	*1225*	*920*	*950*	*1025*	*1100*	*710*	*740*	*800*	*890*
P5	—	—	—	—	295	305	325	350	300	310	330	355	270	275	295	320	205	215	235	260
	—	—	—	—	*970*	*1000*	*1075*	*1150*	*980*	*1025*	*1075*	*1175*	*890*	*900*	*970*	*1050*	*670*	*710*	*770*	*850*
P6	—	—	—	—	335	350	370	395	340	355	375	400	305	315	335	360	235	250	265	290
	—	—	—	—	*1100*	*1150*	*1225*	*1300*	*1125*	*1175*	*1225*	*1300*	*1000*	*1025*	*1100*	*1175*	*770*	*820*	*870*	*950*
P7	—	—	—	—	315	330	350	375	320	335	350	375	290	300	315	340	220	235	250	275
	—	—	—	—	*1025*	*1075*	*1150*	*1225*	*1050*	*1100*	*1150*	*1225*	*950*	*980*	*1025*	*1125*	*720*	*770*	*820*	*900*
P8	—	—	—	—	295	305	325	345	300	310	330	350	270	275	295	315	205	215	235	260
	—	—	—	—	*970*	*1000*	*1075*	*1125*	*980*	*1025*	*1075*	*1150*	*890*	*900*	*970*	*1025*	*670*	*710*	*770*	*850*
P11	—	—	—	—	310	320	340	360	315	325	340	365	280	290	310	330	215	225	245	265
	—	—	—	—	*1025*	*1050*	*1125*	*1175*	*1025*	*1075*	*1125*	*1200*	*920*	*950*	*1025*	*1075*	*710*	*740*	*800*	*870*
P12	—	—	—	—	195	205	215	230	200	205	220	230	180	185	195	205	140	145	155	175
	—	—	—	—	*640*	*670*	*710*	*750*	*660*	*670*	*720*	*750*	*590*	*610*	*640*	*670*	*460*	*475*	*510*	*570*
M1	—	—	—	—	—	—	—	—	205	220	235	260	195	205	220	240	225	235	255	285
	—	—	—	—	—	—	—	—	*670*	*720*	*770*	*850*	*640*	*670*	*720*	*790*	*740*	*770*	*840*	*940*
M2	—	—	—	—	—	—	—	—	170	180	195	215	160	170	180	200	185	195	210	235
	—	—	—	—	—	—	—	—	*560*	*590*	*640*	*710*	*520*	*560*	*590*	*660*	*610*	*640*	*690*	*770*
M3	—	—	—	—	—	—	—	—	140	150	160	170	130	140	150	160	150	160	170	185
	—	—	—	—	—	—	—	—	*460*	*490*	*520*	*560*	*425*	*460*	*490*	*520*	*490*	*520*	*560*	*610*
M4	—	—	—	—	—	—	—	—	105	115	120	135	100	105	115	125	115	120	130	145
	—	—	—	—	—	—	—	—	*345*	*375*	*395*	*445*	*330*	*345*	*375*	*410*	*375*	*395*	*425*	*475*
M5	—	—	—	—	—	—	—	—	90	95	100	110	85	90	95	105	95	100	110	120
	—	—	—	—	—	—	—	—	*295*	*310*	*330*	*360*	*280*	*295*	*310*	*345*	*310*	*330*	*360*	*395*
K1	325	340	370	405	405	420	445	475	410	425	450	485	370	380	405	435	220	235	250	280
	1075	*1125*	*1225*	*1325*	*1325*	*1375*	*1450*	*1550*	*1350*	*1400*	*1475*	*1600*	*1225*	*1250*	*1325*	*1425*	*720*	*770*	*820*	*920*
K2	285	300	325	360	355	370	390	425	360	375	395	430	325	335	355	385	195	205	220	245
	940	*980*	*1075*	*1175*	*1175*	*1225*	*1275*	*1400*	*1175*	*1225*	*1300*	*1400*	*1075*	*1100*	*1175*	*1275*	*640*	*670*	*720*	*800*
K3	240	255	275	305	300	310	330	360	305	315	335	365	275	285	300	325	165	175	185	210
	790	*840*	*900*	*1000*	*980*	*1025*	*1075*	*1175*	*1000*	*1025*	*1100*	*1200*	*900*	*940*	*980*	*1075*	*540*	*570*	*610*	*690*
K4	230	245	260	290	290	300	315	345	290	300	320	345	265	270	285	310	155	165	180	200
	750	*800*	*850*	*950*	*950*	*980*	*1025*	*1125*	*950*	*980*	*1050*	*1125*	*870*	*890*	*940*	*1025*	*510*	*540*	*590*	*660*
K5	140	150	160	180	175	185	195	210	180	185	195	210	160	165	175	190	95	105	110	120
	460	*490*	*520*	*590*	*570*	*610*	*640*	*690*	*590*	*610*	*640*	*690*	*520*	*540*	*570*	*620*	*310*	*345*	*360*	*395*
K6	200	215	230	255	255	265	280	305	260	265	280	305	230	240	255	275	140	145	160	175
	660	*710*	*750*	*840*	*840*	*870*	*920*	*1000*	*850*	*870*	*920*	*1000*	*750*	*790*	*840*	*900*	*460*	*475*	*520*	*570*
K7	180	190	205	230	225	235	250	270	230	240	250	270	205	215	225	245	125	130	140	155
	590	*620*	*670*	*750*	*740*	*770*	*820*	*890*	*750*	*790*	*820*	*890*	*670*	*710*	*740*	*800*	*410*	*425*	*460*	*510*
N1	—	—	—	—	—	—	—	—	—	—	—	—	1450	1525	1650	1825	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*4750*	*5000*	*5425*	*6000*	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	580	620	660	740	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1900*	*2025*	*2175*	*2425*	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	390	410	445	495	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1275*	*1350*	*1450*	*1625*	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	445	470	510	560	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1450*	*1550*	*1675*	*1825*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	47	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*160*	*180*	*195*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	38	40	43	47	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*130*	*140*	*155*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	35	38	41	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*115*	*125*	*135*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	80	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	47	50	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	33	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*100*	*110*	—	—	—	—
H5	—	—	—	—	50	55	60	65	—	—	—	—	42	44	47	50	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*140*	*145*	*155*	*165*	—	—	—	—
H8	—	—	—	—	55	60	65	70	—	—	—	—	44	46	50	55	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*150*	*165*	*180*	—	—	—	—
H11	—	—	—	—	65	70	75	85	—	—	—	—	55	55	60	65	—	—	—	—
	—	—	—	—	*215*	*230*	*245*	*280*	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—
H12	—	—	—	—	100	105	115	125	—	—	—	—	80	85	90	100	—	—	—	—
	—	—	—	—	*330*	*345*	*375*	*410*	—	—	—	—	*260*	*280*	*295*	*330*	—	—	—	—
H21	—	—	—	—	55	60	65	70	—	—	—	—	44	46	50	55	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	*145*	*150*	*165*	*180*	—	—	—	—

Octomill R220.43-07W – Metric

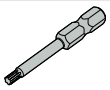




- For insert selection and cutting data recommendations, see page(s) 307-309
- For complete insert programme, see page(s) 814
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.43-0050-07W	00034758	Arbor	50,0	4	5,0	43,0	62,0	22,0	47,0	60,0	6300	0,7	OF..0704
R220.43-0063-07W	00005691	Arbor	63,0	4	5,0	43,0	75,0	22,0	47,0	40,0	5600	0,6	OF..0704
R220.43-0080-07W	00005692	Arbor	80,0	5	5,0	43,0	92,0	27,0	62,0	50,0	5000	1,3	OF..0704
R220.43-0100-07W	00005693	Arbor	100,0	6	5,0	43,0	112,0	32,0	77,0	50,0	4400	1,8	OF..0704
R220.43-0125-07W	00005694	Arbor	125,0	8	5,0	43,0	137,0	40,0	90,0	63,0	4000	2,8	OF..0704
R220.43-8160-07W	00005695	Arbor	160,0	10	5,0	43,0	172,0	40,0	90,0	63,0	3500	5,1	OF..0704

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert wedge	Wedge screw
				
R220.43-0050	220.17-696	1/4HEX-T25PX50	334.5-640	LD8018-T25P
R220.43-0063	MF6S10X40	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-0080	MC6S12X35	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-0100-8160	–	1/4HEX-T25PX50	CW0810	LD8018-T25P

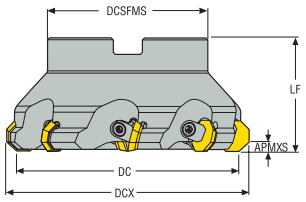
Accessories

For cutter	Adjustable Torque key	Arbor screw
		
R220.43-0050-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40

Torque and fixed keys, see page 872

Octomill R220.43-07W – inch

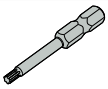
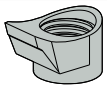




- For insert selection and cutting data recommendations, see page(s) 307-309
- For complete insert programme, see page(s) 814
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.43-02.50-07W	00003262	Arbor	2.480	4	0.197	43.0	2.953	0.750	1.850	1.575	6000	1.540	OF..0704
R220.43-03.00-07W	00003266	Arbor	3.150	5	0.197	43.0	3.622	1.000	2.441	1.969	5000	2.870	OF..0704
R220.43-04.00-07W	00003268	Arbor	3.937	6	0.197	43.0	4.409	1.500	3.543	1.969	4400	4.630	OF..0704
R220.43-05.00-07W	00003273	Arbor	4.921	8	0.197	43.0	5.394	1.500	3.543	2.480	4000	7.720	OF..0704
R220.43-06.00-07W	00003278	Arbor	6.299	10	0.197	43.0	6.772	2.000	4.331	2.480	3500	10.360	OF..0704

Spare Parts, included in delivery

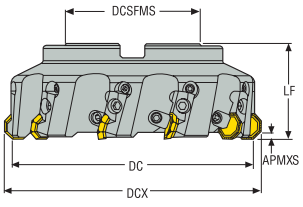
For cutter	Arbor screw	Insert key	Insert wedge	Wedge screw
				
R220.43-02.50	UF6S3/8UNFX11/2	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-03.00	UF6S1/2UNFX1-1/2	1/4HEX-T25PX50	CW0810	LD8018-T25P
R220.43-04.00	UF6S3/4UNFX2	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-05.00-06.00	–	1/4HEX-T25PX50	CW0810	LD8018-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw
		
R220.43-02.50-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	–
R220.43-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	58215080

Torque and fixed keys, see page 872

Octomill R220.43-07C/CG/CT – Metric

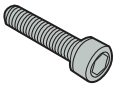
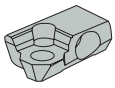
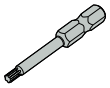
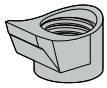




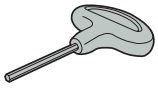
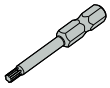
- For insert selection and cutting data recommendations, see page(s) 307-309
- For complete insert programme, see page(s) 814
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.43-0100-07C	75077234	Arbor	100,0	6	5,0	43,0	112,0	32,0	77,0	50,0	4300	2,4	OF..0704
R220.43-0125-07C	75077237	Arbor	125,0	8	5,0	43,0	137,0	40,0	90,0	63,0	3800	3,7	OF..0704
R220.43-8160-07C	75077240	Arbor	160,0	10	5,0	43,0	172,0	40,0	90,0	63,0	3300	5,7	OF..0704
R220.43-8160-07CT	75077241	Arbor	160,0	14	5,0	43,0	172,0	40,0	90,0	63,0	3300	5,6	OF..0704
R220.43-8200-07C	75077243	Arbor	200,0	12	5,0	43,0	212,0	60,0	130,0	63,0	3000	8,3	OF..0704
R220.43-8250-07C	75077246	Arbor	250,0	16	5,0	43,0	262,0	60,0	130,0	63,0	2700	14,3	OF..0704

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.43-0100-C	AU1114T-T15P	MC6S16X35	OF07AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-0125-8200-C	AU1114T-T15P	–	OF07AR	FS96018	1/4HEX-T25PX50	CW0810	LD8020-T25P
R220.43-8160-CT	AU1114T-T15P	–	OF07AR	FS96018	1/4HEX-T25PX50	334.5-640	LD8020-T25P

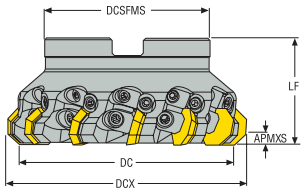
Accessories

For cutter	Adjustable Torque key	Arbor screw	Nest key	Setting key
				
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	H05-4	1/4HEX-T15PX50
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	H05-4	1/4HEX-T15PX50
R220.43-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	H05-4	1/4HEX-T15PX50
R220.43-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	H05-4	1/4HEX-T15PX50

Torque and fixed keys, see page 872

Octomill R220.43-07T – Metric

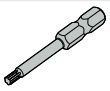
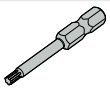




- For insert selection and cutting data recommendations, see page(s) 307-309
- For complete insert programme, see page(s) 814
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.43-0063-07-6T	00004368	Arbor	63,0	6	5,0	43,0	75,0	22,0	47,0	50,0	5600	0,9	OF..0704
R220.43-0080-07-9T	00004369	Arbor	80,0	9	5,0	43,0	92,0	27,0	62,0	50,0	5000	1,2	OF..0704
R220.43-0100-07-12T	00004371	Arbor	100,0	12	5,0	43,0	112,0	32,0	77,0	50,0	4400	1,6	OF..0704
R220.43-0125-07-15T	00004372	Arbor	125,0	15	5,0	43,0	137,0	40,0	90,0	63,0	4000	3,1	OF..0704

Spare Parts, included in delivery

For cutter	Arbor screw	Axial setting unit	Insert key	Insert wedge	Setting key	Setting screw (axial)	Wedge clamp axial adj.	Wedge screw
								
R220.43-0063	MF6S10X40	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P
R220.43-0080	MC6S12X35	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P
R220.43-0100-0125	–	AS6011	1/4HEX-T25PX50	334.5-640	1/4HEX-T15PX50	LD6019-T15P	CW0608	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw
		
R220.43-0063-0080	1/4HEX-S-HANDLE-0.8-5.0NM	–
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020

Torque and fixed keys, see page 872

R220.43-07 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OFER070405TN-ME15 MP3501	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
P2	OFER070405TN-ME15 MP3501	3,0 *0.12*	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
P3	OFER070405TN-M16 MP2501	3,0 *0.12*	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
P4	OFER070405TN-M16 MP2501	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
P5	OFER070405TN-M16 MP2501	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
P6	OFER070405TN-M16 MP2501	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
P7	OFER070405TN-M16 MP3501	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
P8	OFER070405TN-M16 MP3501	3,0 *0.12*	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
P11	OFER070405TN-ME15 MP3501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P12	OFER070405TN-ME15 MP3501	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,26 *0.010*
M1	OFER070405TN-ME10 F40M	3,0 *0.12*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
M2	OFER070405TN-ME10 F40M	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
M3	OFER070405TN-ME15 MP3501	2,5 *0.10*	0,25 *0.010*	0,25 *0.010*	0,25 *0.010*	0,32 *0.013*
M4	OFER070405TN-ME15 MP3501	1,8 *0.070*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
M5	OFER070405TN-ME15 MP3501	1,8 *0.070*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
K1	OFER070405TN-M16 MK1500	3,0 *0.12*	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,46 *0.018*
K2	OFER070405TN-M16 MK1500	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
K3	OFER070405TN-M16 MP1501	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
K4	OFER070405TN-M16 MP1501	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
K5	OFER070405TN-M16 MP1501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*
K6	OFER070405TN-M16 MK2050	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,34 *0.013*	0,42 *0.017*
K7	OFER070405TN-M16 MK2050	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*
N1	OFER070405N-E07 H15	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
N2	OFER070405N-E07 H15	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
N3	OFER070405N-E07 H15	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
N11	OFER070405N-E07 H15	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
S1	OFER070405TN-ME15 T350M	1,8 *0.070*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
S2	OFER070405TN-ME15 T350M	1,8 *0.070*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
S3	OFER070405TN-ME15 T350M	1,8 *0.070*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
S11	OFER070405TN-ME10 F40M	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
S12	OFER070405TN-ME10 F40M	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
S13	OFER070405TN-ME10 F40M	1,8 *0.070*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,19 *0.0075*
H5	OFEN070405TN-D18 MP3000	2,5 *0.10*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
H8	OFEN070405TN-D18 MP3000	2,0 *0.080*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H11	OFEN070405TN-D18 MP1501	2,5 *0.10*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,32 *0.013*
H12	OFEN070405TN-D18 MP1501	2,0 *0.080*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*
H21	OFEN070405TN-D18 MP1501	2,0 *0.080*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,24 *0.0095*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.43-07 – Cutting data v_c = (m/min)/*(sf/min)*

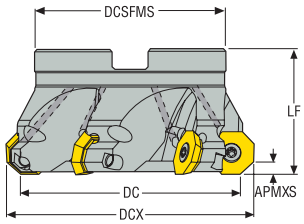
SMG	F15M				MK2050				F30M				F40M				H15			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	—	—	—	—	265	285	315	360	245	265	295	330	210	225	245	280	—	—	—	—
	—	—	—	—	*870*	*940*	*1025*	*1175*	*800*	*870*	*970*	*1075*	*690*	*740*	*800*	*920*	—	—	—	—
P2	—	—	—	—	255	275	305	345	240	260	290	325	200	215	240	275	—	—	—	—
	—	—	—	—	*840*	*900*	*1000*	*1125*	*790*	*850*	*950*	*1075*	*660*	*710*	*790*	*900*	—	—	—	—
P3	—	—	—	—	220	240	270	305	210	230	250	285	175	190	210	240	—	—	—	—
	—	—	—	—	*720*	*790*	*890*	*1000*	*690*	*750*	*820*	*940*	*570*	*620*	*690*	*790*	—	—	—	—
P4	—	—	—	—	200	215	235	270	185	200	220	250	155	170	185	210	—	—	—	—
	—	—	—	—	*660*	*710*	*770*	*890*	*610*	*660*	*720*	*820*	*510*	*560*	*610*	*690*	—	—	—	—
P5	—	—	—	—	190	205	225	255	180	195	215	240	150	160	175	205	—	—	—	—
	—	—	—	—	*620*	*670*	*740*	*840*	*590*	*640*	*710*	*790*	*490*	*520*	*570*	*670*	—	—	—	—
P6	—	—	—	—	215	230	260	295	200	215	240	270	170	180	205	230	—	—	—	—
	—	—	—	—	*710*	*750*	*850*	*970*	*660*	*710*	*790*	*890*	*560*	*590*	*670*	*750*	—	—	—	—
P7	—	—	—	—	200	220	245	275	190	205	225	255	160	170	190	215	—	—	—	—
	—	—	—	—	*660*	*720*	*800*	*900*	*620*	*670*	*740*	*840*	*520*	*560*	*620*	*710*	—	—	—	—
P8	—	—	—	—	185	200	225	255	180	195	210	240	145	160	175	200	—	—	—	—
	—	—	—	—	*610*	*660*	*740*	*840*	*590*	*640*	*690*	*790*	*475*	*520*	*570*	*660*	—	—	—	—
P11	—	—	—	—	195	210	235	270	185	200	220	250	155	165	185	210	—	—	—	—
	—	—	—	—	*640*	*690*	*770*	*890*	*610*	*660*	*720*	*820*	*510*	*540*	*610*	*690*	—	—	—	—
P12	—	—	—	—	130	140	155	175	120	130	145	160	105	110	120	140	—	—	—	—
	—	—	—	—	*425*	*460*	*510*	*570*	*395*	*425*	*475*	*520*	*345*	*360*	*395*	*460*	—	—	—	—
M1	—	—	—	—	—	—	—	—	195	210	230	260	160	175	195	220	—	—	—	—
	—	—	—	—	—	—	—	—	*640*	*690*	*750*	*850*	*520*	*570*	*640*	*720*	—	—	—	—
M2	—	—	—	—	—	—	—	—	160	175	195	215	135	145	160	185	—	—	—	—
	—	—	—	—	—	—	—	—	*520*	*570*	*640*	*710*	*445*	*475*	*520*	*610*	—	—	—	—
M3	—	—	—	—	—	—	—	—	130	140	155	175	110	120	130	150	—	—	—	—
	—	—	—	—	—	—	—	—	*425*	*460*	*510*	*570*	*360*	*395*	*425*	*490*	—	—	—	—
M4	—	—	—	—	—	—	—	—	100	105	120	135	85	90	100	115	—	—	—	—
	—	—	—	—	—	—	—	—	*330*	*345*	*395*	*445*	*280*	*295*	*330*	*375*	—	—	—	—
M5	—	—	—	—	—	—	—	—	85	90	100	115	70	75	85	100	—	—	—	—
	—	—	—	—	—	—	—	—	*280*	*295*	*330*	*375*	*230*	*245*	*280*	*330*	—	—	—	—
K1	270	290	325	365	275	295	330	370	190	205	230	255	155	170	190	215	—	—	—	—
	890	*950*	*1075*	*1200*	*900*	*970*	*1075*	*1225*	*620*	*670*	*750*	*840*	*510*	*560*	*620*	*710*	—	—	—	—
K2	245	260	285	325	245	265	290	330	170	185	205	225	140	155	170	195	—	—	—	—
	800	*850*	*940*	*1075*	*800*	*870*	*950*	*1075*	*560*	*610*	*670*	*740*	*460*	*510*	*560*	*640*	—	—	—	—
K3	205	220	240	275	210	225	245	280	145	155	170	190	120	130	140	165	—	—	—	—
	670	*720*	*790*	*900*	*690*	*740*	*800*	*920*	*475*	*510*	*560*	*620*	*395*	*425*	*460*	*540*	—	—	—	—
K4	195	210	230	260	200	215	235	270	135	150	165	185	115	125	135	155	—	—	—	—
	640	*690*	*750*	*850*	*660*	*710*	*770*	*890*	*445*	*490*	*540*	*610*	*375*	*410*	*445*	*510*	—	—	—	—
K5	120	130	140	160	120	130	145	165	85	90	100	110	70	75	85	95	—	—	—	—
	395	*425*	*460*	*520*	*395*	*425*	*475*	*540*	*280*	*295*	*330*	*360*	*230*	*245*	*280*	*310*	—	—	—	—
K6	175	185	205	230	175	190	210	235	120	130	145	160	100	110	120	140	—	—	—	—
	570	*610*	*670*	*750*	*570*	*620*	*690*	*770*	*395*	*425*	*475*	*520*	*330*	*360*	*395*	*460*	—	—	—	—
K7	155	165	180	205	155	165	185	215	110	115	125	145	90	95	110	125	—	—	—	—
	510	*540*	*590*	*670*	*510*	*540*	*610*	*710*	*360*	*375*	*410*	*475*	*295*	*310*	*360*	*410*	—	—	—	—
N1	2000	2175	2425	2725	—	—	—	—	1400	1500	1650	1875	1150	1250	1375	1575	1600	1725	1900	2150
	6550	*7125*	*7950*	*8950*	—	—	—	—	*4600*	*4925*	*5425*	*6150*	*3775*	*4100*	*4500*	*5175*	*5250*	*5650*	*6225*	*7050*
N2	810	880	970	1100	—	—	—	—	560	610	670	760	465	510	560	630	640	690	770	870
	2650	*2875*	*3175*	*3600*	—	—	—	—	*1825*	*2000*	*2200*	*2500*	*1525*	*1675*	*1825*	*2075*	*2100*	*2275*	*2525*	*2850*
N3	540	580	650	730	—	—	—	—	375	405	445	510	310	335	375	420	430	460	510	580
	1775	*1900*	*2125*	*2400*	—	—	—	—	*1225*	*1325*	*1450*	*1675*	*1025*	*1100*	*1225*	*1375*	*1400*	*1500*	*1675*	*1900*
N11	620	670	740	840	—	—	—	—	430	465	510	580	355	385	425	480	490	530	590	660
	2025	*2200*	*2425*	*2750*	—	—	—	—	*1400*	*1525*	*1675*	*1900*	*1175*	*1275*	*1400*	*1575*	*1600*	*1750*	*1925*	*2175*
S1	—	—	—	—	—	—	—	—	—	—	—	—	40	43	48	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*155*	*180*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	32	34	38	44	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*105*	*110*	*125*	*145*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	28	31	34	38	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*110*	*125*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	55	60	65	75	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*215*	*245*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	38	42	46	50	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*140*	*150*	*165*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	22	24	27	31	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*80*	*90*	*100*	—	—	—	—
H5	—	—	—	—	—	—	—	—	40	43	47	55	34	37	40	46	—	—	—	—
	—	—	—	—	—	—	—	—	*130*	*140*	*155*	*180*	*110*	*120*	*130*	*150*	—	—	—	—
H8	—	—	—	—	—	—	—	—	42	45	50	55	37	39	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*	*120*	*130*	*145*	*160*	—	—	—	—
H11	—	—	—	—	—	—	—	—	50	55	60	70	44	47	50	60	—	—	—	—
	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*230*	*145*	*155*	*165*	*195*	—	—	—	—
H12	—	—	—	—	—	—	—	—	75	80	90	105	65	70	80	90	—	—	—	—
	—	—	—	—	—	—	—	—	*245*	*260*	*295*	*345*	*215*	*230*	*260*	*295*	—	—	—	—
H21	—	—	—	—	—	—	—	—	42	45	50	55	37	39	44	49	—	—	—	—
	—	—	—	—	—	—	—	—	*140*	*150*	*165*	*180*	*120*	*130*	*145*	*160*	—	—	—	—

R220.43-07 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MP3501				T25M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	360	370	400	435	350	360	385	420	360	365	395	430	210	225	245	265
	—	—	—	—	*1175*	*1225*	*1300*	*1425*	*1150*	*1175*	*1275*	*1375*	*1175*	*1200*	*1300*	*1400*	*690*	*740*	*800*	*870*
P2	—	—	—	—	345	350	380	420	335	340	365	410	340	345	375	420	205	215	230	260
	—	—	—	—	*1125*	*1150*	*1250*	*1375*	*1100*	*1125*	*1200*	*1350*	*1125*	*1125*	*1225*	*1375*	*670*	*710*	*750*	*850*
P3	—	—	—	—	305	310	335	370	295	300	325	360	300	305	330	370	180	190	205	230
	—	—	—	—	*1000*	*1025*	*1100*	*1225*	*970*	*980*	*1075*	*1175*	*980*	*1000*	*1075*	*1225*	*590*	*620*	*670*	*750*
P4	—	—	—	—	275	280	300	325	265	270	290	315	270	280	300	325	160	170	185	200
	—	—	—	—	*900*	*920*	*980*	*1075*	*870*	*890*	*950*	*1025*	*890*	*920*	*980*	*1075*	*520*	*560*	*610*	*660*
P5	—	—	—	—	260	265	285	310	255	260	280	305	260	265	285	310	150	160	175	190
	—	—	—	—	*850*	*870*	*940*	*1025*	*840*	*850*	*920*	*1000*	*850*	*870*	*940*	*1025*	*490*	*520*	*570*	*620*
P6	—	—	—	—	295	300	320	355	285	290	310	350	290	300	320	355	170	180	195	220
	—	—	—	—	*970*	*980*	*1050*	*1175*	*940*	*950*	*1025*	*1150*	*950*	*980*	*1050*	*1175*	*560*	*590*	*640*	*720*
P7	—	—	—	—	275	285	305	335	270	275	295	330	275	280	300	335	160	170	185	205
	—	—	—	—	*900*	*940*	*1000*	*1100*	*890*	*900*	*970*	*1075*	*900*	*920*	*980*	*1100*	*520*	*560*	*610*	*670*
P8	—	—	—	—	255	260	280	310	245	250	270	305	250	255	275	310	150	160	170	190
	—	—	—	—	*840*	*850*	*920*	*1025*	*800*	*820*	*890*	*1000*	*820*	*840*	*900*	*1025*	*490*	*520*	*560*	*620*
P11	—	—	—	—	270	275	295	325	260	265	285	320	265	275	295	325	155	165	180	200
	—	—	—	—	*890*	*900*	*970*	*1075*	*850*	*870*	*940*	*1050*	*870*	*900*	*970*	*1075*	*510*	*540*	*590*	*660*
P12	—	—	—	—	180	185	200	215	175	180	195	210	185	190	200	215	105	110	120	130
	—	—	—	—	*590*	*610*	*660*	*710*	*570*	*590*	*640*	*690*	*610*	*620*	*660*	*710*	*345*	*360*	*395*	*425*
M1	—	—	—	—	—	—	—	—	175	185	200	225	185	200	215	240	165	175	185	210
	—	—	—	—	—	—	—	—	*570*	*610*	*660*	*740*	*610*	*660*	*710*	*790*	*540*	*570*	*610*	*690*
M2	—	—	—	—	—	—	—	—	145	155	170	185	155	165	180	195	135	145	155	170
	—	—	—	—	—	—	—	—	*475*	*510*	*560*	*610*	*510*	*540*	*590*	*640*	*445*	*475*	*510*	*560*
M3	—	—	—	—	—	—	—	—	120	125	135	155	130	135	145	160	110	120	130	140
	—	—	—	—	—	—	—	—	*395*	*410*	*445*	*510*	*425*	*445*	*475*	*520*	*360*	*395*	*425*	*460*
M4	—	—	—	—	—	—	—	—	90	100	105	115	100	105	115	125	85	90	100	110
	—	—	—	—	—	—	—	—	*295*	*330*	*345*	*375*	*330*	*345*	*375*	*410*	*280*	*295*	*330*	*360*
M5	—	—	—	—	—	—	—	—	75	80	90	100	85	90	95	105	70	75	80	90
	—	—	—	—	—	—	—	—	*245*	*260*	*295*	*330*	*280*	*295*	*310*	*345*	*230*	*245*	*260*	*295*
K1	280	295	320	355	345	355	380	425	335	345	370	415	345	350	375	420	160	170	185	205
	920	*970*	*1050*	*1175*	*1125*	*1175*	*1250*	*1400*	*1100*	*1125*	*1225*	*1350*	*1125*	*1150*	*1225*	*1375*	*520*	*560*	*610*	*670*
K2	250	265	285	315	315	325	345	375	305	315	335	365	315	320	345	375	145	155	165	180
	820	*870*	*940*	*1025*	*1025*	*1075*	*1125*	*1225*	*1000*	*1025*	*1100*	*1200*	*1025*	*1050*	*1125*	*1225*	*475*	*510*	*540*	*590*
K3	210	225	245	265	265	275	295	320	260	265	285	310	265	270	290	315	120	130	140	155
	690	*740*	*800*	*870*	*870*	*900*	*970*	*1050*	*850*	*870*	*940*	*1025*	*870*	*890*	*950*	*1025*	*395*	*425*	*460*	*510*
K4	205	215	230	255	255	260	280	305	245	255	270	295	255	260	280	300	115	125	135	145
	670	*710*	*750*	*840*	*840*	*850*	*920*	*1000*	*800*	*840*	*890*	*970*	*840*	*850*	*920*	*980*	*375*	*410*	*445*	*475*
K5	125	130	140	160	155	160	170	190	150	155	165	185	155	160	170	190	70	75	80	90
	410	*425*	*460*	*520*	*510*	*520*	*560*	*620*	*490*	*510*	*540*	*610*	*510*	*520*	*560*	*620*	*230*	*245*	*260*	*295*
K6	180	190	205	225	225	230	245	270	220	225	240	260	225	230	245	265	105	110	120	130
	590	*620*	*670*	*740*	*740*	*750*	*800*	*890*	*720*	*740*	*790*	*850*	*740*	*750*	*800*	*870*	*345*	*360*	*395*	*425*
K7	160	165	180	200	200	205	220	240	195	200	215	235	200	205	220	240	90	95	105	115
	520	*540*	*590*	*660*	*660*	*670*	*720*	*790*	*640*	*660*	*710*	*770*	*660*	*670*	*720*	*790*	*295*	*310*	*345*	*375*
N1	—	—	—	—	—	—	—	—	—	—	—	—	1425	1500	1625	1775	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*4675*	*4925*	*5325*	*5825*	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	570	600	650	720	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1875*	*1975*	*2125*	*2350*	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	380	405	435	480	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1250*	*1325*	*1425*	*1575*	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	435	460	500	550	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1425*	*1500*	*1650*	*1800*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	46	49	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*160*	*180*	*195*	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	37	39	43	47	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*155*	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	33	35	38	42	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*115*	*125*	*140*	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	70	75	80	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	45	47	50	55	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*155*	*165*	*180*	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	26	28	30	33	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*100*	*110*	—	—	—	—
H5	—	—	—	—	47	50	55	60	—	—	—	—	42	44	48	50	—	—	—	—
	—	—	—	—	*155*	*165*	*180*	*195*	—	—	—	—	*140*	*145*	*155*	*165*	—	—	—	—
H8	—	—	—	—	50	55	60	65	—	—	—	—	44	47	50	55	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—
H11	—	—	—	—	60	65	70	75	—	—	—	—	55	55	60	65	—	—	—	—
	—	—	—	—	*195*	*215*	*230*	*245*	—	—	—	—	*180*	*180*	*195*	*215*	—	—	—	—
H12	—	—	—	—	90	95	105	115	—	—	—	—	80	85	90	100	—	—	—	—
	—	—	—	—	*295*	*310*	*345*	*375*	—	—	—	—	*260*	*280*	*295*	*330*	—	—	—	—
H21	—	—	—	—	50	55	60	65	—	—	—	—	44	47	50	55	—	—	—	—
	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—	*145*	*155*	*165*	*180*	—	—	—	—

Octomill R220.43-07S/SA – Metric

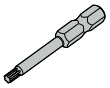




- For insert selection and cutting data recommendations, see page(s) 311 - 312
- For complete insert programme, see page(s) 815
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.43-0080-07SA	00090771	Arbor	80,0	5	5,0	43,0	92,0	27,0	62,0	50,0	6200	1,1	OF..0704
R220.43-0100-07SA	00090773	Arbor	100,0	6	5,0	43,0	112,0	32,0	77,0	50,0	5600	1,8	OF..0704
R220.43-0125-07S	00045811	Arbor	125,0	8	5,0	43,0	137,0	40,0	90,0	63,0	5100	3,1	OF..0704

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R220.43-0080	1/4HEX-T20PX50	C05013-T20P
R220.43-0100-0125	1/4HEX-T20PX90	C05013-T20P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.43-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	5.0NM	T00-20P50
R220.43-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	5.0NM	T00-20P50
R220.43-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.43-7S – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
P2	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,36 *0.014*
P3	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P4	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,40 *0.016*
P5	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
P6	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P7	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P8	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
P11	OFMT070405TN-ME13 MP2501	3,0 *0.12*	0,26 *0.010*	0,26 *0.010*	0,26 *0.010*	0,34 *0.013*
P12	OFMT070405TN-ME13 MP2501	2,5 *0.10*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
M1	OFET070405TN-ME10 F40M	3,0 *0.12*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
M2	OFET070405TN-ME10 F40M	3,0 *0.12*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
M3	OFET070405TN-ME10 F40M	2,5 *0.10*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
M4	OFET070405TN-ME10 F40M	1,8 *0.070*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,19 *0.0075*
M5	OFET070405TN-ME10 F40M	1,8 *0.070*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,19 *0.0075*
K1	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
K2	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
K3	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
K4	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
K5	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
K6	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
K7	OFMT070405TN-M15 MP2501	3,0 *0.12*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
S1	OFET070405TN-ME15 F40M	1,8 *0.070*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
S2	OFET070405TN-ME15 F40M	1,8 *0.070*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
S3	OFET070405TN-ME15 F40M	1,8 *0.070*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,26 *0.010*
S11	OFET070405TN-ME10 F40M	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
S12	OFET070405TN-ME10 F40M	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
S13	OFET070405TN-ME10 F40M	1,8 *0.070*	0,15 *0.0060*	0,15 *0.0060*	0,15 *0.0060*	0,19 *0.0075*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.43-07S – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M				MP2501				F30M			
	80%	60%	40%	20%	80%	60%	40%	20%	80%	60%	40%	20%
P1	235 *770*	255 *840*	280 *920*	315 *1025*	285 *940*	310 *1025*	340 *1125*	390 *1275*	275 *900*	300 *980*	335 *1100*	375 *1225*
P2	225 *740*	240 *790*	270 *890*	305 *1000*	280 *920*	300 *980*	330 *1075*	380 *1250*	270 *890*	290 *950*	325 *1075*	365 *1200*
P3	195 *640*	210 *690*	235 *770*	270 *890*	240 *790*	260 *850*	290 *950*	330 *1075*	240 *790*	255 *840*	280 *920*	320 *1050*
P4	175 *570*	190 *620*	210 *690*	235 *770*	215 *710*	235 *770*	255 *840*	290 *950*	210 *690*	225 *740*	245 *800*	280 *920*
P5	170 *560*	180 *590*	200 *660*	230 *750*	205 *670*	225 *740*	250 *820*	280 *920*	200 *660*	215 *710*	240 *790*	270 *890*
P6	190 *620*	205 *670*	230 *750*	255 *840*	230 *750*	250 *820*	280 *920*	310 *1025*	225 *740*	245 *800*	270 *890*	305 *1000*
P7	180 *590*	195 *640*	215 *710*	245 *800*	220 *720*	235 *770*	265 *870*	295 *970*	215 *710*	230 *750*	255 *840*	290 *950*
P8	165 *540*	180 *590*	200 *660*	225 *740*	200 *660*	220 *720*	245 *800*	280 *920*	200 *660*	215 *710*	235 *770*	270 *890*
P11	175 *570*	185 *610*	210 *690*	235 *770*	215 *710*	230 *750*	255 *840*	285 *940*	205 *670*	225 *740*	250 *820*	280 *920*
P12	115 *375*	125 *410*	135 *445*	155 *510*	140 *460*	150 *490*	165 *540*	190 *620*	135 *445*	145 *475*	160 *520*	180 *590*
M1	180 *590*	195 *640*	220 *720*	245 *800*	200 *660*	220 *720*	240 *790*	270 *890*	215 *710*	235 *770*	260 *850*	295 *970*
M2	150 *490*	165 *540*	180 *590*	205 *670*	165 *540*	180 *590*	200 *660*	225 *740*	180 *590*	195 *640*	215 *710*	240 *790*
M3	125 *410*	135 *445*	145 *475*	170 *560*	135 *445*	145 *475*	160 *520*	185 *610*	145 *475*	160 *520*	170 *560*	195 *640*
M4	95 *310*	105 *345*	115 *375*	130 *425*	105 *345*	115 *375*	125 *410*	140 *460*	110 *360*	120 *395*	135 *445*	150 *490*
M5	80 *260*	85 *280*	95 *310*	110 *360*	85 *280*	95 *310*	105 *345*	120 *395*	95 *310*	100 *330*	110 *360*	125 *410*
K1	175 *570*	190 *620*	215 *710*	245 *800*	220 *720*	240 *790*	260 *850*	300 *980*	— —	— —	— —	— —
K2	160 *520*	175 *570*	190 *620*	215 *710*	195 *640*	210 *690*	235 *770*	265 *870*	— —	— —	— —	— —
K3	135 *445*	145 *475*	160 *520*	185 *610*	165 *540*	180 *590*	200 *660*	225 *740*	— —	— —	— —	— —
K4	130 *425*	140 *460*	155 *510*	175 *570*	160 *520*	170 *560*	190 *620*	215 *710*	— —	— —	— —	— —
K5	80 *260*	85 *280*	95 *310*	110 *360*	95 *310*	105 *345*	115 *375*	130 *425*	— —	— —	— —	— —
K6	115 *375*	125 *410*	135 *445*	155 *510*	140 *460*	150 *490*	170 *560*	190 *620*	— —	— —	— —	— —
K7	100 *330*	110 *360*	120 *395*	140 *460*	125 *410*	135 *445*	150 *490*	170 *560*	— —	— —	— —	— —
N1	1300 *4275*	1400 *4600*	1550 *5075*	1750 *5750*	— —	— —	— —	— —	1575 *5175*	1700 *5575*	1850 *6075*	2125 *6975*
N2	530 *1750*	570 *1875*	630 *2075*	710 *2325*	— —	— —	— —	— —	630 *2075*	680 *2225*	750 *2450*	860 *2825*
N3	350 *1150*	380 *1250*	420 *1375*	475 *1550*	— —	— —	— —	— —	420 *1375*	455 *1500*	500 *1650*	570 *1875*
N11	400 *1300*	435 *1425*	480 *1575*	540 *1775*	— —	— —	— —	— —	480 *1575*	520 *1700*	570 *1875*	650 *2125*
S1	45 *150*	48 *155*	55 *180*	60 *195*	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*
S2	36 *120*	39 *130*	43 *140*	49 *160*	— —	— —	— —	— —	42 *140*	45 *150*	50 *165*	55 *180*
S3	32 *105*	34 *110*	38 *125*	43 *140*	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	50 *165*
S11	60 *195*	70 *230*	75 *245*	85 *280*	— —	— —	— —	— —	75 *245*	80 *260*	85 *280*	100 *330*
S12	43 *140*	47 *155*	50 *165*	60 *195*	— —	— —	— —	— —	42 *140*	46 *150*	50 *165*	60 *195*
S13	25 *80*	27 *90*	30 *100*	35 *115*	— —	— —	— —	— —	24 *80*	26 *85*	29 *95*	33 *110*
H5	38 *125*	41 *135*	45 *150*	50 *165*	— —	— —	— —	— —	— —	— —	— —	— —
H8	41 *135*	44 *145*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —
H11	49 *160*	55 *180*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —
H12	75 *245*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	— —	— —	— —	— —
H21	41 *135*	44 *145*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —



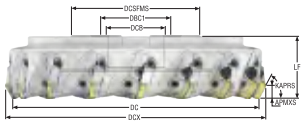
R220.60

Face mills for heavy duty. Strong inserts and the cutter is equipt with cassettes for handling high metal removal.

- Cutter range 63-250 mm
- Inserts SPEN/SPER/SPMR19
- Available in many different grades for most common workpiece materials

R220.60-19CM – Metric

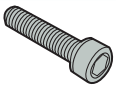
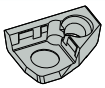
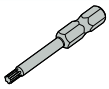
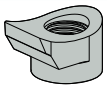




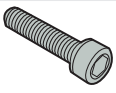
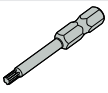
- For insert selection and cutting data recommendations, see page(s) 315 - 316
- For complete insert programme, see page(s) 836
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.60-0063-19-4CM	00073305	Arbor	63,0	4	12,0	60,0	77,6	22,0	47,0	50,0	3700	1,2	SP..1906ZETR
R220.60-0080-19-5CM	00073306	Arbor	80,0	5	12,0	60,0	94,5	27,0	62,0	50,0	3300	1,7	SP..1906ZETR
R220.60-0100-19-6CM	00073307	Arbor	100,0	6	12,0	60,0	114,4	32,0	77,0	50,0	2900	2,4	SP..1906ZETR
R220.60-0125-19-8CM	00073309	Arbor	125,0	8	12,0	60,0	139,3	40,0	90,0	63,0	2600	4,0	SP..1906ZETR
R220.60-8160-19-10CM	00073311	Arbor	160,0	10	12,0	60,0	174,3	40,0	90,0	63,0	2300	6,3	SP..1906ZETR
R220.60-8200-19-12CM	00073313	Arbor	200,0	12	12,0	60,0	214,2	60,0	168,0	63,0	2000	9,0	SP..1906ZETR
R220.60-8250-19-16CM	00073318	Arbor	250,0	16	12,0	60,0	264,2	60,0	218,0	63,0	1800	20,0	SP..1906ZETR

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.66-0063	AU1114T-T15P	220.17-692	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P
R220.66-0080	AU1114T-T15P	MC6S12X35	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P
R220.66-0100-8250	AU1114T-T15P	–	SP19DRM	FS96018	1/4HEX-T25PX50	CW0813	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Arbor screw 2	Key	Setting key
					
R220.66-0063	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712	–	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216	–	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020	–	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	MC6S12X50	1/4HEX-H5.0X50	1/4HEX-T15PX50
R220.66-8200-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50	–	1/4HEX-H5.0X50	1/4HEX-T15PX50

Torque and fixed keys, see page 872

R220.60-19 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*
P2	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P3	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
P4	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,38 *0.015*
P5	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P6	SPEN1906ZETR-MD20 MP2501	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
P7	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P8	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,28 *0.011*	0,28 *0.011*	0,28 *0.011*	0,36 *0.014*
P11	SPMR1906ZETR-M17 MP2050	7,0 *0.28*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
P12	SPMR1906ZETR-M17 MP2050	6,0 *0.24*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,24 *0.0095*
M1	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,30 *0.012*	0,30 *0.012*	0,30 *0.012*	0,38 *0.015*
M2	SPER1906ZETR-M17 MP3501	7,0 *0.28*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,34 *0.013*
M3	SPMR1906ZETR-M17 MP2050	6,0 *0.24*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
M4	SPMR1906ZETR-M17 MP2050	4,5 *0.18*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
M5	SPMR1906ZETR-M17 MP2050	4,5 *0.18*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
K1	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,42 *0.017*	0,42 *0.017*	0,42 *0.017*	0,50 *0.020*
K2	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 *0.015*	0,38 *0.015*	0,38 *0.015*	0,48 *0.019*
K3	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 *0.015*	0,38 *0.015*	0,38 *0.015*	0,48 *0.019*
K4	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 *0.015*	0,38 *0.015*	0,38 *0.015*	0,48 *0.019*
K5	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
K6	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,38 *0.015*	0,38 *0.015*	0,38 *0.015*	0,48 *0.019*
K7	SPEN1906ZETR-D25 MP1501	7,0 *0.28*	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.60-19 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP2050				MP1501				MP2501				MP3501				T25M			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	220 *720*	230 *750*	250 *820*	280 *920*	240 *790*	245 *800*	265 *870*	295 *970*	260 *850*	265 *870*	285 *940*	310 *1025*	230 *750*	230 *750*	250 *820*	275 *900*	160 *520*	170 *560*	185 *610*	200 *660*
P2	215 *710*	225 *740*	245 *800*	275 *900*	230 *750*	235 *770*	250 *820*	285 *940*	245 *800*	250 *820*	270 *890*	305 *1000*	215 *710*	215 *710*	235 *770*	265 *870*	155 *510*	160 *520*	175 *570*	195 *640*
P3	190 *620*	200 *660*	215 *710*	240 *790*	205 *670*	205 *670*	220 *720*	250 *820*	215 *710*	220 *720*	240 *790*	270 *890*	190 *620*	195 *640*	210 *690*	235 *770*	135 *445*	140 *460*	155 *510*	175 *570*
P4	165 *540*	175 *570*	190 *620*	210 *690*	185 *610*	185 *610*	200 *660*	220 *720*	195 *640*	200 *660*	215 *710*	235 *770*	175 *570*	175 *570*	190 *620*	210 *690*	120 *395*	130 *425*	140 *460*	150 *490*
P5	160 *520*	165 *540*	180 *590*	205 *670*	175 *570*	175 *570*	190 *620*	215 *710*	190 *620*	190 *620*	205 *670*	230 *750*	165 *540*	170 *560*	180 *590*	205 *670*	115 *375*	120 *395*	130 *425*	150 *490*
P6	185 *610*	190 *620*	210 *690*	225 *740*	195 *640*	200 *660*	215 *710*	245 *800*	210 *690*	215 *710*	230 *750*	260 *850*	185 *610*	190 *620*	205 *670*	230 *750*	130 *425*	135 *445*	150 *490*	165 *540*
P7	170 *560*	180 *590*	195 *640*	215 *710*	185 *610*	190 *620*	205 *670*	230 *750*	200 *660*	200 *660*	220 *720*	245 *800*	175 *570*	180 *590*	190 *620*	215 *710*	125 *410*	130 *425*	140 *460*	155 *510*
P8	160 *520*	165 *540*	180 *590*	205 *670*	170 *560*	175 *570*	185 *610*	210 *690*	185 *610*	185 *610*	200 *660*	225 *740*	160 *520*	160 *520*	175 *570*	200 *660*	115 *375*	120 *395*	130 *425*	145 *475*
P11	165 *540*	175 *570*	190 *620*	210 *690*	180 *590*	180 *590*	195 *640*	225 *740*	195 *640*	195 *640*	210 *690*	240 *790*	170 *560*	175 *570*	185 *610*	210 *690*	120 *395*	125 *410*	135 *445*	155 *510*
P12	110 *360*	115 *375*	125 *410*	140 *460*	125 *410*	130 *425*	140 *460*	155 *510*	135 *445*	140 *460*	150 *490*	165 *540*	120 *395*	125 *410*	130 *425*	145 *475*	80 *260*	85 *280*	90 *295*	100 *330*
M1	155 *510*	160 *520*	175 *570*	195 *640*	— —	— —	— —	— —	135 *445*	140 *460*	150 *490*	170 *560*	125 *410*	130 *425*	140 *460*	160 *520*	125 *410*	130 *425*	140 *460*	160 *520*
M2	125 *410*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —	110 *360*	120 *395*	130 *425*	145 *475*	105 *345*	110 *360*	120 *395*	135 *445*	105 *345*	110 *360*	120 *395*	135 *445*
M3	105 *345*	110 *360*	120 *395*	135 *445*	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	115 *375*	85 *280*	90 *295*	100 *330*	110 *360*	85 *280*	90 *295*	100 *330*	110 *360*
M4	80 *260*	85 *280*	95 *310*	105 *345*	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	90 *295*	65 *215*	70 *230*	75 *245*	85 *280*	65 *215*	70 *230*	75 *245*	85 *280*
M5	70 *230*	70 *230*	80 *260*	85 *280*	— —	— —	— —	— —	60 *195*	60 *195*	65 *215*	75 *245*	55 *180*	60 *195*	65 *215*	70 *230*	55 *180*	60 *195*	65 *215*	70 *230*
K1	— —	— —	— —	— —	230 *750*	235 *770*	255 *840*	290 *950*	250 *820*	250 *820*	270 *890*	305 *1000*	220 *720*	220 *720*	235 *770*	270 *890*	120 *395*	130 *425*	140 *460*	155 *510*
K2	— —	— —	— —	— —	210 *690*	215 *710*	230 *750*	260 *850*	230 *750*	230 *750*	250 *820*	280 *920*	200 *660*	205 *670*	220 *720*	250 *820*	110 *360*	115 *375*	125 *410*	140 *460*
K3	— —	— —	— —	— —	180 *590*	180 *590*	195 *640*	220 *720*	195 *640*	195 *640*	210 *690*	235 *770*	170 *560*	170 *560*	185 *610*	210 *690*	95 *310*	100 *330*	105 *345*	120 *395*
K4	— —	— —	— —	— —	170 *560*	175 *570*	185 *610*	210 *690*	185 *610*	185 *610*	200 *660*	225 *740*	160 *520*	165 *540*	175 *570*	200 *660*	90 *295*	95 *310*	100 *330*	115 *375*
K5	— —	— —	— —	— —	105 *345*	110 *360*	115 *375*	130 *425*	115 *375*	115 *375*	125 *410*	140 *460*	100 *330*	100 *330*	110 *360*	125 *410*	55 *180*	55 *180*	60 *195*	70 *230*
K6	— —	— —	— —	— —	150 *490*	150 *490*	165 *540*	185 *610*	160 *520*	165 *540*	175 *570*	200 *660*	145 *475*	145 *475*	155 *510*	175 *570*	80 *260*	80 *260*	90 *295*	100 *330*
K7	— —	— —	— —	— —	135 *445*	140 *460*	150 *490*	170 *560*	145 *475*	145 *475*	160 *520*	180 *590*	130 *425*	130 *425*	140 *460*	155 *510*	70 *230*	75 *245*	80 *260*	90 *295*



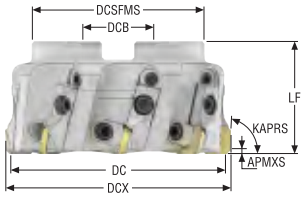
R220.30 -12

This cutter family can meet the highest surface finish requirements in a variety of materials. The strength is in cast iron materials due to a comprehensive offer in geometry and grade combinations. The adjustable pocket ensures a high run out accuracy and the precise inserts reduces the efforts to set the cutter. The single sided inserts are light cutting and include a long wiper flat to meet the requirements of bigger diameter cutters. The included crown design on the SEEX1203 inserts compensates a misalignment between spindle head and the workpiece to ensure a superb surface finish and appearance. The inserts offer is ideal for special cutters like hybrid cutters for rough-finishing with dedicated roughing inserts as well as pure finishing cutters with customized pitches and handling units.

- DC = 80 – 355 mm
- Available in both course and close pitch versions
- Available in both cassette version and fix pocket and also for mounting as CAP

R220.30-12CT – Metric

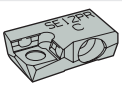




- For insert selection and cutting data recommendations, see page(s) 321 - 322
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.30-0080-12CT	75068850	Arbor	80,0	6	1,0	88,0	80,75	27,0	56,0	50,0	4800	1,4	SE..1203
R220.30-0100-12CT	75068851	Arbor	100,0	8	1,0	88,0	100,72	32,0	77,0	50,0	4300	1,8	SE..1203
R220.30-0125-12CT	75068852	Arbor	125,0	10	1,0	88,0	126,02	40,0	90,0	63,0	3800	3,3	SE..1203
R220.30-8250-12CT	75068855	Arbor	250,0	22	1,0	88,0	250,91	60,0	130,0	63,0	2700	16,5	SE..1203

Spare Parts, included in delivery

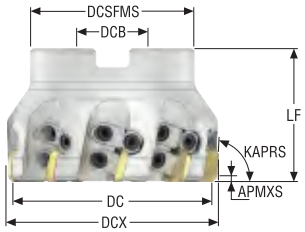
For cutter	Adjustment unit	Arbor screw	Cassette	Cassette screw	Insert key	Insert wedge	Wedge screw
							
R220.30-0080	AU1114T-T15P	MF6S12X45	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650
R220.30-0100	AU1114T-T15P	MC6S16X35	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650
R220.30-0125-8250	AU1114T-T15P	–	SE12PRC	FS95018	1/4HEX-H4.0X50	334.5-640	268-650

Accessories

For cutter	Adjustable Torque key	Arbor screw
		
R220.30-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712
R220.30-0100	1/4HEX-S-HANDLE-0.8-5.0NM	5803216
R220.30-0125	1/4HEX-S-HANDLE-0.8-5.0NM	5804020
R220.30-8250	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50

Torque and fixed keys, see page 872

R220.30-12ST – Metric

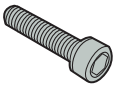
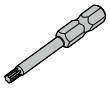
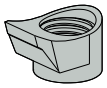
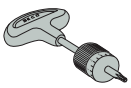




- For insert selection and cutting data recommendations, see page(s) 321 - 322
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.30-0080-12ST	75038551	Arbor	80,0	9	1,0	88,0	80,75	27,0	56,0	50,0	5300	1,4	SE..1203
R220.30-8160-12ST	75036394	Arbor	160,0	20	1,0	88,0	160,97	40,0	90,0	63,0	3800	5,0	SE..1203
R220.30-8200-12ST	75066297	Arbor	200,0	25	1,0	88,0	200,94	60,0	130,0	63,0	3300	7,8	SE..1203

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert wedge	Key	Setting gauge	Setting screw	Wedge screw
							
R220.30-0080	MC6S12X40	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P
R220.30-8160-8200	–	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P

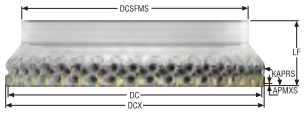
Accessories

For cutter	Adjustable Torque key	Arbor screw
		
R220.30-0080	1/4HEX-S-HANDLE-0.8-5.0NM	5802712
R220.30-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40
R220.30-8200	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S16X50

Torque and fixed keys, see page 872

R220.30-12ST CAP – Metric

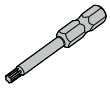
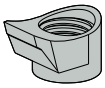




- For insert selection and cutting data recommendations, see page(s) 321 - 322
- For complete insert programme, see page(s) 823
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.30-9250-12ST	75077274	Arbor	250,0	32	1,0	88,0	250,97	–	220,0	63,0	3000	9,2	SE..1203
R220.30-9355-12ST	75077276	Arbor	355,0	44	1,0	88,0	355,94	–	285,0	63,0	2500	15,9	SE..1203

Spare Parts, included in delivery

For cutter	Insert key	Insert wedge	Key	Setting gauge	Setting screw	Wedge screw
						
R220.30-9250-9355	1/4HEX-T15PX50	CW0608	T15P-4ST	AS6011	LD6019-T15P	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key
	
R220.30-..	1/4HEX-S-HANDLE-0.8-5.0NM

Torque and fixed keys, see page 872

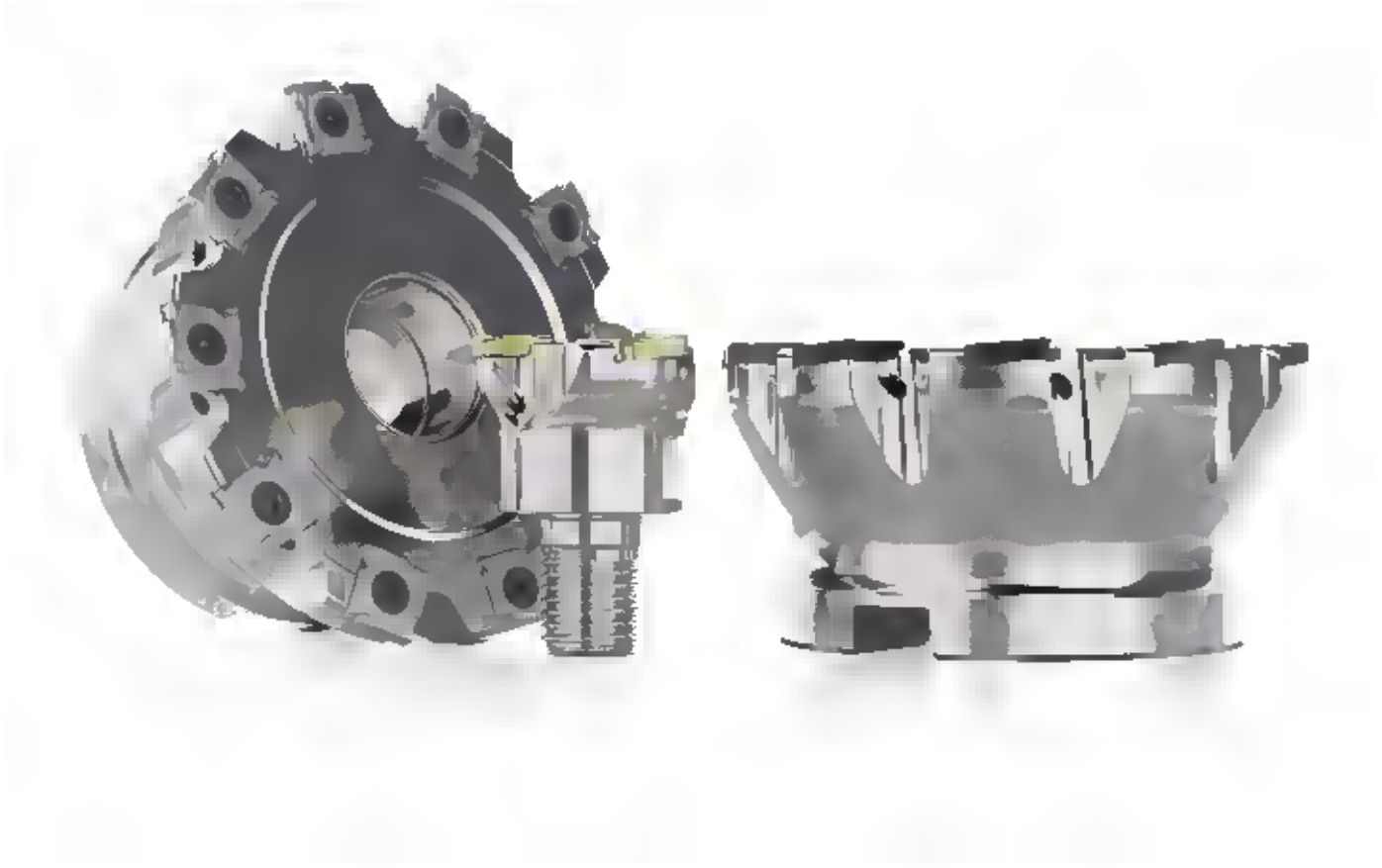
R220.30-12 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
P2	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
P3	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,18 *0.0070*	0,18 *0.0070*	0,18 *0.0070*	0,22 *0.0085*
P4	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,22 *0.0085*
P5	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
P6	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
P7	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
P8	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,18 *0.0070*	0,18 *0.0070*	0,18 *0.0070*	0,22 *0.0085*
P11	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
P12	SEEX1203AFTN-M13 MP3501	0,48 *0.019*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,14 *0.0055*
M1	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,19 *0.0075*	0,19 *0.0075*	0,19 *0.0075*	0,24 *0.0095*
M2	SEEX1203AFTN-M13 MP3501	0,60 *0.024*	0,17 *0.0065*	0,17 *0.0065*	0,17 *0.0065*	0,22 *0.0085*
M3	SEEX1203AFTN-M13 MP3501	0,48 *0.019*	0,14 *0.0055*	0,14 *0.0055*	0,14 *0.0055*	0,17 *0.0065*
M4	SEEX1203AFTN-M13 MP3501	0,36 *0.014*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
M5	SEEX1203AFTN-M13 MP3501	0,36 *0.014*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
K1	SEEX1203AFTN-MD14 MH1000	0,60 *0.024*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,25 *0.010*
K2	SEEX1203AFTN-MD14 MH1000	0,60 *0.024*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
K3	SEEX1203AFTN-MD14 MH1000	0,60 *0.024*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
K4	SEEX1203AFTN-MD14 MH1000	0,60 *0.024*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
K5	SEEX1203AFTN-MD14 MH1000	0,60 *0.024*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
K6	SEEX1203AFTN-MD14 MH1000	0,60 *0.024*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,22 *0.0085*
K7	SEEX1203AFTN-MD14 MH1000	0,60 *0.024*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,20 *0.0080*
H5	SEEX1203AFTN-MD14 MH1000	0,48 *0.019*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,15 *0.0065*
H8	SEEX1203AFTN-MD14 MH1000	0,42 *0.017*	0,095 *0.0038*	0,095 *0.0038*	0,095 *0.0038*	0,12 *0.0048*
H11	SEEX1203AFTN-MD14 MH1000	0,48 *0.019*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,15 *0.0065*
H12	SEEX1203AFTN-MD14 MH1000	0,42 *0.017*	0,095 *0.0038*	0,095 *0.0038*	0,095 *0.0038*	0,12 *0.0048*
H21	SEEX1203AFTN-MD14 MH1000	0,42 *0.017*	0,095 *0.0038*	0,095 *0.0038*	0,095 *0.0038*	0,12 *0.0048*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.30-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000				F15M				H15				MK1500				MP3501			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	—	—	—	—	225	240	255	285	—	—	—	—	—	—	—	—	320	330	350	380
	—	—	—	—	*740*	*790*	*840*	*940*	—	—	—	—	—	—	—	—	*1050*	*1075*	*1150*	*1250*
P2	—	—	—	—	220	230	250	280	—	—	—	—	—	—	—	—	305	315	335	370
	—	—	—	—	*720*	*750*	*820*	*920*	—	—	—	—	—	—	—	—	*1000*	*1025*	*1100*	*1225*
P3	—	—	—	—	190	200	220	240	—	—	—	—	—	—	—	—	270	275	295	325
	—	—	—	—	*620*	*660*	*720*	*790*	—	—	—	—	—	—	—	—	*890*	*900*	*970*	*1075*
P4	—	—	—	—	170	180	190	215	—	—	—	—	—	—	—	—	240	245	265	285
	—	—	—	—	*560*	*590*	*620*	*710*	—	—	—	—	—	—	—	—	*790*	*800*	*870*	*940*
P5	200	210	225	245	165	175	185	205	—	—	—	—	—	—	—	—	230	235	250	275
	660	*690*	*740*	*800*	*540*	*570*	*610*	*670*	—	—	—	—	—	—	—	—	*750*	*770*	*820*	*900*
P6	225	235	250	280	185	195	210	230	—	—	—	—	—	—	—	—	260	265	280	310
	740	*770*	*820*	*920*	*610*	*640*	*690*	*750*	—	—	—	—	—	—	—	—	*850*	*870*	*920*	*1025*
P7	210	220	240	265	175	185	195	220	—	—	—	—	—	—	—	—	245	250	265	295
	690	*720*	*790*	*870*	*570*	*610*	*640*	*720*	—	—	—	—	—	—	—	—	*800*	*820*	*870*	*970*
P8	195	205	220	245	160	170	185	205	—	—	—	—	—	—	—	—	225	230	245	270
	640	*670*	*720*	*800*	*520*	*560*	*610*	*670*	—	—	—	—	—	—	—	—	*740*	*750*	*800*	*890*
P11	205	215	230	255	170	180	190	215	—	—	—	—	—	—	—	—	240	245	260	285
	670	*710*	*750*	*840*	*560*	*590*	*620*	*710*	—	—	—	—	—	—	—	—	*790*	*800*	*850*	*940*
P12	135	145	155	165	—	—	—	—	—	—	—	—	—	—	—	—	160	165	175	185
	445	*475*	*510*	*540*	—	—	—	—	—	—	—	—	—	—	—	—	*520*	*540*	*570*	*610*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	165	175	185	210
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*540*	*570*	*610*	*690*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	140	145	155	175
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*460*	*475*	*510*	*570*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	115	125	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*360*	*375*	*410*	*460*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85	90	100	110
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*280*	*295*	*330*	*360*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	75	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*245*	*280*	*295*
K1	210	220	240	265	175	185	200	220	140	145	155	175	270	285	310	345	310	315	335	370
	690	*720*	*790*	*870*	*570*	*610*	*660*	*720*	*460*	*475*	*510*	*570*	*890*	*940*	*1025*	*1125*	*1025*	*1025*	*1100*	*1225*
K2	190	200	215	235	155	165	175	195	125	130	140	155	245	255	275	300	280	285	305	335
	620	*660*	*710*	*770*	*510*	*540*	*570*	*640*	*410*	*425*	*460*	*510*	*800*	*840*	*900*	*980*	*920*	*940*	*1000*	*1100*
K3	160	170	180	200	130	140	150	165	105	110	120	130	205	215	235	255	235	240	255	285
	520	*560*	*590*	*660*	*425*	*460*	*490*	*540*	*345*	*360*	*395*	*425*	*670*	*710*	*770*	*840*	*770*	*790*	*840*	*940*
K4	150	160	170	190	125	130	145	155	100	105	115	125	195	205	220	245	225	230	245	270
	490	*520*	*560*	*620*	*410*	*425*	*475*	*510*	*330*	*345*	*375*	*410*	*640*	*670*	*720*	*800*	*740*	*750*	*800*	*890*
K5	95	100	105	115	75	80	90	95	60	65	70	75	120	125	135	150	140	145	150	165
	310	*330*	*345*	*375*	*245*	*260*	*295*	*310*	*195*	*215*	*230*	*245*	*395*	*410*	*445*	*490*	*460*	*475*	*490*	*540*
K6	135	140	150	165	110	115	125	140	90	90	100	110	175	180	195	215	200	205	215	240
	445	*460*	*490*	*540*	*360*	*375*	*410*	*460*	*295*	*295*	*330*	*360*	*570*	*590*	*640*	*710*	*660*	*670*	*710*	*790*
K7	120	125	135	150	100	105	110	125	80	85	90	95	155	165	175	190	180	185	195	210
	395	*410*	*445*	*490*	*330*	*345*	*360*	*410*	*260*	*280*	*295*	*310*	*510*	*540*	*570*	*620*	*590*	*610*	*640*	*690*
H5	45	47	50	55	37	39	42	46	—	—	—	—	—	—	—	—	36	38	41	45
	150	*155*	*165*	*180*	*120*	*130*	*140*	*150*	—	—	—	—	—	—	—	—	*120*	*125*	*135*	*150*
H8	48	50	55	60	39	42	45	49	—	—	—	—	—	—	—	—	38	41	44	48
	155	*165*	*180*	*195*	*130*	*140*	*150*	*160*	—	—	—	—	—	—	—	—	*125*	*135*	*145*	*155*
H11	55	60	65	70	47	50	55	60	—	—	—	—	—	—	—	—	46	49	55	55
	180	*195*	*215*	*230*	*155*	*165*	*180*	*195*	—	—	—	—	—	—	—	—	*150*	*160*	*180*	*180*
H12	85	90	95	105	70	75	80	90	—	—	—	—	—	—	—	—	70	75	80	85
	280	*295*	*310*	*345*	*230*	*245*	*260*	*295*	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*280*
H21	48	50	55	60	39	42	45	49	—	—	—	—	—	—	—	—	38	41	44	48
	155	*165*	*180*	*195*	*130*	*140*	*150*	*160*	—	—	—	—	—	—	—	—	*125*	*135*	*145*	*155*

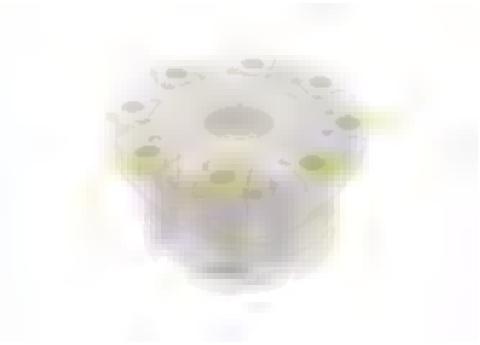


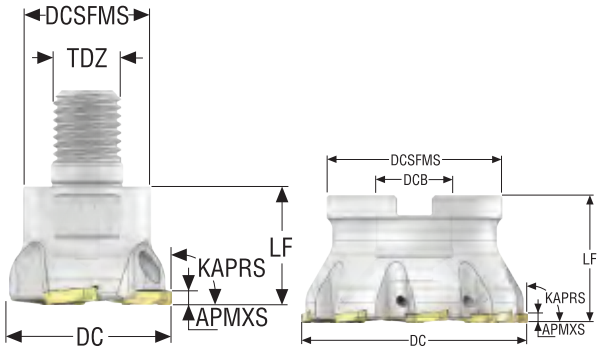
R230.19

This finishing cutter subsist on an exceptional run out even though it is a fixed pocket solution. The axial mounted inserts have a high accuracy and are light cutting at the same time thanks to the positive rake face design. The small wiper flat length created furthermore low axial tool pressure and the high run out accuracy enables you to run above the wiper flat and still achieve an excellent surface finish. This family is ideal for weak machines and smaller diameter in steel and stainless-steel materials.

- DC = 30 – 100 mm
- R230.19 Face mills for finishing
- Inserts with 4 cutting edges
- Single sided inserts

R230.19 - Metric – Metric

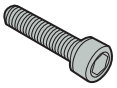
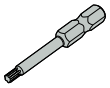




- For insert selection and cutting data recommendations, see page(s) 325 - 326
- For complete insert programme, see page(s) N/A
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCSFMS	DCB	TDZ	LF	Weight	RPMX	Insert
			mm		mm		mm	mm		mm	kg		
R230.19-1030.RE-SN1103-3A	02735709	Combimaster	30,0	3	2,6	90,0	18,5	–	M10	20,0	0,1	18900	SNHQ1103xxR
R230.19-1640.RE-SN1203-3A	02735718	Combimaster	40,0	3	3,1	90,0	30,0	–	M16	28,0	0,2	16700	SNHQ1203xxR
R230.19-0050-SN1203-5A	02735719	Arbor	50,0	5	3,1	90,0	42,0	22,0	–	40,0	0,4	12300	SNHQ1203xxR
R230.19-0063-SN1203-6A	02735734	Arbor	63,0	6	3,1	90,0	50,0	27,0	–	45,0	0,6	10900	SNHQ1203xxR
R230.19-0080-SN1203-8A	02735736	Arbor	80,0	8	3,1	90,0	62,0	27,0	–	45,0	1,1	9700	SNHQ1203xxR
R230.19-0100-SN1203-10A	02735737	Arbor	100,0	10	3,1	90,0	77,0	32,0	–	50,0	1,8	8700	SNHQ1203xxR

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R230.19-1103	–	1/4HEX-T09PX50	C93505-T09P
R230.19-1203	–	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø50	220.17-692M	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø63-80	MC6S12X35	1/4HEX-T15PX50	C94006-T15P
R230.19-1203 ø100	MC6S16X40	1/4HEX-T15PX50	C94006-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R230.19-1103	1/4HEX-S-HANDLE-0.8-5.0NM	2.0NM	T00-09P20
R230.19-1203	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R230.19 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			80%	60%	40%	20%
P1	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*
P2	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,15 *0.0060*
P3	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*
P4	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,14 *0.0055*
P5	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
P6	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
P7	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
P8	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*
P11	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
P12	SNHQ120308TR4-M07 F40M	1,5 *0.060*	0,080 *0.0032*	0,080 *0.0032*	0,080 *0.0032*	0,10 *0.0040*
M1	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,15 *0.0060*
M2	SNHQ120308TR4-M07 F40M	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
M3	SNHQ120308TR4-M07 F40M	1,5 *0.060*	0,095 *0.0038*	0,095 *0.0038*	0,095 *0.0038*	0,12 *0.0048*
M4	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*
M5	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*
K1	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,15 *0.0060*
K2	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
K3	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
K4	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
K5	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,13 *0.0050*
K6	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,14 *0.0055*
K7	SNHQ120308TR4-M07 MP2501	1,9 *0.075*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,13 *0.0050*
S1	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*
S2	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*
S3	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,085 *0.0034*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*
S11	SNHQ120308TR4-M07 F40M	1,3 *0.050*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,12 *0.0048*
S12	SNHQ120308TR4-M07 F40M	1,3 *0.050*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,12 *0.0048*
S13	SNHQ120308TR4-M07 F40M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*

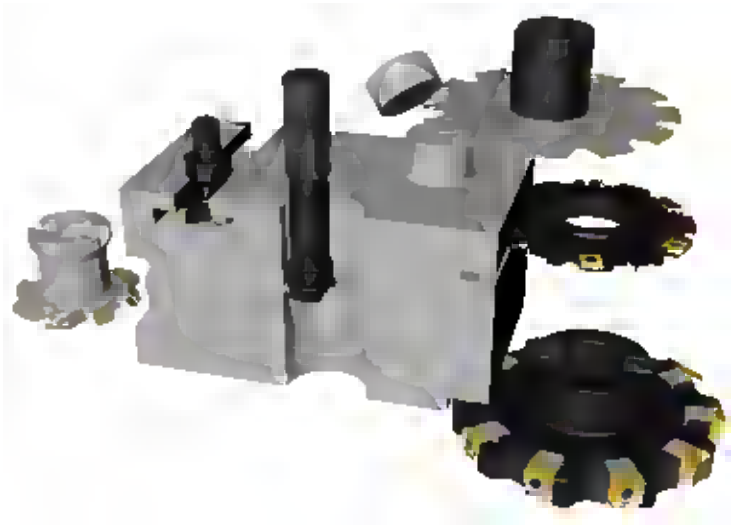
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R230.19 – Cutting data v_c = (m/min)/*(sf/min)*

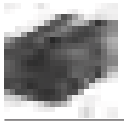
SMG	F30M				F40M				MP2501				H25			
	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%	100%	80%	60%	40%
P1	240 *790*	250 *820*	270 *890*	290 *950*	225 *740*	240 *790*	255 *840*	280 *920*	425 *1400*	440 *1450*	460 *1500*	500 *1650*	— —	— —	— —	— —
P2	225 *740*	240 *790*	255 *840*	285 *940*	215 *710*	225 *740*	245 *800*	270 *890*	415 *1350*	425 *1400*	450 *1475*	480 *1575*	— —	— —	— —	— —
P3	200 *660*	210 *690*	225 *740*	250 *820*	190 *620*	200 *660*	215 *710*	240 *790*	355 *1175*	365 *1200*	385 *1275*	420 *1375*	— —	— —	— —	— —
P4	175 *570*	185 *610*	200 *660*	220 *720*	165 *540*	175 *570*	190 *620*	210 *690*	315 *1025*	325 *1075*	340 *1125*	370 *1225*	— —	— —	— —	— —
P5	165 *540*	175 *570*	190 *620*	210 *690*	160 *520*	170 *560*	180 *590*	200 *660*	305 *1000*	315 *1025*	330 *1075*	350 *1150*	— —	— —	— —	— —
P6	190 *620*	200 *660*	215 *710*	235 *770*	180 *590*	190 *620*	205 *670*	225 *740*	340 *1125*	355 *1175*	375 *1225*	400 *1300*	— —	— —	— —	— —
P7	175 *570*	185 *610*	200 *660*	225 *740*	170 *560*	180 *590*	190 *620*	215 *710*	320 *1050*	335 *1100*	350 *1150*	380 *1250*	— —	— —	— —	— —
P8	165 *540*	175 *570*	190 *620*	210 *690*	160 *520*	170 *560*	180 *590*	200 *660*	300 *980*	310 *1025*	325 *1075*	350 *1150*	— —	— —	— —	— —
P11	170 *560*	180 *590*	195 *640*	215 *710*	165 *540*	175 *570*	185 *610*	205 *670*	315 *1025*	325 *1075*	340 *1125*	370 *1225*	— —	— —	— —	— —
P12	110 *360*	120 *395*	130 *425*	140 *460*	105 *345*	115 *375*	120 *395*	135 *445*	195 *640*	205 *670*	215 *710*	225 *740*	— —	— —	— —	— —
M1	180 *590*	190 *620*	205 *670*	230 *750*	175 *570*	185 *610*	195 *640*	220 *720*	210 *690*	220 *720*	240 *790*	260 *850*	— —	— —	— —	— —
M2	150 *490*	160 *520*	170 *560*	190 *620*	145 *475*	150 *490*	165 *540*	180 *590*	175 *570*	185 *610*	200 *660*	215 *710*	— —	— —	— —	— —
M3	125 *410*	130 *425*	140 *460*	155 *510*	115 *375*	125 *410*	135 *445*	145 *475*	140 *460*	150 *490*	160 *520*	175 *570*	— —	— —	— —	— —
M4	95 *310*	100 *330*	110 *360*	120 *395*	90 *295*	95 *310*	105 *345*	115 *375*	110 *360*	115 *375*	125 *410*	135 *445*	— —	— —	— —	— —
M5	80 *260*	85 *280*	90 *295*	100 *330*	75 *245*	80 *260*	85 *280*	95 *310*	90 *295*	95 *310*	105 *345*	110 *360*	— —	— —	— —	— —
K1	180 *590*	190 *620*	205 *670*	225 *740*	170 *560*	180 *590*	195 *640*	215 *710*	415 *1350*	430 *1400*	455 *1500*	485 *1600*	— —	— —	— —	— —
K2	160 *520*	170 *560*	180 *590*	200 *660*	150 *490*	160 *520*	170 *560*	190 *620*	370 *1225*	380 *1250*	400 *1300*	425 *1400*	— —	— —	— —	— —
K3	135 *445*	140 *460*	155 *510*	170 *560*	130 *425*	135 *445*	145 *475*	160 *520*	310 *1025*	320 *1050*	340 *1125*	360 *1175*	— —	— —	— —	— —
K4	130 *425*	135 *445*	145 *475*	160 *520*	120 *395*	130 *425*	140 *460*	155 *510*	295 *970*	305 *1000*	325 *1075*	345 *1125*	— —	— —	— —	— —
K5	80 *260*	85 *280*	90 *295*	100 *330*	75 *245*	80 *260*	85 *280*	95 *310*	180 *590*	185 *610*	195 *640*	210 *690*	— —	— —	— —	— —
K6	115 *375*	120 *395*	130 *425*	140 *460*	110 *360*	115 *375*	120 *395*	135 *445*	260 *850*	270 *890*	285 *940*	300 *980*	— —	— —	— —	— —
K7	100 *330*	105 *345*	115 *375*	125 *410*	95 *310*	100 *330*	110 *360*	120 *395*	230 *750*	240 *790*	250 *820*	270 *890*	— —	— —	— —	— —
S1	45 *150*	48 *155*	50 *165*	55 *180*	43 *140*	45 *150*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —
S2	36 *120*	38 *125*	41 *135*	45 *150*	35 *115*	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —	— —	— —	— —	— —
S3	32 *105*	34 *110*	36 *120*	39 *130*	30 *100*	32 *105*	34 *110*	37 *120*	— —	— —	— —	— —	— —	— —	— —	— —
S11	65 *215*	65 *215*	70 *230*	75 *245*	60 *195*	65 *215*	70 *230*	75 *245*	— —	— —	— —	— —	— —	— —	— —	— —
S12	36 *120*	38 *125*	41 *135*	44 *145*	41 *135*	44 *145*	47 *155*	50 *165*	— —	— —	— —	— —	— —	— —	— —	— —
S13	21 *70*	22 *70*	24 *80*	26 *85*	24 *80*	25 *80*	27 *90*	30 *100*	— —	— —	— —	— —	— —	— —	— —	— —

A full range of cutters for all kinds of disc Milling operations

Seco's disc mills, available from 0,7 to 32 mm (0.029 to 1.25") in width, offer a wide range of cutter diameters and connection types suitable for all relevant machine tools and disc milling applications.



The core of the range consists of 4 main cutter families



Min



Max



335.10 for narrow slotting and sawing
Width 2,25-4,1mm, .089"-.122"



335.19 for small width of cut and sawing
Fixed pockets
Width 4-12mm, .156"-.500"

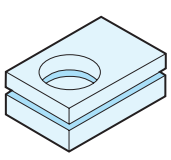


335.18 for medium width of cut
Fixed and adjustable width
Width 8-20mm, .312"-.750"

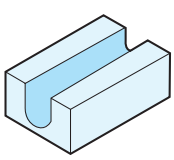


335.25 for large width of cut
Fixed and adjustable width
Width 13,5 -32mm, .53"-1.26"

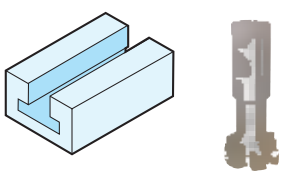
And 4 other families dedicated to specific disc milling operation



335.14 and 335.15 for circlips groove and narrow slotting
Width 0,7-5,15mm, .029"-.203"



335.29, 335.18 and 335.25 equipped with round insert - full radius profile and copy milling. Fixed and adjustable width
Width 5 - 20 mm, .197"-.787"



335.16 for T-slots
Width 11 - 22 mm, 0.387" - 0.823"



335.14

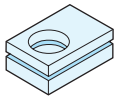
Small diameter disc milling cutter system dedicated for shallow grooving, circlips grooving, top and bottom chamfering, full radius profile and threading

- Exchangeable carbide head systems to help controlling machining costs
- Width of cut range 0.7-6.0 mm (0.043-0.236 inch)
- Diameter insert range 9.7-34.7 mm (.381 - 1.36 inch)
- A comprehensive range of cylindrical carbide and steel shanks, complemented with integrated ER collet chuck holder
- High precision width of cut +/-0.02mm - +/-0.0008”

Disc Milling cutter 335.14

Disc milling cutter with exchangeable carbide head





A broad range of heads and shanks available for all your disc milling operation by circular interpolation or linear slotting.
- Strong, Reliable and precise connection between the head and the cutter body
- Cover all type of material with universal M geometry and F32M grade
- Heads from diameter 9.7 mm

Cylindrical



ER collet chuck



2 types of shanks available: cylindrical available both in steel and carbide, or ER collet chuck system

Grooving

Head from dia 9.7 to 34.7 mm (0.382" to 1.366") for bore with minimum dia 10mm (0.393")
Width from 1 to 6 mm (0.039 to 0.236")





Disc Milling cutter 335.14

Circlip groove

Head from dia 9.7 to 21.7 mm (0.382 to 0.854”) and width from 0.7 to 5.15 mm (.029” to.203”)





Full radius profile

Head from dia 11.7 to 21.7 (0.460 to 0.854”) and width from 1 to 5 mm (0.039 to 0.197”)





Top & bottom Chamfering profile

Head from dia 11.7 to 21.7 (0.460 to 0.854”)and width from 1 to 4 mm (0.039 to 0.157”)





Threading

Head from dia 11,7 to 27,7 mm (0.460 to 0.854”) for partial metric threads with pitch 1-6 mm and full profile whitworth threads with pitch 19 to 11 tpi and UN threads with pitch 24 to 6 tpi.





Code key – Heads

R	335	.	14	-	217	150	.	12	Z3	-	M03	F32M
1	2		3		4	5		6	7		8	9

1.	2.	3.
Right hand rotation	Disc Milling code	System
4.	**5.**	**6.**
Head diameter example: 21.7mm	Width of cut : example 1.5mm Alternative: R20: Corner radius for full radius - example R=2mm C45: Top/ bottom chamfering - example 45° Threading code key: see page 332	Connection size (insert / shank) in mm Example: 12mm
7.	**8.**	**9.**
Number of teeth Example Zc=3	Edge geometry	Grade

Code key – Heads Threading

R	335	.	14	-	217	M	N	P	250500	-	12	Z3
1	2		3		4	5	6	7	8		9	10

1.	2.	3.
Right hand	Disc milling code	System
4.	**5.**	**6.**
Head diameter example: 21.7 mm	Thread type (W and UN)	Internal thread (E = external, X = internal/external)
7.	**8.**	**9.**
Partial profile (F = full profile)	Pitch size (2,50-5,00 mm or ex. only a fixed pitch 2,5 mm, 16 tpi...)	Connection size
10		
No. of teeth		

Code key – Shank

Cylindrical shank

335	.	14	-	16	9	.	0	-	45	-	110	-	E
1		2		3	4		5		6		7		8

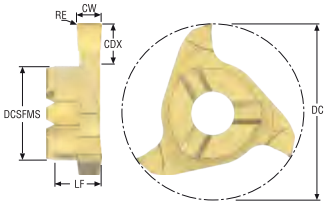
1.	2.	3.
Disc Milling code	System	Shank diameter DMM = 16mm Alternative inch, example 0625 for DMM=0.625”
4.	**5.**	**6.**
Connection size (insert/shank) in mm Example: 9mm	.0 cylindrical connection type	Access length including insert 45 mm Alternative Inch, example 177 for 1.77”
7.	**8.**	
Overall length including insert 110 mm Alternative Inch, example 433 for 4.33”	-E for carbide shank otherwise steel shank	

Collet chuck

335	.	14	-	ER25	-	12	-	30
1		2		3		4		5

1.	2.	3.
Disc Milling code	System	ER Collet chuck size
4.	**5.**	
Connection size (insert / shank) in mm Example: 12mm	Access length in mm including insert Example 30mm	

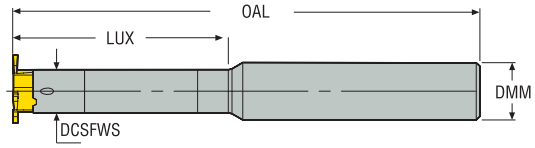
Selection – heads

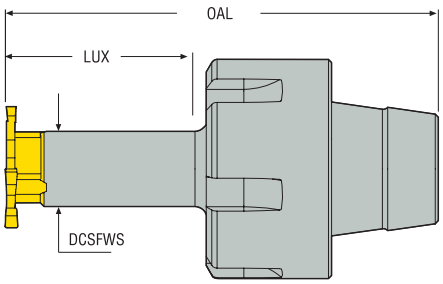


		mm	inch	Cutter diameter in mm (min bore diameter in mm)													See page
				9.7 (10)		11.7 (12)	13.7 (14)		15,7	17.7 (20)		21.7 (22)		27.7 (28)		34.7 (35)	
				Cutter Diameter DC in inch (min bore diameter in inch)													
				0,382 (0,394)		0,461 (0,472)	0,539 (0,551)			0,697 (0,709)		0,854 (0,866)		1,091 (1,102)		1,366 (1,378)	
				Connection size DCSFMS in mm													
				6		6	8	8	8	9		12		14		14	
				Number of teeth ZEFP													
				ZEFP=3	ZEFP=6	ZEFP=3	ZEFP=3	ZEFP=6	ZEFP=3	ZEFP=3	ZEFP=6	ZEFP=3	ZEFP=6	ZEFP=3	ZEFP=6	ZEFP=6	
Grooving	Width of cut	1	0,039	x			x										336, 337
		1,5	0,059	x			x			x		x	x	x	x	x	
		2	0,079	x			x			x		x	x	x	x	x	
		2,5	0,098	x			x			x		x	x	x	x	x	
		3	0,118							x		x	x	x	x	x	
		3,5	0,138											x			
		4	0,157							x		x		x	x		
		5	0,197									x		x	x		
		6	0,236											x	x		
		*CDX (mm)=		1,5			2,5			3,5		4,5		6,5		10	
		*CDX (inch)=		0,059			0,098			0,138		0,177		0,256		0,394	
Circlips groove	Nominal width of cut	0.7	0,028	x													339
		0,8	0,031	x													
		0,9	0,035	x													
		1,1	0,043	x						x							
		1,3	0,051	x						x							
		1,6	0,063							x		x					
		1,85	0,073									x					
		2,15	0,085									x					
		2,65	0,104									x					
		3,15	0,124									x					
		4,15	0,163									x					
		5,15	0,203									x					
		*CDX (mm)=		1,5						3,5		4,5					
		*CDX (inch)=		0,059						0,138		0,177					
Full radius	Width of cut and (Radius)	1 (R0,5)	0,039 (0,020)									x					340
		2 (R1)	0,079 (0,039)									x					
		2.2 (R1,1)	0,087 (0,043)			x				x							
		3 (R1,5)	0,118 (0,059)									x					
		4 (R2)	0,157 (0,079)									x					
		5 (R2,5)	0,197 (0,098)									x					
		*CDX (mm)=				2,5				3,5		4,5					
		*CDX (inch)=				0,098				0,138		0,177					
Chamfering	Width of cut x angle°	1.2 x45°	0,047x45°		x												341
		1.5x45°	0,059x45°					X			X						
		2,0x45°	0,079x45°								X						
		2,2x45°	0,087x45°										X				
Threading	Type of thread	Metric				x			x	x		x					342
		Whitworth				x			x	x							
		UN								x							

X **Solution available - grade F32M**

Selection – shanks





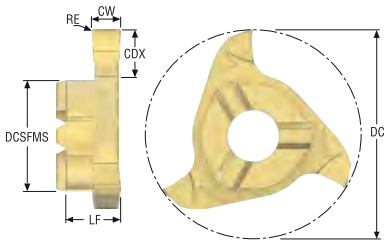
Connection size (DCSFWS)		Shank diameter mm								Shank diameter inch				ER collect chuck size			
		DMM = 10		DMM = 12		DMM = 16		DMM = 20		DMM=0.5		DMM=0.625		ER11	ER16	ER25	ER32
		OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	OAL	LUX	LUX mm (inch)			
	6	60	15	80	21					3.15	0.83			16 (0.63)			
				90	30					3.54	1.18						
				100	42					3.94	1.65						
	8	60	17	95	29					3.74	1.14			16 (0.63)	22 (0.866)		
				110	42					4.33	1.65						
				120	56					4.72	2.2						
	9					80	18					3.15	0.71	22 (0.866)	22 (0.866)	22 (0.866)	
						100	32					3.94	1.26				
						110	45					4.33	1.77				
						130	64					5.12	2.52				
	12					80	24					3.15	0.94	30 (1.181)	30 (1.181)	30 (1.181)	
						100	42					3.94	1.65				
						130	60					5.12	2.36				
						160	85					6.3	3.35				
	14					100	42					3.94	1.65			19 (0.748)	19 (0.748)
						130	60					5.12	2.36			35 (1.378)	35 (1.378)
						160	85					6.3	3.35				
								100	35								
See page		345-346												347			

The dimensions OAL and LUX are indicated for a tool with 3 teeth.

	Shank in steel
	Shank in carbide

335.14 insert: general grooving





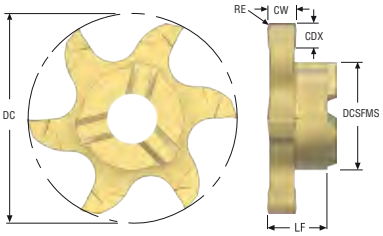
- Suitable shank, see page 345-347
- Cutting data, see page(s) 348 - 351
- Technical information, see page 353
- For ISO attribute explanation, see page 16

Designation	DC	CW	CDX	DCSFMS	LF	RE	ZEFP	Grades Coated			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M			
R335.14-097100.06Z3-M01	9,7 *0.382*	1,0 *0.039*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	0,1 *0.004*	3	■			
R335.14-097150.06Z3-M01	9,7 *0.382*	1,5 *0.059*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	0,2 *0.008*	3	■			
R335.14-097200.06Z3-M01	9,7 *0.382*	2,0 *0.079*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	0,2 *0.008*	3	■			
R335.14-097250.06Z3-M01	9,7 *0.382*	2,5 *0.098*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	0,2 *0.008*	3	■			
R335.14-137100.08Z3-M01	13,7 *0.539*	1,0 *0.039*	2,5 *0.098*	8,0 *0.315*	4,35 *0.171*	0,1 *0.004*	3	■			
R335.14-137150.08Z3-M01	13,7 *0.539*	1,5 *0.059*	2,5 *0.098*	8,0 *0.315*	4,5 *0.177*	0,2 *0.008*	3	■			
R335.14-137200.08Z3-M01	13,7 *0.539*	2,0 *0.079*	2,5 *0.098*	8,0 *0.315*	4,5 *0.177*	0,2 *0.008*	3	■			
R335.14-137250.08Z3-M01	13,7 *0.539*	2,5 *0.098*	2,5 *0.098*	8,0 *0.315*	4,5 *0.177*	0,2 *0.008*	3	■			
R335.14-177150.09Z3-M02	17,7 *0.697*	1,5 *0.059*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,2 *0.008*	3	■			
R335.14-177200.09Z3-M02	17,7 *0.697*	2,0 *0.079*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,2 *0.008*	3	■			
R335.14-177250.09Z3-M02	17,7 *0.697*	2,5 *0.098*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,2 *0.008*	3	■			
R335.14-177300.09Z3-M02	17,7 *0.697*	3,0 *0.118*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,2 *0.008*	3	■			
R335.14-177400.09Z3-M02	17,7 *0.697*	4,0 *0.157*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,2 *0.008*	3	■			
R335.14-217150.12Z3-M03	21,7 *0.854*	1,5 *0.059*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,2 *0.008*	3	■			
R335.14-217200.12Z3-M03	21,7 *0.854*	2,0 *0.079*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,2 *0.008*	3	■			
R335.14-217250.12Z3-M03	21,7 *0.854*	2,5 *0.098*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,2 *0.008*	3	■			
R335.14-217300.12Z3-M03	21,7 *0.854*	3,0 *0.118*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,2 *0.008*	3	■			
R335.14-217400.12Z3-M03	21,7 *0.854*	4,0 *0.157*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,2 *0.008*	3	■			
R335.14-217500.12Z3-M03	21,7 *0.854*	5,0 *0.197*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,2 *0.008*	3	■			
R335.14-277150.14Z3-M03	27,7 *1.091*	1,5 *0.059*	6,5 *0.256*	14,0 *0.551*	6,5 *0.256*	0,2 *0.008*	3	■			
R335.14-277200.14Z3-M03	27,7 *1.091*	2,0 *0.079*	6,5 *0.256*	14,0 *0.551*	6,5 *0.256*	0,2 *0.008*	3	■			
R335.14-277250.14Z3-M03	27,7 *1.091*	2,5 *0.098*	6,5 *0.256*	14,0 *0.551*	6,5 *0.256*	0,2 *0.008*	3	■			

Designation	DC	CW	CDX	DCSFMS	LF	RE	ZEFP	Grades Coated		
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M		
R335.14-277300.14Z3-M03	27,7 *1.091*	3,0 *0.118*	6,5 *0.256*	14,0 *0.551*	6,5 *0.256*	0,2 *0.008*	3	■		
R335.14-277350.14Z3-M03	27,7 *1.091*	3,5 *0.138*	6,5 *0.256*	14,0 *0.551*	6,5 *0.256*	0,2 *0.008*	3	■		
R335.14-277400.14Z3-M03	27,7 *1.091*	4,0 *0.157*	6,5 *0.256*	14,0 *0.551*	6,5 *0.256*	0,2 *0.008*	3	■		
R335.14-277500.14Z3-M03	27,7 *1.091*	5,0 *0.197*	6,5 *0.256*	14,0 *0.551*	6,6 *0.260*	0,2 *0.008*	3	■		
R335.14-277600.14Z3-M03	27,7 *1.091*	6,0 *0.236*	6,5 *0.256*	14,0 *0.551*	6,6 *0.260*	0,2 *0.008*	3	■		

335.14 insert: general grooving

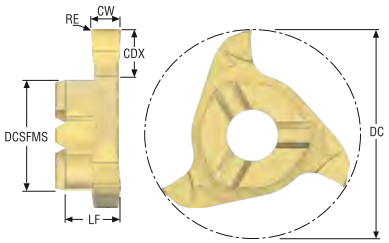




- Suitable shank, see page 345-347
- Cutting data, see page(s) 348 - 351
- Technical information, see page 353
- For ISO attribute explanation, see page 16

Designation	DC	CW	CDX	DCSFMS	LF	RE	ZEFP	Grades Coated		
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M		
R335.14-217150.12Z6-M03	21,7 *0.854*	1,5 *0.059*	4,5 *0.177*	12,0 *0.472*	6,25 *0.246*	0,1 *0.004*	6	■		
R335.14-217200.12Z6-M03	21,7 *0.854*	2,0 *0.079*	4,5 *0.177*	12,0 *0.472*	6,25 *0.246*	0,2 *0.008*	6	■		
R335.14-217250.12Z6-M03	21,7 *0.854*	2,5 *0.098*	4,5 *0.177*	12,0 *0.472*	6,25 *0.246*	0,2 *0.008*	6	■		
R335.14-217300.12Z6-M03	21,7 *0.854*	3,0 *0.118*	4,5 *0.177*	12,0 *0.472*	6,25 *0.246*	0,2 *0.008*	6	■		
R335.14-217400.12Z6-M03	21,7 *0.854*	4,0 *0.157*	4,5 *0.177*	12,0 *0.472*	6,25 *0.246*	0,2 *0.008*	6	■		
R335.14-277150.14Z6-M03	27,7 *1.091*	1,5 *0.059*	6,5 *0.256*	14,0 *0.551*	6,45 *0.254*	0,1 *0.004*	6	■		
R335.14-277200.14Z6-M03	27,7 *1.091*	2,0 *0.079*	6,5 *0.256*	14,0 *0.551*	6,4 *0.252*	0,2 *0.008*	6	■		
R335.14-277250.14Z6-M03	27,7 *1.091*	2,5 *0.098*	6,5 *0.256*	14,0 *0.551*	6,4 *0.252*	0,2 *0.008*	6	■		
R335.14-277300.14Z6-M03	27,7 *1.091*	3,0 *0.118*	6,5 *0.256*	14,0 *0.551*	6,4 *0.252*	0,2 *0.008*	6	■		
R335.14-277400.14Z6-M03	27,7 *1.091*	4,0 *0.157*	6,5 *0.256*	14,0 *0.551*	6,4 *0.252*	0,2 *0.008*	6	■		
R335.14-277500.14Z6-M03	27,7 *1.091*	5,0 *0.197*	6,5 *0.256*	14,0 *0.551*	6,35 *0.250*	0,2 *0.008*	6	■		
R335.14-277600.14Z6-M03	27,7 *1.091*	6,0 *0.236*	6,5 *0.256*	14,0 *0.551*	6,35 *0.250*	0,2 *0.008*	6	■		
R335.14-347150.14Z6-M03	34,7 *1.366*	1,5 *0.059*	10,0 *0.394*	14,0 *0.551*	6,25 *0.246*	0,1 *0.004*	6	■		
R335.14-347200.14Z6-M03	34,7 *1.366*	2,0 *0.079*	10,0 *0.394*	14,0 *0.551*	6,25 *0.246*	0,2 *0.008*	6	■		
R335.14-347250.14Z6-M03	34,7 *1.366*	2,5 *0.098*	10,0 *0.394*	14,0 *0.551*	6,25 *0.246*	0,2 *0.008*	6	■		
R335.14-347300.14Z6-M03	34,7 *1.366*	3,0 *0.118*	10,0 *0.394*	14,0 *0.551*	6,25 *0.246*	0,2 *0.008*	6	■		

335.14 insert: For circlips groove



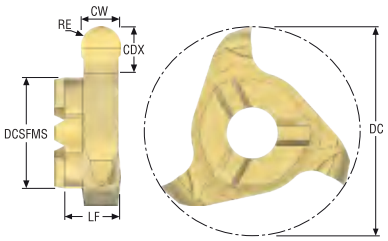


- Suitable shank, see page 345-347
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- Technical information, see page 353
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Designation	DC	CW	CDX	DCSFMS	LF	RE	ZEFP	Grades Coated			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M			
R335.14-097070.06Z3-M01	9,7 *0.382*	0,74 *0.029*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	0,0 –	3	■			
R335.14-097080.06Z3-M01	9,7 *0.382*	0,84 *0.033*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	0,0 –	3	■			
R335.14-097090.06Z3-M01	9,7 *0.382*	0,94 *0.037*	1,5 *0.059*	6,0 *0.236*	3,35 *0.132*	0,0 –	3	■			
R335.14-097110.06Z3-M01	9,7 *0.382*	1,21 *0.048*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	0,0 –	3	■			
R335.14-097130.06Z3-M01	9,7 *0.382*	1,41 *0.056*	1,5 *0.059*	6,0 *0.236*	3,5 *0.138*	0,1 *0.004*	3	■			
R335.14-177110.09Z3-M02	17,7 *0.697*	1,21 *0.048*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,0 –	3	■			
R335.14-177130.09Z3-M02	17,7 *0.697*	1,41 *0.056*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,1 *0.004*	3	■			
R335.14-177160.09Z3-M02	17,7 *0.697*	1,71 *0.067*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	0,1 *0.004*	3	■			
R335.14-217160.12Z3-M03	21,7 *0.854*	1,71 *0.067*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,1 *0.004*	3	■			
R335.14-217185.12Z3-M03	21,7 *0.854*	1,96 *0.077*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	■			
R335.14-217215.12Z3-M03	21,7 *0.854*	2,26 *0.089*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	■			
R335.14-217265.12Z3-M03	21,7 *0.854*	2,76 *0.109*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	■			
R335.14-217315.12Z3-M03	21,7 *0.854*	3,26 *0.128*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	■			
R335.14-217415.12Z3-M03	21,7 *0.854*	4,26 *0.168*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	■			
R335.14-217515.12Z3-M03	21,7 *0.854*	5,26 *0.207*	4,5 *0.177*	12,0 *0.472*	5,7 *0.224*	0,15 *0.006*	3	■			

335.14 insert: Full radius profile

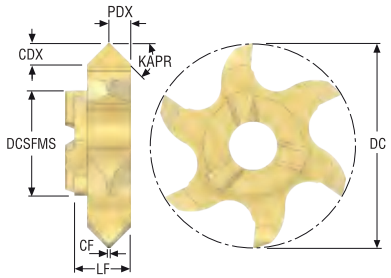




- Suitable shank, see page 345-347
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Designation	DC	CW	CDX	DCSFMS	LF	RE	ZEFP	Grades Coated			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M			
R335.14-117R11.06Z3-M01	11,7 *0.461*	2,2 *0.087*	2,5 *0.098*	6,0 *0.236*	3,5 *0.138*	1,1 *0.043*	3	■			
R335.14-177R11.09Z3-M02	17,7 *0.697*	2,2 *0.087*	3,5 *0.138*	9,0 *0.354*	5,75 *0.226*	1,1 *0.043*	3	■			
R335.14-217R05.12Z3-M03	21,7 *0.854*	1,0 *0.039*	4,5 *0.177*	12,0 *0.472*	5,6 *0.220*	0,5 *0.020*	3	■			
R335.14-217R10.12Z3-M03	21,7 *0.854*	2,0 *0.079*	4,5 *0.177*	12,0 *0.472*	5,75 *0.226*	1,0 *0.039*	3	■			
R335.14-217R15.12Z3-M03	21,7 *0.854*	3,0 *0.118*	4,5 *0.177*	12,0 *0.472*	5,75 *0.226*	1,5 *0.059*	3	■			
R335.14-217R20.12Z3-M03	21,7 *0.854*	4,0 *0.157*	4,5 *0.177*	12,0 *0.472*	5,75 *0.226*	2,0 *0.079*	3	■			
R335.14-217R25.12Z3-M03	21,7 *0.854*	5,0 *0.197*	4,5 *0.177*	12,0 *0.472*	5,75 *0.226*	2,5 *0.098*	3	■			

335.14 insert: Top and Bottom chamfering



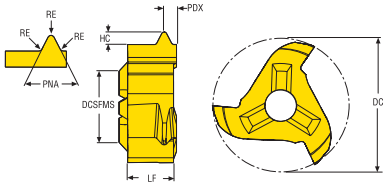


- Suitable shank, see page 345-347
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Designation	DC	CF	CDX	PDX	DCSFMS	LF	KAPR	ZEFP	Grades Coated			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			F32M			
R335.14-097C45.06Z6-M01	9,7 *0.382*	0,2 *0.008*	1,2 *0.047*	1,5 *0.059*	6,0 *0.236*	3,4 *0.134*	45,0	6	■			
R335.14-137C45.08Z6-M01	13,7 *0.539*	0,2 *0.008*	1,8 *0.071*	2,2 *0.087*	8,0 *0.315*	4,6 *0.181*	45,0	6	■			
R335.14-177C45.09Z6-M02	17,7 *0.697*	0,2 *0.008*	2,2 *0.087*	2,8 *0.110*	9,0 *0.354*	5,8 *0.228*	45,0	6	■			
R335.14-217C45.12Z6-M03	21,7 *0.854*	0,2 *0.008*	2,0 *0.079*	2,3 *0.091*	12,0 *0.472*	6,05 *0.238*	45,0	6	■			

335.14 Insert: Threading profile Whitworth

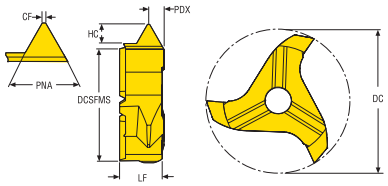




- Suitable shank, see page 345-347
- Cutting data, see page(s) 352
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Designation	DC	HC	PNA	PDX	DCSFMS	LF	RE	ZEFP	Grades Coated		
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M		
R335.14-117WXF11.06Z3	11,7 *0.461*	1,48 *0.058*	55,0 *2.165*	1,6 *0.063*	6,0 *0.236*	3,6 *0.142*	0,31 *0.012*	3	■		
R335.14-117WXF14.06Z3	11,7 *0.461*	1,16 *0.046*	55,0 *2.165*	1,3 *0.051*	6,0 *0.236*	3,6 *0.142*	0,24 *0.009*	3	■		
R335.14-117WXF19.06Z3	11,7 *0.461*	0,86 *0.034*	55,0 *2.165*	1,1 *0.043*	6,0 *0.236*	3,6 *0.142*	0,18 *0.007*	3	■		
R335.14-157WXF14.08Z3	15,7 *0.618*	1,17 *0.046*	55,0 *2.165*	1,5 *0.059*	8,0 *0.315*	4,6 *0.181*	0,24 *0.009*	3	■		
R335.14-177WXF11.09Z3	17,7 *0.697*	1,48 *0.058*	55,0 *2.165*	1,45 *0.057*	9,0 *0.354*	5,85 *0.230*	0,31 *0.012*	3	■		
R335.14-177WXF14.09Z3	17,7 *0.697*	1,16 *0.046*	55,0 *2.165*	1,25 *0.049*	9,0 *0.354*	5,85 *0.230*	0,24 *0.009*	3	■		
R335.14-177WXF19.09Z3	17,7 *0.697*	0,856 *0.034*	55,0 *2.165*	0,95 *0.037*	9,0 *0.354*	5,85 *0.230*	0,18 *0.007*	3	■		

335.14 Insert: Threading Partial profile



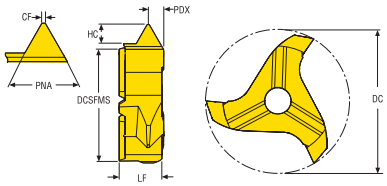


- Suitable shank, see page 345-347
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Designation	DC	HC	CF	PNA	PDX	DCSFMS	LF	ZEFP	Grades Coated			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M			
R335.14-117MNP100200.06Z3	11,7 *0.461*	1,25 *0.049*	0,13 *0.005*	60,0 *2.362*	0,8 *0.031*	6,0 *0.236*	3,6 *0.142*	3	■			
R335.14-117MNP200300.06Z3	11,7 *0.461*	1,78 *0.070*	0,25 *0.010*	60,0 *2.362*	1,2 *0.047*	6,0 *0.236*	3,6 *0.142*	3	■			
R335.14-157MNP150275.08Z3	15,7 *0.618*	1,67 *0.066*	0,19 *0.007*	60,0 *2.362*	1,1 *0.043*	8,0 *0.315*	4,6 *0.181*	3	■			
R335.14-157MNP250300.08Z3	15,7 *0.618*	1,78 *0.070*	0,31 *0.012*	60,0 *2.362*	1,2 *0.047*	8,0 *0.315*	4,6 *0.181*	3	■			
R335.14-177MNP100200.09Z3	17,7 *0.697*	1,19 *0.047*	0,12 *0.005*	60,0 *2.362*	1,15 *0.045*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177MNP150275.09Z3	17,7 *0.697*	1,62 *0.064*	0,19 *0.007*	60,0 *2.362*	1,25 *0.049*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177MNP200375.09Z3	17,7 *0.697*	2,22 *0.087*	0,25 *0.010*	60,0 *2.362*	1,65 *0.065*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177MNP300550.09Z3	17,7 *0.697*	3,25 *0.128*	0,38 *0.015*	60,0 *2.362*	2,25 *0.089*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-217MNP100200.12Z3	21,7 *0.854*	1,19 *0.047*	0,12 *0.005*	60,0 *2.362*	1,25 *0.049*	12,0 *0.472*	5,85 *0.230*	3	■			
R335.14-217MNP200375.12Z3	21,7 *0.854*	2,22 *0.087*	0,25 *0.010*	60,0 *2.362*	1,65 *0.065*	12,0 *0.472*	5,85 *0.230*	3	■			
R335.14-217MNP250450.12Z3	21,7 *0.854*	2,7 *0.106*	0,25 *0.010*	60,0 *2.362*	2,15 *0.085*	12,0 *0.472*	5,85 *0.230*	3	■			
R335.14-217MNP350600.12Z3	21,7 *0.854*	3,84 *0.151*	0,44 *0.017*	60,0 *2.362*	2,65 *0.104*	12,0 *0.472*	5,85 *0.230*	3	■			
R335.14-277MNP250500.14Z3	27,7 *1.091*	2,93 *0.115*	0,37 *0.015*	60,0 *2.362*	2,6 *0.102*	14,0 *0.551*	6,6 *0.260*	3	■			
R335.14-277MNP400600.14Z3	27,7 *1.091*	4,6 *0.181*	0,5 *0.020*	60,0 *2.362*	3,0 *0.118*	14,0 *0.551*	6,6 *0.260*	3	■			

335.14 Insert: Threading profile UN

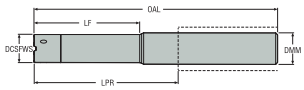


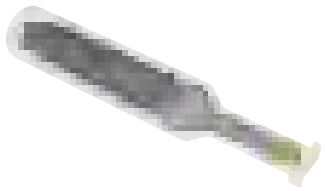


- Suitable shank, see page 345-347
- Cutting data, see page(s) 352
- Technical information, see page 353
- For ISO attribute explanation, see page 16

Designation	DC	HC	CF	PNA	PDX	DCSFMS	LF	ZEFP	Grades Coated			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		F32M			
R335.14-177UNNF10.09Z3	17,7 *0.697*	1,375 *0.054*	0,32 *0.013*	60,0 *2.362*	1,25 *0.049*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF11.09Z3	17,7 *0.697*	1,249 *0.049*	0,29 *0.011*	60,0 *2.362*	1,05 *0.041*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF12.09Z3	17,7 *0.697*	1,146 *0.045*	0,27 *0.011*	60,0 *2.362*	1,05 *0.041*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF14.09Z3	17,7 *0.697*	0,982 *0.039*	0,23 *0.009*	60,0 *2.362*	0,85 *0.033*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF16.09Z3	17,7 *0.697*	0,859 *0.034*	0,2 *0.008*	60,0 *2.362*	0,85 *0.033*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF18.09Z3	17,7 *0.697*	0,763 *0.030*	0,18 *0.007*	60,0 *2.362*	0,85 *0.033*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF20.09Z3	17,7 *0.697*	0,687 *0.027*	0,16 *0.006*	60,0 *2.362*	0,65 *0.026*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF24.09Z3	17,7 *0.697*	0,572 *0.023*	0,13 *0.005*	60,0 *2.362*	0,65 *0.026*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF6.09Z3	17,7 *0.697*	2,291 *0.090*	0,53 *0.021*	60,0 *2.362*	1,65 *0.065*	9,0 *0.354*	5,85 *0.230*	3	■			
R335.14-177UNNF8.09Z3	17,7 *0.697*	1,718 *0.068*	0,4 *0.016*	60,0 *2.362*	1,45 *0.057*	9,0 *0.354*	5,85 *0.230*	3	■			

335.14 shank - Cylindrical version – Metric





- Cutting data, see page(s) 348 - 352
- Technical information, see page 353
- For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DMM	OAL	LF	LPR	Through coolant	RPMX	Weight	Insert
		mm	mm	mm	mm	mm			kg	
335.14-1006.0-015-060	03042024	6,0	10,0	56,5	11,5	16,5	–	30000	0,1	R335.14...06Z..
335.14-1206.0-021-080-E	03042025	6,0	12,0	76,5	17,5	31,5	✓	30000	0,2	R335.14...06Z..
335.14-1206.0-030-090-E	03042026	6,0	12,0	86,5	26,5	41,5	✓	30000	0,2	R335.14...06Z..
335.14-1206.0-042-100-E	03042027	6,0	12,0	96,5	38,5	51,5	✓	30000	0,2	R335.14...06Z..
335.14-1008.0-017-060	03042040	8,0	10,0	55,5	12,5	15,5	–	30000	0,1	R335.14...08Z..
335.14-1208.0-029-095-E	03042041	8,0	12,0	90,5	24,5	45,5	✓	30000	0,2	R335.14...08Z..
335.14-1208.0-042-110-E	03042042	8,0	12,0	105,5	37,5	60,5	✓	30000	0,2	R335.14...08Z..
335.14-1208.0-056-120-E	03042043	8,0	12,0	115,5	51,5	70,5	✓	30000	0,2	R335.14...08Z..
335.14-1609.0-018-080	03042028	9,0	16,0	74,2	12,2	26,2	✓	30000	0,2	R335.14...09Z..
335.14-1609.0-032-100-E	03042029	9,0	16,0	94,2	26,2	46,2	✓	30000	0,3	R335.14...09Z..
335.14-1609.0-045-110-E	03042030	9,0	16,0	104,2	39,2	56,2	✓	30000	0,3	R335.14...09Z..
335.14-1609.0-064-130-E	03042031	9,0	16,0	124,2	58,2	76,2	✓	30000	0,3	R335.14...09Z..
335.14-1612.0-024-080	03042032	12,0	16,0	74,3	18,3	26,3	✓	30000	0,2	R335.14...12Z..
335.14-1612.0-042-100-E	03042033	12,0	16,0	94,3	36,3	46,3	✓	30000	0,2	R335.14...12Z..
335.14-1612.0-060-130-E	03042034	12,0	16,0	124,3	54,3	76,3	✓	30000	0,3	R335.14...12Z..
335.14-1612.0-085-160-E	03042035	12,0	16,0	154,3	76,3	106,3	✓	30000	0,4	R335.14...12Z..
335.14-1614.0-042-100-E	03042036	14,3	16,0	93,5	35,5	45,5	✓	30000	0,3	R335.14...14Z..
335.14-1614.0-060-130-E	03042037	14,3	16,0	123,5	53,5	75,5	✓	30000	0,3	R335.14...14Z..
335.14-1614.0-085-160-E	03042038	14,3	16,0	153,5	78,5	105,5	✓	30000	0,4	R335.14...14Z..
335.14-2014.0-036-100	03042039	14,0	20,0	93,5	29,2	43,5	✓	30000	0,2	R335.14...14Z..

Spare Parts, included in delivery

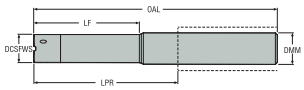
Accessories

For cutter	Insert key	Insert screw	Insert clamping torque	Torque key
				
335.14-..06	H4B-T08P	C92608-T08P	2.0NM	T00-08P20
335.14-..08	H4B-T10P	C93510-T10P	3.5NM	T00-10P35
335.14-..09	H4B-T15P	C94012-T15P	5.0NM	T00-15P50
335.14-..12/14	H6B-T20P	C95012-T20P	7.0NM	–

-E = Carbide shank with DMM tolerance = h6
Steel shank: DMM tolerance = g6

335.14 shank - Cylindrical version – inch





- Cutting data, see page(s) 348 - 352
- Technical information, see page 353
- For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	DMM	OAL	LF	LPR	Through coolant	RPMX	Weight	Insert
		inch	inch	inch	inch	inch			lbs	
335.14-050006.0-083-315-E	03042121	0.236	0.500	3.012	0.689	1.240	✓	30000	0.220	R334.14...06Z..
335.14-050006.0-118-354-E	03042122	0.236	0.500	3.406	1.043	1.634	✓	30000	0.440	R334.14...06Z..
335.14-050006.0-165-394-E	03042107	0.236	0.500	3.799	1.516	2.028	✓	30000	0.440	R334.14...06Z..
335.14-050008.0-114-374-E	03042123	0.315	0.500	3.563	0.965	1.791	✓	30000	0.440	R334.14...08Z..
335.14-050008.0-165-433-E	03042124	0.315	0.500	4.154	1.476	2.382	✓	30000	0.440	R334.14...08Z..
335.14-050008.0-220-472-E	03042119	0.315	0.500	4.547	2.028	2.776	✓	30000	0.440	R334.14...08Z..
335.14-062509.0-071-315	03042108	0.354	0.625	2.921	0.480	1.031	✓	30000	0.440	R334.14...09Z..
335.14-062509.0-126-394-E	03042109	0.354	0.625	3.709	1.031	1.819	✓	30000	0.440	R334.14...09Z..
335.14-062509.0-177-433-E	03042110	0.354	0.625	4.102	1.543	2.213	✓	30000	0.440	R334.14...09Z..
335.14-062509.0-252-512-E	03042111	0.354	0.625	4.890	2.291	3.000	✓	30000	0.660	R334.14...09Z..
335.14-062512.0-094-315	03042112	0.472	0.625	2.925	0.720	1.035	✓	30000	0.440	R334.14...12Z..
335.14-062512.0-165-394-E	03042113	0.472	0.625	3.713	1.429	1.823	✓	30000	0.440	R334.14...12Z..
335.14-062512.0-236-512-E	03042114	0.472	0.625	4.894	2.138	3.004	✓	30000	0.660	R334.14...12Z..
335.14-062512.0-335-630-E	03042115	0.472	0.625	6.075	3.122	4.185	✓	30000	0.880	R334.14...12Z..
335.14-062514.0-165-394-E	03042116	0.551	0.625	3.681	1.398	1.791	✓	30000	0.660	R334.14...14Z..
335.14-062514.0-236-512-E	03042117	0.551	0.625	4.862	2.106	2.972	✓	30000	0.880	R334.14...14Z..
335.14-062514.0-335-630-E	03042118	0.551	0.625	6.043	3.091	4.154	✓	30000	0.880	R334.14...14Z..

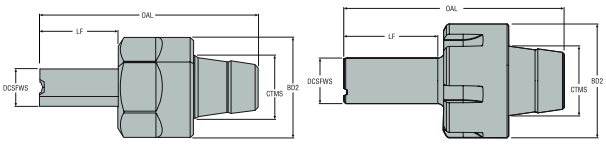
Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Insert clamping torque	Torque key
				
335.14-..06	H4B-T08P	C92608-T08P	17.7IN.LBS	T00-08P20
335.14-..08	H4B-T10P	C93510-T10P	31.0IN.LBS	T00-10P35
335.14-..09	H4B-T15P	C94012-T15P	44.3IN.LBS	T00-15P50
335.14-..12/14	H6B-T20P	C95012-T20P	62.0IN.LBS	–

-E = Carbide shank with DMM tolerance = h6
Steel shank: DMM tolerance = g6

335.14 Shank with ER collet





- Cutting data, see page(s) 348 - 352
- Technical information, see page 353
- For ISO attribute explanation, see page 16

Designation	Item number	DCSFWS	CTMS	OAL	LF	BD2	RPMX	Design	Weight	Insert
		mm	mm	mm	mm	mm			kg	
335.14-ER11-06-016	03042072	6,0	ER 11	34,9	12,5	16,0	20000	1	0,1	R335.14...06Z..
335.14-ER11-08-016	03042085	8,0	ER 11	33,8	11,5	16,0	20000	1	0,1	R335.14...08Z..
335.14-ER16-08-022	03042086	8,0	ER 16	49,6	17,5	32,0	20000	2	0,2	R335.14...08Z..
335.14-ER11-09-022	03042073	9,0	ER 11	38,5	16,2	16,0	20000	1	0,1	R335.14...09Z..
335.14-ER16-09-022	03042074	9,0	ER 16	48,3	16,2	32,0	20000	2	0,2	R335.14...09Z..
335.14-ER25-09-022	03042075	9,0	ER 25	55,3	16,2	35,0	20000	2	0,2	R335.14...09Z..
335.14-ER16-12-030	03042076	12,0	ER 16	56,4	24,3	32,0	20000	2	0,2	R335.14...12Z..
335.14-ER25-12-030	03042078	12,0	ER 25	63,4	24,3	35,0	20000	2	0,2	R335.14...12Z..
335.14-ER32-12-030	03042079	12,0	ER 32	69,4	24,3	50,0	20000	2	0,4	R335.14...12Z..
335.14-ER25-14-019	03042080	14,0	ER 25	52,3	12,5	35,0	20000	2	0,2	R335.14...14Z..
335.14-ER25-14-035	03042081	14,0	ER 25	67,6	28,5	35,0	20000	2	0,2	R335.14...14Z..
335.14-ER32-14-019	03042082	14,0	ER 32	58,3	12,5	50,0	20000	2	0,5	R335.14...14Z..
335.14-ER32-14-035	03042083	14,0	ER 32	73,6	28,5	50,0	20000	2	0,4	R335.14...14Z..

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Insert clamping torque	Torque key
				
335.14-ER..-06	H4B-T08P	C92608-T08P	2.0NM	T00-08P20
335.14-ER..-08	H4B-T10P	C93510-T10P	3.5NM	T00-10P35
335.14-ER..-09	H4B-T15P	C94012-T15P	5.0NM	T00-15P50
335.14-ER..-12/14	H6B-T20P	C95012-T20P	7.0NM	–

R335.14 – Grooving and Chamfering – Insert selection – mm/*Inch*

SMG		f_z		
		15%	10%	5%
P1	R335.14...-M01 F32M	0,036 *0.0014*	0,042 *0.0017*	0,060 *0.0024*
P2	R335.14...-M01 F32M	0,036 *0.0014*	0,042 *0.0017*	0,060 *0.0024*
P3	R335.14...-M01 F32M	0,034 *0.0013*	0,040 *0.0016*	0,055 *0.0022*
P4	R335.14...-M01 F32M	0,034 *0.0013*	0,040 *0.0016*	0,055 *0.0022*
P5	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
P6	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
P7	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
P8	R335.14...-M01 F32M	0,034 *0.0013*	0,040 *0.0016*	0,055 *0.0022*
P11	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
P12	R335.14...-M01 F32M	0,020 *0.00075*	0,024 *0.00090*	0,032 *0.0013*
M1	R335.14...-M01 F32M	0,036 *0.0014*	0,042 *0.0017*	0,060 *0.0024*
M2	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
M3	R335.14...-M01 F32M	0,026 *0.0010*	0,030 *0.0012*	0,042 *0.0017*
M4	R335.14...-M01 F32M	0,020 *0.00080*	0,025 *0.00095*	0,034 *0.0013*
M5	R335.14...-M01 F32M	0,020 *0.00080*	0,025 *0.00095*	0,034 *0.0013*
K1	R335.14...-M01 F32M	0,036 *0.0014*	0,042 *0.0017*	0,060 *0.0024*
K2	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
K3	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
K4	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
K5	R335.14...-M01 F32M	0,030 *0.0012*	0,034 *0.0013*	0,048 *0.0019*
K6	R335.14...-M01 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
K7	R335.14...-M01 F32M	0,030 *0.0012*	0,034 *0.0013*	0,048 *0.0019*
N1	R335.14...-M01 F32M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
N2	R335.14...-M01 F32M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
N3	R335.14...-M01 F32M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
N11	R335.14...-M01 F32M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
S1	R335.14...-M01 F32M	0,020 *0.00080*	0,025 *0.00095*	0,034 *0.0013*
S2	R335.14...-M01 F32M	0,020 *0.00080*	0,025 *0.00095*	0,034 *0.0013*
S3	R335.14...-M01 F32M	0,018 *0.00070*	0,022 *0.00085*	0,030 *0.0012*
S11	R335.14...-M01 F32M	0,026 *0.0010*	0,030 *0.0012*	0,042 *0.0017*
S12	R335.14...-M01 F32M	0,026 *0.0010*	0,030 *0.0012*	0,042 *0.0017*
S13	R335.14...-M01 F32M	0,020 *0.00080*	0,025 *0.00095*	0,034 *0.0013*
H5	R335.14...-M01 F32M	0,020 *0.00075*	0,024 *0.00090*	0,032 *0.0013*
H8	R335.14...-M01 F32M	0,011 *0.00044*	0,014 *0.00055*	0,019 *0.00075*
H11	R335.14...-M01 F32M	0,020 *0.00075*	0,024 *0.00090*	0,032 *0.0013*
H12	R335.14...-M01 F32M	0,011 *0.00044*	0,014 *0.00055*	0,019 *0.00075*
H21	R335.14...-M01 F32M	0,011 *0.00044*	0,014 *0.00055*	0,019 *0.00075*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.14 – Grooving and Chamfering – Insert selection – mm/*Inch*

SMG		f_z		
		15%	10%	5%
P1	R335.14...-M02 F32M	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
P2	R335.14...-M02 F32M	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*
P3	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
P4	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P5	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P6	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P7	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P8	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,095 *0.0038*
P11	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
P12	R335.14...-M02 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
M1	R335.14...-M02 F32M	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*
M2	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
M3	R335.14...-M02 F32M	0,044 *0.0017*	0,050 *0.0020*	0,070 *0.0028*
M4	R335.14...-M02 F32M	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
M5	R335.14...-M02 F32M	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
K1	R335.14...-M02 F32M	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*
K2	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K3	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K4	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K5	R335.14...-M02 F32M	0,048 *0.0019*	0,060 *0.0024*	0,080 *0.0032*
K6	R335.14...-M02 F32M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
K7	R335.14...-M02 F32M	0,048 *0.0019*	0,060 *0.0024*	0,080 *0.0032*
N1	R335.14...-M02 F32M	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
N2	R335.14...-M02 F32M	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
N3	R335.14...-M02 F32M	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
N11	R335.14...-M02 F32M	0,075 *0.0030*	0,090 *0.0036*	0,13 *0.0050*
S1	R335.14...-M02 F32M	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
S2	R335.14...-M02 F32M	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
S3	R335.14...-M02 F32M	0,030 *0.0012*	0,036 *0.0014*	0,048 *0.0019*
S11	R335.14...-M02 F32M	0,044 *0.0017*	0,050 *0.0020*	0,070 *0.0028*
S12	R335.14...-M02 F32M	0,044 *0.0017*	0,050 *0.0020*	0,070 *0.0028*
S13	R335.14...-M02 F32M	0,034 *0.0014*	0,042 *0.0016*	0,055 *0.0022*
H5	R335.14...-M02 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
H8	R335.14...-M02 F32M	0,019 *0.00075*	0,022 *0.00090*	0,032 *0.0012*
H11	R335.14...-M02 F32M	0,032 *0.0013*	0,038 *0.0015*	0,055 *0.0022*
H12	R335.14...-M02 F32M	0,019 *0.00075*	0,022 *0.00090*	0,032 *0.0012*
H21	R335.14...-M02 F32M	0,019 *0.00075*	0,022 *0.00090*	0,032 *0.0012*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.14 – Grooving and Chamfering – Insert selection – mm/*Inch*

SMG		f_z			
		20%	15%	10%	5%
P1	R335.14...-M03 F32M	0,065 *0.0026*	0,070 *0.0028*	0,085 *0.0034*	0,12 *0.0048*
P2	R335.14...-M03 F32M	0,065 *0.0026*	0,070 *0.0028*	0,085 *0.0034*	0,12 *0.0048*
P3	R335.14...-M03 F32M	0,060 *0.0024*	0,070 *0.0028*	0,080 *0.0032*	0,11 *0.0044*
P4	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
P5	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
P6	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*
P7	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*
P8	R335.14...-M03 F32M	0,060 *0.0024*	0,070 *0.0028*	0,080 *0.0032*	0,11 *0.0044*
P11	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,075 *0.0030*	0,11 *0.0044*
P12	R335.14...-M03 F32M	0,036 *0.0014*	0,040 *0.0016*	0,046 *0.0018*	0,065 *0.0026*
M1	R335.14...-M03 F32M	0,065 *0.0026*	0,070 *0.0028*	0,085 *0.0034*	0,12 *0.0048*
M2	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
M3	R335.14...-M03 F32M	0,046 *0.0018*	0,050 *0.0020*	0,065 *0.0026*	0,085 *0.0034*
M4	R335.14...-M03 F32M	0,038 *0.0015*	0,042 *0.0016*	0,050 *0.0020*	0,070 *0.0028*
M5	R335.14...-M03 F32M	0,038 *0.0015*	0,042 *0.0016*	0,050 *0.0020*	0,070 *0.0028*
K1	R335.14...-M03 F32M	0,065 *0.0026*	0,070 *0.0028*	0,085 *0.0034*	0,12 *0.0048*
K2	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K3	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K4	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K5	R335.14...-M03 F32M	0,055 *0.0022*	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
K6	R335.14...-M03 F32M	0,060 *0.0024*	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K7	R335.14...-M03 F32M	0,055 *0.0022*	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
N1	R335.14...-M03 F32M	0,080 *0.0032*	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
N2	R335.14...-M03 F32M	0,080 *0.0032*	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
N3	R335.14...-M03 F32M	0,080 *0.0032*	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
N11	R335.14...-M03 F32M	0,080 *0.0032*	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
S1	R335.14...-M03 F32M	0,038 *0.0015*	0,042 *0.0016*	0,050 *0.0020*	0,070 *0.0028*
S2	R335.14...-M03 F32M	0,038 *0.0015*	0,042 *0.0016*	0,050 *0.0020*	0,070 *0.0028*
S3	R335.14...-M03 F32M	0,032 *0.0013*	0,036 *0.0014*	0,042 *0.0017*	0,060 *0.0024*
S11	R335.14...-M03 F32M	0,046 *0.0018*	0,050 *0.0020*	0,065 *0.0026*	0,085 *0.0034*
S12	R335.14...-M03 F32M	0,046 *0.0018*	0,050 *0.0020*	0,065 *0.0026*	0,085 *0.0034*
S13	R335.14...-M03 F32M	0,038 *0.0015*	0,042 *0.0016*	0,050 *0.0020*	0,070 *0.0028*
H5	R335.14...-M03 F32M	0,036 *0.0014*	0,040 *0.0016*	0,046 *0.0018*	0,065 *0.0026*
H8	R335.14...-M03 F32M	0,020 *0.00080*	0,024 *0.00090*	0,028 *0.0011*	0,038 *0.0015*
H11	R335.14...-M03 F32M	0,036 *0.0014*	0,040 *0.0016*	0,046 *0.0018*	0,065 *0.0026*
H12	R335.14...-M03 F32M	0,020 *0.00080*	0,024 *0.00090*	0,028 *0.0011*	0,038 *0.0015*
H21	R335.14...-M03 F32M	0,020 *0.00080*	0,024 *0.00090*	0,028 *0.0011*	0,038 *0.0015*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.14 – Grooving and Chamfering – Cutting data v_c = (m/min)/*(sf/min)*

SMG	335.14			
	20%	15%	10%	5%
P1	230 *750*	240 *790*	255 *840*	275 *900*
P2	225 *740*	235 *770*	245 *800*	265 *870*
P3	195 *640*	200 *660*	215 *710*	230 *750*
P4	170 *560*	180 *590*	190 *620*	205 *670*
P5	165 *540*	170 *560*	180 *590*	195 *640*
P6	185 *610*	190 *620*	205 *670*	220 *720*
P7	175 *570*	180 *590*	195 *640*	205 *670*
P8	165 *540*	170 *560*	180 *590*	195 *640*
P11	170 *560*	175 *570*	190 *620*	200 *660*
P12	105 *345*	110 *360*	120 *395*	130 *425*
M1	195 *640*	205 *670*	215 *710*	235 *770*
M2	160 *520*	165 *540*	175 *570*	190 *620*
M3	125 *410*	135 *445*	140 *460*	150 *490*
M4	100 *330*	100 *330*	110 *360*	115 *375*
M5	80 *260*	85 *280*	90 *295*	95 *310*
K1	225 *740*	235 *770*	250 *820*	270 *890*
K2	200 *660*	205 *670*	220 *720*	235 *770*
K3	165 *540*	175 *570*	185 *610*	200 *660*
K4	160 *520*	165 *540*	175 *570*	190 *620*
K5	95 *310*	100 *330*	105 *345*	115 *375*
K6	140 *460*	145 *475*	155 *510*	170 *560*
K7	125 *410*	130 *425*	135 *445*	150 *490*
N1	1000 *3275*	1050 *3450*	1100 *3600*	1200 *3925*
N2	325 *1075*	340 *1125*	355 *1175*	385 *1275*
N3	215 *710*	225 *740*	235 *770*	260 *850*
N11	290 *950*	300 *980*	315 *1025*	345 *1125*
S1	29 *95*	31 *100*	32 *105*	35 *115*
S2	24 *80*	25 *80*	26 *85*	28 *90*
S3	21 *70*	22 *70*	23 *75*	25 *80*
S11	41 *135*	43 *140*	45 *150*	49 *160*
S12	38 *125*	40 *130*	42 *140*	45 *150*
S13	22 *70*	23 *75*	24 *80*	26 *85*
H5	55 *180*	55 *180*	60 *195*	65 *215*
H8	60 *195*	60 *195*	65 *215*	70 *230*
H11	70 *230*	75 *245*	80 *260*	85 *280*
H12	70 *230*	70 *230*	75 *245*	80 *260*
H21	60 *195*	60 *195*	65 *215*	70 *230*

335.14 – Threading – Cutting data v_c = (m/min)/*(sf/min)*

SMG	R335.14	
	f_z	v_c
P1	0,070 *0.0028*	275 *900*
P2	0,070 *0.0028*	270 *890*
P3	0,070 *0.0028*	230 *750*
P4	0,065 *0.0026*	205 *670*
P5	0,065 *0.0026*	195 *640*
P6	0,065 *0.0026*	215 *710*
P7	0,065 *0.0026*	205 *670*
P8	0,070 *0.0028*	195 *640*
P11	0,065 *0.0026*	200 *660*
P12	0,044 *0.0017*	120 *395*
M1	0,070 *0.0028*	215 *710*
M2	0,065 *0.0026*	175 *570*
M3	0,050 *0.0020*	130 *425*
M4	0,046 *0.0018*	100 *330*
M5	0,046 *0.0018*	80 *260*
K1	0,070 *0.0028*	210 *690*
K2	0,065 *0.0026*	185 *610*
K3	0,065 *0.0026*	180 *590*
K4	0,065 *0.0026*	150 *490*
K5	0,060 *0.0024*	90 *295*
K6	0,065 *0.0026*	130 *425*
K7	0,060 *0.0024*	115 *375*
N1	0,090 *0.0036*	970 *3175*
N2	0,090 *0.0036*	620 *2025*
N3	0,090 *0.0036*	415 *1350*
N11	0,090 *0.0036*	475 *1550*
S1	0,046 *0.0018*	50 *165*
S2	0,046 *0.0018*	41 *135*
S3	0,042 *0.0017*	35 *115*
S11	0,050 *0.0020*	65 *215*
S12	0,050 *0.0020*	50 *165*
S13	0,046 *0.0018*	39 *130*
H5	0,044 *0.0017*	43 *140*
H8	0,034 *0.0013*	45 *150*
H11	0,044 *0.0017*	60 *195*
H12	0,034 *0.0013*	55 *180*
H21	0,034 *0.0013*	45 *150*

Technical information – Threading

Recommendation for circular interpolation

To avoid vibration and insert damage when working with internal circular interpolation, we recommend a progressive entrance into the material. The circular arc angle for the progressive immersion should be between 45° and 180°



When calculating cutting datas for circular interpolation please be aware of the real radial depth of cut and the feed speed related to the centre of the cutter- See page 863 for more info

Milling insert with 6 cutting edges





If vibrations appear when working with milling insert with 6 cutting edges please reduce the radial depth of cut to reduce the number of teeth into contact with the material , an alternative is to choose an insert with 3 cutting edges instead.

Holder recommendation

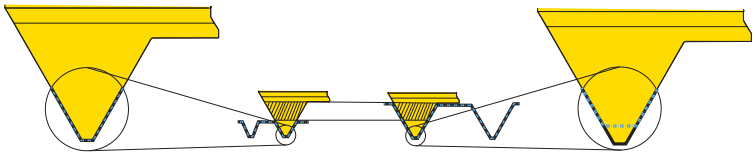
For best result in terms of stability, precision and reliability, it is recommended to use the following SECO-Tooling holders
-High precision collet chucks ERHP 5672
-Shrink fit Holder SFD 5603, SFR 5600 and SFS 5801
-ER Collet chuck ER 5675
-Power Milling Chuck, PMC

Please see SECO Tooling System catalogue for more information.



Technical information – Threading

Pitch (as of/up to)



Actual Thread

Standard thread form

Thread milling by circular interpolation can cause thread profi le violation when using insert for partial thread. Keep this in mind during the process of selecting tool. The tool diameter need to be small enough compare to the hole diameter. The pitch also needs to be considered.

Insert with partial profile for Metric ISO-Threads are multi tools. That means that each insert could machine different pitches. The insert is designed to meet the minimum pitch size (TPN); Machining this pitch will result in a standard conform thread form.

The given maximum pitch size (TPX) can be machined also with this insert at the expense of standard conformity: The result will be a slightly deeper thread than the standard. The deeper thread is normally accepted, but the application and use needs to be evaluated.

Following table is a recommendation over maximum tool diameter in relation to the thread size and pitch:

ISO-Thread, partial profile											
Pitch	**M12**	**M16**	**M20**	**M24**	**M27**	**M30**	**M36**	**M42**	**M48**	**M56**	**M60**
1	10	14	18	22	25	28	34	40	45	53	57
1,5	8	12	16	20	24	26	32	37	43	51	55
2	7	10	14	18	22	24	30	35	40	48	52
2,5	6	8	12	16	20	22	28	32	37	45	48
3		6	10	14	18	20	26	30	36	43	47
3,5				12	16	18	24	29	35	42	46
4							22	27	32	39	43
4,5								24	30	37	40
5								22	27	34	37
5,5								20	25	31	35
6								19	23	29	32

Code key - Fixed pocket cutters - Metric

Arbor or arbor hole type

R	335	.	25	-	080	.	15	.	22	-	4	-	NA
1	2		3		4		5		6		7		8

1.	2.	3.
For stub arbor mounting /right hand rotation	Disc milling cutters	System
4.	**5.**	**6.**
Cutter diameter	Cutter width	Dimension of arbor bore
7.	**8.**	
4 = ZEFP value	N=Three side cutting A = Through coolant supply	

Cylindrical or Combimaster type

R	335	.	18	-	16	50	.	RE	-	10	.	3	-	NA
1	2		3		4	5		6		7		8		9

1.	2.	3.
Right hand rotation	Disc milling cutter	System
4.	**5.**	**6.**
-DMM value for Cyl. version -M value (thread) for Combimaster version	Cutter diameter	-RE for Combimaster -.0 for Cyl. shanks
7.	**8.**	
3=ZEFP Value	N=Three side cutting A = Through coolant supply	

Code key - Adjustable cutters - Metric

For adjustable disc milling cutters

R	335	.	18	-	200	.	12	15	XL	.	40	-	8N	-	R6
1	2		3		4		5	6	7		8		9		10

1.	2.	3.
For stub arbor mounting/ right hand rotation	Disc milling cutters	System
4.	**5.**	**6.**
Cutter diameter	Minimum cutter width (adjustable cassettes)	Maximum cutter width (adjustable cassettes)
7.	**8.**	**9.**
Enlarged chip space	Dimension of arbor bore	8=ZEFP value N=Three side cutting R=Right hand version for two side cutting L=Left hand version for two side cutting
10.		
Insert radius if round inserts used		

Code key - Fixed pocket cutters - Inch

Arbor or arbor hole type

R	335	.	18	-	03.00	-	0.37F	-	4N
1	2		3		4		5		6

1.	2.	3.
For stub arbor mounting /right hand rotation	Disc milling cutters	System
4.	**5.**	**6.**
Cutter diameter	Cutter width (0.37 = 0.375 inch) F = fixed width, manufacturer's option	4 = ZEFP value N = Three side cutting A = Through coolant supply

Cylindrical or Combimaster type

R	335	.	18	-	02.00	-	RE	-	3NA
1	2		3		4		5		6

1.	2.	3.
Right hand rotation	Disc milling cutter	System
4.	**5.**	**6.**
Cutter diameter	.RE = Combimaster, connection size .0 = for Cylindrical shanks	3 = ZEFP value N=Three side cutting A = Through coolant supply

Code key - Adjustable cutters - inch

For adjustable disc milling cutters

R	335	.	18	-	08.00	-	XL0809N	-	R6
1	2		3		4		5		6

1.	2.	3.
For stub arbor mounting/ right hand rotation	Disc milling cutters	System
4.	**5.**	**6.**
Cutter diameter	08 Cutter body width min (16ths of an inch) 09 Cutter body width max (16ths of an inch) XL: For enlarged chip space, manufacturer's option N = Three side cutting R = Right-hand version, two side cutting L = Left-hand version, two side cutting	R6 Insert radius in mm if round inserts used

Selection – Metric

Full side and face - fixed pocket design

System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm)												Max no. of cutting edges	Radii available (mm)	See page
				24	32	40	50	63	80	100	125	160	200	250	315			
335.15	335.15	1,1 - 2,65	Circlip grooves	3	3			3								2	-	362, 363
		3,15 - 5,15						5										
335.10	150.10	2,25/2,5				12	15	15	24	30	34	39				1	R0,15/R0,3	368
		3,1				12	15	15	24	30	43	39	59	84	117			
		4,1						16	22	29	34	39	59	84	117			
335.19	SNHQ / 335.19	4				11	14	17	26	32	45	42				4	R0,2/R0,4/R0,8/R1,2/ R1,6/R2,0/R2,4/R3,0/ R3,1/R3,5/ R4,0/ R5,0/R6,0	380
		5				11	14	17	26	32	45	43						
		6					14	17	26	32	31	43	61	86				
		7/ 8						17	26	26	32	44	62	87				
		10								27	33	46	63	88				
		12								27	29	45	64	89				
335.18 LNK	LNKT	8			9	12	15	15	23	27	34					4	R0,4/R0,8/R1,6/R2,0/ R2,4/R3,1/R4,0	396
		10			9	12	15	15	24	28	34							
		12					15	15	24	28	34							
		14						15	23	26	34	51						
		17							24	26	33	50						
		20							24	26	34	51						
335.25	XNHQ	15							22	25	32	52	64			4	R0,4,/R0,8/R1,2/ R1,6/R2,0/R2,4/R3,1/ R4,0/R5,0/R6,0	421
		20								25	32	51	64	88				
		25									33	50	62	87				

Full radius profile – fixed pocket design

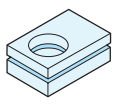
System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm)												Max no. of cutting edges	Radii available (mm)	See page
				25	32	40	50	63	80	100	125	160	200	250	315			
335.19	SNHQ / 335.19	4				11	14	17	26	32	45	42				4	R2,0/R3,0/R3,5/ R4,0/R5,0/R6,0	380
		6					14	17	26	32	31	43	61	86				
		7/8						17	26	32	32	44	62	87				
		10								27	33	46	63	88				
		12								27	29	45	64	89				
335.29	Round insert	5		6	8	10	12									4	R2,5/R3,0/R3,5/ R4,0/R5,0/R6,0	443
		6		6	8	10	12	15										
		7			8	10	12	15										
		8			8	10	12	15	20									
		10					12	15	20									
		12	Full radius				12	15	20									

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

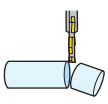
X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

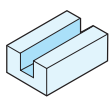
X



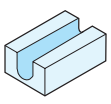
Circlip groove and shallow slotting



Sawing



Full side and face



Full radius profile

Selection – Metric

Full side and and face - adjustable in width

System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm)							Max no. of cutting edges	Radii available (mm)	See page
				80	100	125	160	200	250	315			
335.18 LNK	LNK	8 - 10		14	27	32	50	63	88	121	4	R0,4/R0,8/R1,6/R2,0/R2,4/R3,1/R4,0	396
		10 - 12		14	27	32	50	63	88	121			
		12 - 15		14	27	32	50	63	88	121			
335.25	XNHQ	13,5 - 17			24	32	50	63	88	121	4	R0,4/R0,8/R1,2/R1,6/R2,0/R2,4/R3,1/R4,0/R5,0/R6,0	421
		17 - 21			24	32	50	63	88	121			
		21 - 26				32	50	63	88	113			
		26 - 32					50	63	88	113			
335.18/335.25	Round insert	8 - 10	Full radius	15	28	33	51	63	88	121	4	R4,0	396-421
		10 - 12		15	28	33	51	63	88	121		R5,0	
		12 - 15		15	28	33	51	63	88	121		R6,0	
		16 - 17			28	36	54	67	92	124		R8,0	
		20 - 21							92	124		R10,0	

Half side and face

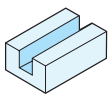
System	Insert	a_p	Application	Diameters (mm) available and max depth of cut (mm)							Max no. of cutting edges	Radii available (mm)	See page
				80	100	125	160	200	250	315			
335.18 LNK	LNK	≤5		14	27	32	50	63	88	121	2+2	R0,4/R0,8/R1,6/R2,0/R2,4/R3,1/R4,0	396
		≤6		14	27	32	50	63	88	121			
		≤7,5		14	27	32	50	63	88	121			
335.25	XNHQ	≤8,5			24	32	50	63	88	121	2+2	R0,4/R0,8/R1,2/R1,6/R2,0/R2,4/R3,1/R4,0/R5,0/R6,0	421
		≤11			24	32	50	63	88	121			
		≤13				32	50	63	88	113			
		≤16					50	63	88	113			
335.18/335.25	Round insert	≤4	Full radius	15	28	33	51	63	88	121	4	R4,0	396-421
		≤5		15	28	33	51	63	88	121		R5,0	
		≤6		15	28	33	51	63	88	121		R6,0	
		≤8			28	36	54	67	92	124		R8,0	
		≤10							92	124		R10,0	

Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

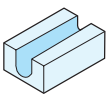
X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in mm)

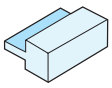
X



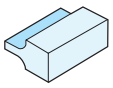
Full side and face



Full radius profile



Half side and face



Half radius profile

Selection – Inch

Full side and face - fixed pocket design

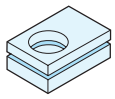
System	Insert	a_p	Application	Diameters (inch) available and max depth of cut (inch)											Max no. of cutting edges	Radii available (inch)	See page
				1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00			
335.15	335.15	.124-.203	Circlip grooves					0.22							2	–	362, 363
335.10	150.10	.089-.098					0.62	0.63	0.73	1.06	1.36	1.41			1	.006 .012	368
		0.122					0.62	0.63	0.73	1.06	1.36	1.41					
335.19	SNHQ / 335.19	0.156				0.45	0.6	0.7	0.95	1.32					4	.008 / .016 .031 / .047 .063 / .079 .094 / .118 .122 / .138 .157 / .197 .236	380
		0.187				0.45	0.6	0.7	0.95	1.32	1.41	1.91					
		0.250					0.6	0.7	0.95	1.32	1.45	1.95	2.51				
		0.313						0.56	0.81	1.07	1.45	1.95					
		0.375						0.56	0.81	1.11	1.49	2.02					
		0.500								1.13	1.52	2.00					
335.18 LNK	LNKT	0.312			0.35	0.41	0.59	0.63	0.71	1.06	1.38				4	.016 / .031 .063 / .079 .094 / .122 .157	396
		0.375			0.35	0.41	0.59	0.63	0.71	1.06	1.38						
		0.500					0.59	0.62	0.87	1.14	1.38	1.81					
		0.625							0.71	1.06							
		0.750							0.71	1.06	1.38						
335.25	XNHQ	0.750									1.33	1.83	2.48		4	.031 / .047 .063 / .079 .094 / .122 .157 / .197 .236	421
		1.00									1.35	1.85	2.43	3.43			

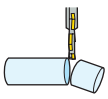
Full radius profile – fixed pocket design

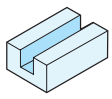
System	Insert	a_p	Application	Diameters (inch) available and max depth of cut (inch)											Max no. of cutting edges	Radii available (inch)	See page
				1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	8.00	10.00			
335.29	Round insert	0.236	Full radius			0.30	0.41								4	0.118 0.157 0.197	443
		0.315					0.41	0.60									
		0.394						0.59	0.70								

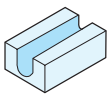
Basic choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch) X

Alternative choice (X indicates the maximum radial depth of cut "CDX" in slotting in inch) X


Circlip groove and shallow slotting


Sawing


Full side and face


Full radius profile

Selection – Inch

Full side and and face - adjustable in width

System	Insert	ap	Application	Diameters (inch) available and max depth of cut (inch)						Max no. of cutting edges	Radii available (inch)	See page
				4.00	5.00	6.00	8.00	10.00	12.00			
335.18 LNK	LNK	.315 - .394		1.1	1.34	1.77	2.42	3.39	4.39	4	.0157 / .031 .063 / .079 .094 / .122 .157	396
		.394 - .472		1.01	1.33	1.77	2.42	3.39	4.39			
		.472 - .591		1.01	1.33	1.77	2.42	3.39	4.39			
335.25	XNHQ	.53 - .67		1.01	1.33	1.80	2.42	3.42	4.46	4	.016 / .031 .063 / .079 .094 / .122 .157 / .197 .236	421
		.67 - .83		1.01	1.33	1.80	2.42	3.42	4.46			
		.83 - 1.02			1.33	1.79	2.41	3.41	4.41			
		1.02 - 1.26				1.79	2.41	3.41	4.41			
335.18	Round insert	.315 - .394	Full radius	1.14	1.38	1.77	2.42	3.39	4.39	4	.157 /.197 .236 /.315 .393	396
		.394 - .472		1.06	1.38	1.81	2.42	3.39	4.39			
		.472 - .591		1.05	1.37	1.83	2.42	3.39	4.39			
		.630 - .669			1.41	1.91	2.54	3.54	4.58			
		.789 - .827						3.54	4.54			

Half side and face

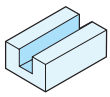
System	Insert	ap	Application	Diameters (inch) available and max depth of cut (inch)						Max no. of cutting edges	Radii available (inch)	See page
				4.00	5.00	6.00	8.00	10.00	12.00			
335.18 LNK	LNK	≤0.197		1.10	1.34	1.77	2.42	3.39	4.39	2+2	.016 / .031 .063 / .079 .094 / .122 .157	396
		≤0.236		1.01	1.33	1.77	2.42	3.39	4.39			
		≤0.295		1.01	1.33	1.79	2.42	3.39	4.39			
335.25	XNHQ	≤0.354		1.01	1.33	1.80	2.42	3.42	4.46	2+2	.016 / .031 .063 / .079 .094 / .122 .157 / .197 .236	421
		≤0.437		1.01	1.33	1.80	2.42	3.42	4.46			
		≤0.512			1.33	1.79	2.41	3.41	4.41			
		≤0.630				1.79	2.41	3.41	4.41			
335.18	Round insert	≤0.157	Full radius	1.14	1.38	1.77	2.42	3.39	4.39	4	.157	396
		≤0.197		1.06	1.38	1.81	2.42	3.39	4.39		.157	
		≤0.236		1.05	1.37	1.83	2.42	3.39	4.39		.197	
		≤0.315			1.41	1.91	2.54	3.54	4.58		.315	
		≤0.393						3.54	4.54		.315	

Basic choice (X indicates the maximum radial depth of cut “CDX” in slotting in inch)

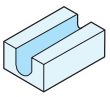
X

Alternative choice (X indicates the maximum radial depth of cut “CDX” in slotting in inch)

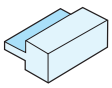
X



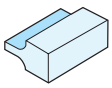
Full side and face



Full radius profile



Half side and face



Half radius profile

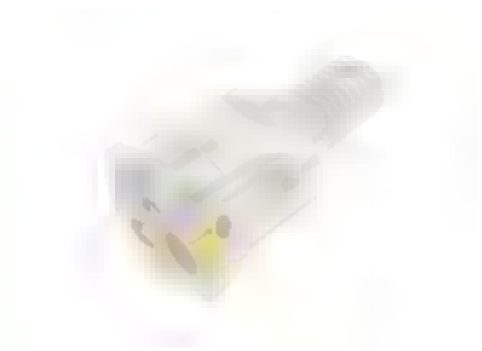


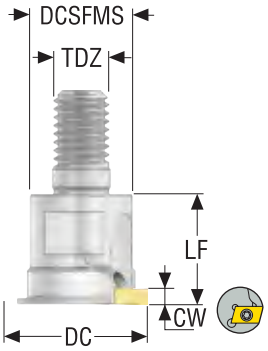
335.15

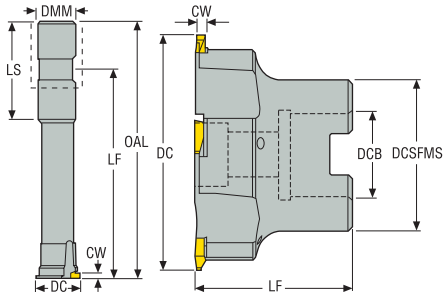
Disc Milling cutter system designed to generate circle snap-ring grooves and shallow slotting grooves

- Width of cut 1.1-5.15 mm (.043 - .202 inch)
- Cutter range diameter 24-63 mm (1 - 2.5 inch)
- Available with Weldon, Arbor and Combimaster with through coolant connection
- Economical light cutting insert with 2 cutting edges design
- Insert width precision +0/+0.05mm - +0/+0.002”

R335.15 – Metric







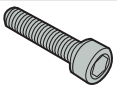
- For insert selection and cutting data recommendations, see page(s) 366 - 367
- For complete insert programme, see page(s) 860
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	ZEFP	DCB	DCSFMS	DMM	LS	LF	OAL	TDZ	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm	mm	mm			kg	
R335.15-20024.3-03-1	75002642	Weldon	24,0	1,1	2,65	1	–	–	20,0	50,0	105,05	130,0	–	28200	0,4	R335.15-13..
R335.15-1024.RE-03.1A	03329402	Combimaster	24,0	1,1	2,65	1	–	18,5	–	–	20,0	–	M10	28200	0,5	R335.15-13..
R335.15-25034.3-03-2	75002643	Weldon	34,0	1,1	2,65	2	–	–	25,0	56,0	98,05	130,0	–	23600	0,5	R335.15-13..
R335.15-1234.RE-03.2A	03329403	Combimaster	34,0	1,1	2,65	2	–	23,0	–	–	30,0	–	M12	23600	0,2	R335.15-13..
R335.15-063-03.22-5	75011752	Arbor	63,0	1,1	2,65	5	22,0	40,0	–	–	40,0	–	–	17300	0,5	R335.15-13..
R335.15-063-05.22-5	75011753	Arbor	63,0	3,15	5,15	5	22,0	40,0	–	–	40,0	–	–	17300	0,5	R335.15-18..

CW depends on the insert width

For groove depth (CDX), please see insert pages 860

Spare Parts, included in delivery

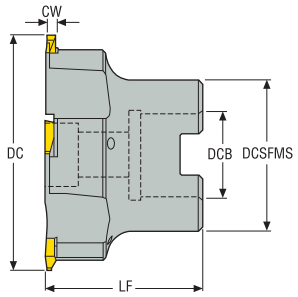
For cutter	Arbor screw	Insert key	Insert screw
			
R335.15 DC = 24/34	–	H4B-T15P	C03509-T15P
R335.15 DC = 63	220.17-692	H4B-T15P	C03509-T15P

Accessories

For size	Insert clamping torque	Torque key
		
R335.15 DC = 24/34	3.0NM	T00-15P30
R335.15 DC = 63	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R335.15 – inch





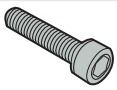
- For insert selection and cutting data recommendations, see page(s) 366 - 367
- For complete insert programme, see page(s) 860
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	ZEFP	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch		lbs	
R335.15-02.50-18	75072222	Arbor	2.500	0.124	0.203	5	0.750	1.571	1.571	17300	1.100	R335.15-18...

CW depends on the insert width

For groove depth (CDX), please see insert pages 860

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R335.15-02.50-..	UC6S3/8UNFX1-1/4	H4B-T15P	C03509-T15P

Accessories

For size	Insert clamping torque	Torque key
		
R335.15-02.50-..	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R335.15– Insert selection – mm/*Inch*

SMG			f_z		
			10%	5%	2%
P1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
P2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
P3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 *0.0070*	0,25 *0.010*	0,40 *0.016*
P4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 *0.0070*	0,25 *0.010*	0,40 *0.016*
P5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P6	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P7	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P8	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,18 *0.0070*	0,25 *0.010*	0,40 *0.016*
P11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
P12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,16 *0.0065*	0,26 *0.010*
M1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
M2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
M3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 *0.0055*	0,19 *0.0075*	0,30 *0.012*
M4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
M5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
K1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,19 *0.0075*	0,26 *0.010*	0,42 *0.017*
K2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K4	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,16 *0.0065*	0,22 *0.0085*	0,34 *0.013*
K6	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,17 *0.0065*	0,24 *0.0095*	0,38 *0.015*
K7	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,16 *0.0065*	0,22 *0.0085*	0,34 *0.013*
N1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
N2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
N3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
N11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,24 *0.0095*	0,34 *0.013*	0,55 *0.022*
S1	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
S2	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
S3	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,11 *0.0044*	0,16 *0.0065*	0,25 *0.010*
S11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 *0.0055*	0,19 *0.0075*	0,30 *0.012*
S12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,14 *0.0055*	0,19 *0.0075*	0,30 *0.012*
S13	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,17 *0.0065*	0,26 *0.010*
H5	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,16 *0.0065*	0,26 *0.010*
H8	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 *0.0036*	0,12 *0.0048*	0,20 *0.0080*
H11	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,12 *0.0048*	0,16 *0.0065*	0,26 *0.010*
H12	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 *0.0036*	0,12 *0.0048*	0,20 *0.0080*
H21	R335.15-13..FG-E08 F40M	R335.15-18..FG-M12 F40M	0,090 *0.0036*	0,12 *0.0048*	0,20 *0.0080*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R335.15 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M		
	10%	5%	2%
P1	260 *850*	285 *940*	280 *920*
P2	255 *840*	275 *900*	275 *900*
P3	220 *720*	240 *790*	240 *790*
P4	195 *640*	210 *690*	210 *690*
P5	190 *620*	205 *670*	205 *670*
P6	210 *690*	230 *750*	230 *750*
P7	200 *660*	215 *710*	215 *710*
P8	185 *610*	200 *660*	200 *660*
P11	195 *640*	210 *690*	210 *690*
P12	125 *410*	135 *445*	135 *445*
M1	205 *670*	225 *740*	220 *720*
M2	170 *560*	185 *610*	185 *610*
M3	135 *445*	150 *490*	150 *490*
M4	105 *345*	115 *375*	115 *375*
M5	90 *295*	95 *310*	95 *310*
K1	200 *660*	220 *720*	220 *720*
K2	180 *590*	195 *640*	195 *640*
K3	150 *490*	165 *540*	165 *540*
K4	145 *475*	155 *510*	155 *510*
K5	90 *295*	95 *310*	95 *310*
K6	130 *425*	140 *460*	140 *460*
K7	110 *360*	120 *395*	120 *395*
N1	1500 *4925*	1625 *5325*	1600 *5250*
N2	600 *1975*	650 *2125*	650 *2125*
N3	405 *1325*	435 *1425*	430 *1400*
N11	460 *1500*	495 *1625*	495 *1625*
S1	49 *160*	55 *180*	55 *180*
S2	40 *130*	43 *140*	43 *140*
S3	35 *115*	37 *120*	37 *120*
S11	70 *230*	75 *245*	75 *245*
S12	60 *195*	65 *215*	65 *215*
S13	34 *110*	36 *120*	36 *120*
H5	41 *135*	45 *150*	45 *150*
H8	44 *145*	48 *155*	47 *155*
H11	55 *180*	60 *195*	55 *180*
H12	50 *165*	55 *180*	55 *180*
H21	44 *145*	48 *155*	47 *155*



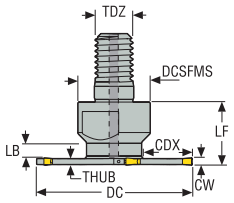
335.10

Easy to use and reliable disc milling cutter system dedicated for slim slotting and cut-off operations.

- Self-clamping carbide insert design, the insert is retained by the spring action of the steel part of the cutter
- Width of cut 2.25-4.1 mm (.088 - .161 inch)
- Cutter range diameter 40-315 mm (1.5 - 6.0 inch)
- Available with Weldon, Combimaster, Arbor and Arbor hole connection
- Large cutter diameter with HSS cutter body material for high rigidity and reliability
- Small cutter diameter with internal coolant and close pitch design for high productivity
- Insert width precision from +/- 0.05 to 0.08mm - +/-0.002 to 0.003”

Width 2,25/2,5/3,1 mm – full side – close pitch design with internal coolant

Cutter 335.10 - Insert 150.10 – Metric

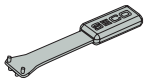




- For insert selection and cutting data recommendations, see page(s) 378-379
- For complete insert programme, see page(s) 854
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	TDZ	DCSFMS	THUB	LF	LB	Through coolant	RPMX	Weight	Insert 150.10
			mm	mm	mm	mm			mm	mm	mm	mm			kg	
R335.10-1040.RE-02-4A	02926773	Combimaster	40,0	2,25	2,5	12,7	4	M10	18,5	1,9	20,0	5,3	✓	3970	0,2	-2.25N/2.5N
R335.10-1250.RE-02-5A	02926774	Combimaster	50,0	2,25	2,5	15,4	5	M12	23,0	1,9	20,0	–	✓	3180	0,2	-2.25N/2.5N
R335.10-1663.RE-02-7A	03054405	Combimaster	63,0	2,25	2,5	15,7	7	M16	30,0	1,9	23,0	–	✓	2520	0,3	-2.25N/2.5N
R335.10-1680.RE-02-9A	03054406	Combimaster	80,0	2,25	2,5	24,1	9	M16	30,0	1,9	23,0	–	✓	1980	0,4	-2.25N/2.5N
R335.10-20100.RE-02-11A	03054407	Combimaster	100,0	2,25	2,5	30,4	11	M20	36,5	1,9	25,0	–	✓	1580	0,5	-2.25N/2.5N
R335.10-1040.RE-03-4A	02926776	Combimaster	40,0	3,1	3,1	12,9	4	M10	18,5	2,4	20,0	4,3	✓	3970	0,2	-3N
R335.10-1250.RE-03-5A	02926777	Combimaster	50,0	3,1	3,1	15,6	5	M12	23,0	2,4	20,0	4,3	✓	3180	0,2	-3N
R335.10-1663.RE-03-7A	03054398	Combimaster	63,0	3,1	3,1	15,9	7	M16	30,0	2,4	23,0	0,0	✓	2520	0,3	-3N
R335.10-1680.RE-03-9A	03054399	Combimaster	80,0	3,1	3,1	24,3	9	M16	30,0	2,4	23,0	0,0	✓	1980	0,3	-3N
R335.10-20100.RE-03-11A	03054400	Combimaster	100,0	3,1	3,1	30,6	11	M20	36,5	2,4	25,0	0,0	✓	1580	0,5	-3N
R335.10-20125.RE-03-13A	03279546	Combimaster	125,0	3,1	3,1	43,1	13	M20	36,5	2,4	25,0	0,0	✓	1270	0,6	-3N

Spare Parts, included in delivery

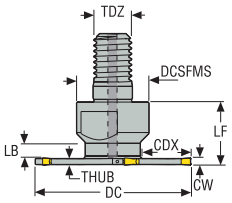
For cutter	Insert key
	
R335.10 DC=40-100	335.10-155
R335.10 DC=125	150.10-150

Torque and fixed keys, see page 872

Cutter 335.10 - Insert 150.10 – Inch

Width 0.089/0.098/0.122 inch – full side – close pitch design with internal coolant

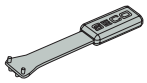




- For insert selection and cutting data recommendations, see page(s) 378-379
- For complete insert programme, see page(s) 854
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	TDZ	DCSFMS	THUB	LF	LB	Through coolant	RPMX	Weight	Insert 150.10
			inch	inch	inch	inch			inch	inch	inch	inch			lbs	
R335.10-02.00-12RE-02-5A	03054409	Combimaster	2.000	0.089	0.098	0.622	5	M12	0.906	0.075	0.787	–	✓	3180	0.660	-2.25N/2.5N
R335.10-02.50-16RE-02-7A	03054410	Combimaster	2.500	0.089	0.098	0.626	7	M16	1.181	0.075	0.906	–	✓	2520	0.660	-2.25N/2.5N
R335.10-02.00-12RE-03-5A	03054402	Combimaster	2.000	0.122	0.122	0.630	5	M12	0.906	0.094	0.787	0.169	✓	3180	0.220	-3N

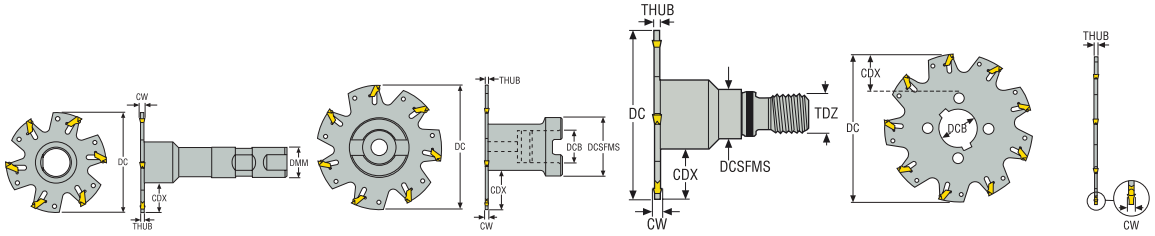
Spare Parts, included in delivery

For cutter	Insert key
	
	335.10-155

Torque and fixed keys, see page 872

Width 2,25/2,5/3,1 mm – full side – HSS body

Cutter 335.10 - Insert 150.10 – Metric



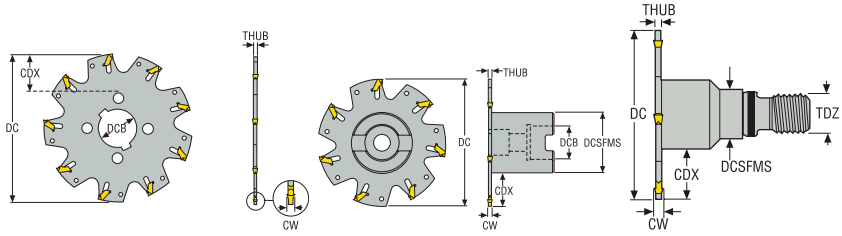
- For insert selection and cutting data recommendations, see page(s) 378-379
- For complete insert programme, see page(s) 854
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	DMM	TDZ	DCB	DCSFMS	THUB	RPMX	Weight	Insert 150.10
			mm	mm	mm	mm		mm		mm	mm	mm		kg	
R335.10-25063.3-02-5	75034462	Weldon	63,0	2,25	2,5	15,0	5	25,0	–	–	–	1,9	4000	0,6	-2.25N/2.5N
R335.10-063-02.22-5	75034464	Arbor	63,0	2,25	2,5	15,0	5	–	–	22,0	32,0	1,9	4000	0,5	-2.25N/2.5N
R335.10-1663.RE-02-5	02731371	Combimaster	63,0	2,25	2,5	16,0	5	–	M16	–	30,0	1,9	4000	0,3	-2.25N/2.5N
R335.10-32080.3-02-6	75034463	Weldon	80,0	2,25	2,5	19,5	6	32,0	–	–	–	1,9	3500	1,1	-2.25N/2.5N
R335.10-080-02.22-6	75034465	Arbor	80,0	2,25	2,5	19,5	6	–	–	22,0	40,0	1,9	3500	0,6	-2.25N/2.5N
335.10-080-02.22-6	75034458	Arbor hole	80,0	2,25	2,5	22,5	6	–	–	22,0	–	1,9	3500	0,2	-2.25N/2.5N
R335.10-1680.RE-02-6	02731373	Combimaster	80,0	2,25	2,5	19,5	6	–	M16	–	30,0	1,9	3500	0,6	-2.25N/2.5N
R335.10-100-02.27-7	75034466	Arbor	100,0	2,25	2,5	25,5	7	–	–	27,0	48,0	1,9	3200	0,8	-2.25N/2.5N
335.10-100-02.27-7	75034459	Arbor hole	100,0	2,25	2,5	29,0	7	–	–	27,0	–	1,9	3200	0,2	-2.25N/2.5N
R335.10-125-02.32-9	75034467	Arbor	125,0	2,25	2,5	33,0	9	–	–	32,0	58,0	1,9	2800	1,3	-2.25N/2.5N
335.10-125-02.32-9	75028096	Arbor hole	125,0	2,25	2,5	34,5	9	–	–	32,0	–	1,9	2800	0,2	-2.25N/2.5N
R335.10-160-02.40-12	75034468	Arbor	160,0	2,25	2,5	39,5	12	–	–	40,0	80,0	1,9	2400	2,4	-2.25N/2.5N
335.10-160-02.40-12	75034460	Arbor hole	160,0	2,25	2,5	39,5	12	–	–	40,0	–	1,9	2400	0,4	-2.25N/2.5N
R335.10-25063.3-03-5	75027293	Weldon	63,0	3,1	3,1	15,0	5	25,0	–	–	–	2,4	4000	0,6	-3N
R335.10-063-03.22-5	75027298	Arbor	63,0	3,1	3,1	15,0	5	–	–	22,0	32,0	2,4	4000	0,5	-3N
R335.10-1663.RE-03-5	02731375	Combimaster	63,0	3,1	3,1	16,0	5	–	M16	–	30,0	2,4	4000	0,4	-3N
R335.10-32080.3-03-6	75027296	Weldon	80,0	3,1	3,1	19,5	6	32,0	–	–	–	2,4	3500	1,2	-3N
R335.10-080-03.22-6	75027301	Arbor	80,0	3,1	3,1	19,5	6	–	–	22,0	40,0	2,4	3500	0,6	-3N
335.10-080-03.22-6	75012752	Arbor hole	80,0	3,1	3,1	22,5	6	–	–	22,0	–	2,4	3500	0,2	-3N
R335.10-1680.RE-03-6	02731378	Combimaster	80,0	3,1	3,1	19,5	6	–	M16	–	30,0	2,4	3500	0,6	-3N
R335.10-100-03.27-7	75027303	Arbor	100,0	3,1	3,1	25,5	7	–	–	27,0	48,0	2,4	3200	0,9	-3N
335.10-100-03.27-7	75012754	Arbor hole	100,0	3,1	3,1	29,0	7	–	–	27,0	–	2,4	3200	0,3	-3N
R335.10-125-03.32-9	75027307	Arbor	125,0	3,1	3,1	33,0	9	–	–	32,0	58,0	2,4	2800	1,4	-3N
335.10-125-03.32-9	75012756	Arbor hole	125,0	3,1	3,1	34,5	9	–	–	32,0	–	2,4	2800	0,3	-3N
R335.10-160-03.40-12	75027311	Arbor	160,0	3,1	3,1	39,5	12	–	–	40,0	80,0	2,4	2400	2,4	-3N
335.10-160-03.40-12	75012758	Arbor hole	160,0	3,1	3,1	39,5	12	–	–	40,0	–	2,4	2400	0,4	-3N
335.10-200-03.40-14	75027697	Arbor hole	200,0	3,1	3,1	59,5	14	–	–	40,0	–	2,4	2200	1,3	-3N
335.10-250-03.40-18	75028688	Arbor hole	250,0	3,1	3,1	84,5	18	–	–	40,0	–	2,4	2000	1,0	-3N
335.10-315-03.40-24	75005264	Arbor hole	315,0	3,1	3,1	117,0	24	–	–	40,0	–	2,4	1700	1,3	-3N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 80-100 mm. For cutter dia > 100 mm, please use Seco drive rings,see page 374
Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

Cutter 335.10 - Insert 150.10 – Metric

Width 4,1 mm – full side – HSS body



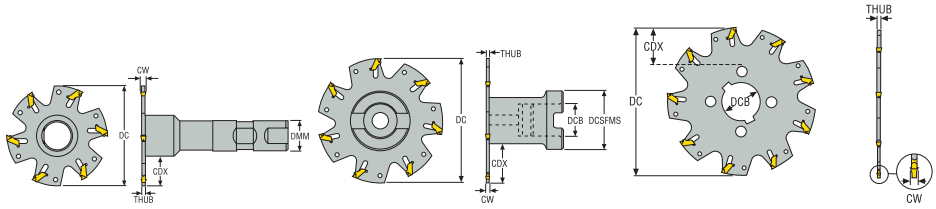
- For insert selection and cutting data recommendations, see page(s) 378-379
- For complete insert programme, see page(s) 854
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DMM	TDZ	DCB	DCSFMS	THUB	RPMX	Weight	Insert 150.10
			mm	mm	mm	mm			mm		mm	mm	mm		kg	
R335.10-25063.3-04-5	75027294	Weldon	63,0	4,1	4,1	15,0	5	5	25,0	–	–	–	3,4	4000	0,5	-4N
R335.10-063-04.22-5	75027299	Arbor	63,0	4,1	4,1	15,0	5	5	–	–	22,0	32,0	3,4	4000	0,4	-4N
R335.10-1663.RE-04-5	02731380	Combimaster	63,0	4,1	4,1	16,0	5	5	–	M16	–	30,0	3,4	4000	0,5	-4N
R335.10-32080.3-04-6	75027297	Weldon	80,0	4,1	4,1	19,5	6	6	32,0	–	–	–	3,4	3500	1,1	-4N
R335.10-080-04.22-6	75027302	Arbor	80,0	4,1	4,1	19,5	6	6	–	–	22,0	40,0	3,4	3500	0,7	-4N
335.10-080-04.22-6	75012753	Arbor hole	80,0	4,1	4,1	22,5	6	6	–	–	22,0	–	3,4	3500	0,2	-4N
R335.10-1680.RE-04-6	02731382	Combimaster	80,0	4,1	4,1	19,5	6	6	–	M16	–	30,0	3,4	3500	0,5	-4N
R335.10-100-04.27-7	75027304	Arbor	100,0	4,1	4,1	25,5	7	7	–	–	27,0	48,0	3,4	3200	0,9	-4N
335.10-100-04.27-7	75012755	Arbor hole	100,0	4,1	4,1	29,0	7	7	–	–	27,0	–	3,4	3200	0,2	-4N
R335.10-125-04.32-9	75027309	Arbor	125,0	4,1	4,1	33,0	9	9	–	–	32,0	58,0	3,4	2800	1,5	-4N
335.10-125-04.32-9	75012757	Arbor hole	125,0	4,1	4,1	34,5	9	9	–	–	32,0	–	3,4	2800	0,4	-4N
R335.10-160-04.40-12	75027312	Arbor	160,0	4,1	4,1	39,5	12	12	–	–	40,0	80,0	3,4	2400	2,5	-4N
335.10-160-04.40-12	75012759	Arbor hole	160,0	4,1	4,1	39,5	12	12	–	–	40,0	–	3,4	2400	0,6	-4N
335.10-200-04.40-14	75027826	Arbor hole	200,0	4,1	4,1	59,5	14	14	–	–	40,0	–	3,4	2200	0,9	-4N
335.10-250-04.40-18	75028689	Arbor hole	250,0	4,1	4,1	84,5	18	18	–	–	40,0	–	3,4	2000	1,2	-4N
335.10-315-04.40-24	75034461	Arbor hole	315,0	4,1	4,1	117,0	24	24	–	–	40,0	–	3,4	1700	1,9	-4N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 80-100 mm. For cutter dia > 100 mm, please use Seco drive rings,see page 374
Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

Width 0.089/0.098/0.122 inch – full side – HSS body

Cutter 335.10 - Insert 150.10 – inch



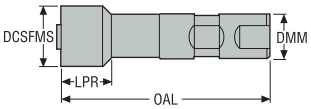
- For insert selection and cutting data recommendations, see page(s) 378-379
- For complete insert programme, see page(s) 854
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	DMM	TDZ	DCB	DCSFMS	THUB	RPMX	Weight	Insert 150.10
			inch	inch	inch	inch		inch		inch	inch	inch		lbs	
R335.10-02.50-3-2	75054664	Weldon	2.500	0.089	0.098	0.602	5	1.000	–	–	–	0.075	4000	0.440	2.25N/2.5N
R335.10-02.50-2B	75054670	Arbor	2.500	0.089	0.098	0.600	5	–	–	0.750	1.575	0.075	4000	1.100	2.25N/2.5N
R335.10-03.00-3-2	75054665	Weldon	3.000	0.089	0.098	0.728	6	1.250	–	–	–	0.075	3500	2.430	2.25N/2.5N
R335.10-03.00-2B	75054671	Arbor	3.000	0.089	0.098	0.693	6	–	–	0.750	1.575	0.075	3500	1.760	2.25N/2.5N
335.10-03.00-2	75054743	Arbor hole	3.000	0.089	0.098	0.669	6	–	–	1.000	–	0.075	3500	0.440	2.25N/2.5N
R335.10-04.00-2B	75054680	Arbor	4.000	0.089	0.098	1.035	7	–	–	1.000	1.890	0.075	3200	1.540	2.25N/2.5N
335.10-04.00-2	75054744	Arbor hole	4.000	0.089	0.098	1.161	7	–	–	1.000	–	0.075	3200	0.440	2.25N/2.5N
R335.10-05.00-2B	75054681	Arbor	5.000	0.089	0.098	1.339	9	–	–	1.250	2.283	0.075	2800	3.750	2.25N/2.5N
335.10-05.00-2	75054745	Arbor hole	5.000	0.089	0.098	1.398	9	–	–	1.250	–	0.075	2800	0.660	2.25N/2.5N
R335.10-06.00-2B	75054682	Arbor	6.000	0.089	0.098	1.406	12	–	–	1.500	3.150	0.075	2400	6.170	2.25N/2.5N
335.10-06.00-2	75054746	Arbor hole	6.000	0.089	0.098	1.555	12	–	–	1.250	–	0.075	2400	0.880	2.25N/2.5N
R335.10-02.50-3-3	75054666	Weldon	2.500	0.122	0.122	0.602	5	1.000	–	–	–	0.094	4000	1.540	3N
R335.10-02.50-3B	75054672	Arbor	2.500	0.122	0.122	0.600	5	–	–	0.750	1.575	0.094	4000	1.320	3N
R335.10-03.00-3-3	75054667	Weldon	3.000	0.122	0.122	0.728	6	1.250	–	–	–	0.094	3500	3.090	3N
R335.10-03.00-3B	75054673	Arbor	3.000	0.122	0.122	0.693	6	–	–	0.750	1.575	0.094	3500	1.980	3N
335.10-03.00-3	75070139	Arbor hole	3.000	0.122	0.122	0.669	6	–	–	1.000	–	0.094	3500	0.440	3N
R335.10-04.00-3B	75054683	Arbor	4.000	0.122	0.122	1.035	7	–	–	1.000	1.890	0.094	3200	2.650	3N
335.10-04.00-3	75014456	Arbor hole	4.000	0.122	0.122	1.161	7	–	–	1.000	–	0.094	3200	0.660	3N
R335.10-05.00-3B	75054684	Arbor	5.000	0.122	0.122	1.339	9	–	–	1.250	2.283	0.094	2800	3.750	3N
335.10-05.00-3	75014458	Arbor hole	5.000	0.122	0.122	1.398	9	–	–	1.250	–	0.094	2800	0.660	3N
R335.10-06.00-3B	75054685	Arbor	6.000	0.122	0.122	1.406	12	–	–	1.500	3.150	0.094	2400	5.510	3N
335.10-06.00-3	75014460	Arbor hole	6.000	0.122	0.122	1.555	12	–	–	1.250	–	0.094	2400	0.880	3N

For Arbor hole type cutters 335.10-..., no drive holes for cutter dia 3.00 -4.00". For cutter dia > 4.00", please use Seco drive rings,see page 376
Note: For R335.10-... cutter types, the blade is assembled on the holder in the delivery

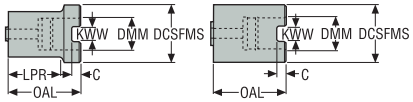
Spare Parts – Metric

Holder for Weldon type



Designation	DMM	DCSFMS	OAL	LPR
335.10-25.3	25	32	106	25
335.10-32.3	32	40	150	30

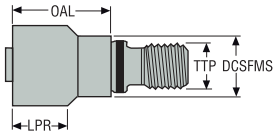
Holder for Arbor type



Designation	DMM	DCSFMS	OAL	LPR	KWW	C
335.10-2232	22	40	50	36	10,4	6,3
335.10-2240M	22	40	50	–	10,4	6,3
335.10-2748	27	48	50	–	12,4	7
335.10-3258	32	58	63	–	14,4	8
335.10-4080	40	80	63	–	16,4	9

Note: Assembly screws delivered Weldon, Arbor and Combimaster holders

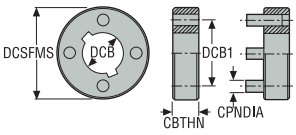
Combimaster type



Designation	LPR	TDZ	DCSFMS	OAL
335.10-16RE-10	28	M16	30	30
335.10-16RE-18	28	M16	30	40

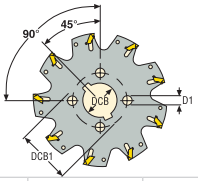
Note: Assembly screws delivered Weldon, Arbor and Combimaster holders

Drive rings for Arbor hole type



Designation	DCB	DCSFMS	CBTHN	DCB1	CPNDIA
335.10-14532	32	55	10	45	5,7
335.10-16340	40	80	12	63	10,7

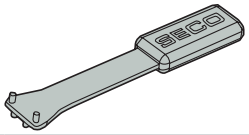
Arbor hole type



Designation	DCB	DCB1	D1		
335.10-080	22	–	–		
335.10-100	27	–	–		
335.10-125	32	45	6		
335.10-160-315	40	63	11		

Drive ring to be ordered separately

Spare parts (key included in delivery)



For cutter	Insert removal key
R335.10-..	150.10-150

Assembly components/Standard parts – metric

Weldon type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm
					
R335.10-25063.3-02-5	B-R335.10-063.10-02	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-02-6	B-R335.10-080.18-02	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-25063.3-03-5	B-R335.10-063.10-03	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-03-6	B-R335.10-080.18-03	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-25063.3-04-5	B-R335.10-063.10-04	335.10-25.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-32080.3-04-6	B-R335.10-080.18-04	335.10-32.3	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm	Arbor screw
						
R335.10-063-02.22-5	B-R335.10-063.10-02	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-02.22-6	B-R335.10-080.18-02	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-063-03.22-5	B-R335.10-063.10-03	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-03.22-6	B-R335.10-080.18-03	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-063-04.22-5	B-R335.10-063.10-04	335.10-2232	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696
R335.10-080-04.22-6	B-R335.10-080.18-04	335.10-2240M	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-696

Arbor type cutters

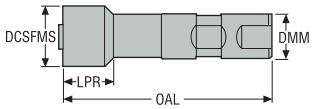
Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm	Arbor screw
						
R335.10-100-02.27-7	B-R335.10-100.27-02	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-100-03.27-7	B-R335.10-100.27-03	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-100-04.27-7	B-R335.10-100.27-04	335.10-2748	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	MC6S 12x40
R335.10-125-02.32-9	B-R335.10-125.32-02	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-125-03.32-9	B-R335.10-125.32-03	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-125-04.32-9	B-R335.10-125.32-04	335.10-3258	4 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm	220.17-694
R335.10-160-02.40-12	B-R335.10-160.40-02	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40
R335.10-160-03.40-12	B-R335.10-160.40-03	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40
R335.10-160-04.40-12	B-R335.10-160.40-04	335.10-4080	4 x 335.10-1030-T30P	1/4HEX-T30PX50	10Nm	MC6S 20x40

Combimaster

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque Nm
					
R335.10-1663.RE-02-5	B-R335.10-063.10-02	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-02-6	B-R335.10-080.18-02	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1663.RE-03-5	B-R335.10-063.10-03	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-03-6	B-R335.10-080.18-03	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1663.RE-04-5	B-R335.10-063.10-04	335.10-16RE-10	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm
R335.10-1680.RE-04-6	B-R335.10-080.18-04	335.10-16RE-18	3 x 335.10-0516-T15P	1/4HEX-T15PX50	6.5Nm

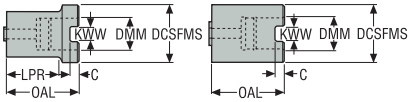
Spare Parts – Inch

Holder for Weldon type



Designation	DMM	DCSFMS	OAL	LPR
335.10-01.00-3-A	1.00	1.25	4.17	1.00
335.10-01.25-3-A	1.25	1.50	5.90	1.18

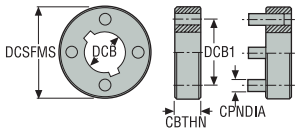
Holder for Arbor type



Designation	DMM	DCSFMS	OAL	LPR	KWW	C
335.10-00.75-1.25B-A	0.75	1.26	1.969	1.50	0.32	0.20
335.10-00.75-1.50B-A	0.75	1.58	1.969	–	0.32	0.20
335.10-01.00-1.89B-A	1.00	1.89	1.969	–	0.38	0.23
335.10-01.25-2.28B-A	1.25	2.28	2.480	–	0.51	0.28
335.10-01.50-3.15B-A	1.50	3.15	2.480	–	0.63	0.38

Note: Assembly screws delivered with Weldon and arbor holders

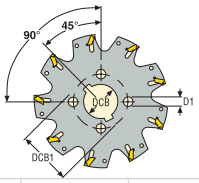
Drive rings for Arbor hole type



Designation	DCB	DCSFMS	CBTHN	DCB1	CPNDIA
335.10-14531	2.16	1.25	1.77	0.22	0.39
335.10-15531	2.83	1.25	2.16	0.42	0.47
335.10-17451	3.50	2.00	2.91	0.42	0.47

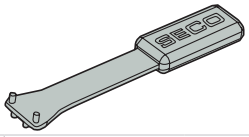
Drive ring to be ordered separately

Arbor hole type



Designation	DCB	DCB1	D1		
335.10-03.00-04.00	1.00	–	–		
335.10-05.00	1.25	1.77	0.24		
335.10-06.00	1.25	2.16	0.43		
335.10-08.00-12.00	2.00	2.91	0.43		

Spare parts (key included in delivery)



For cutter	Insert removal key
R335.10-..	150.10-150

Assembly components/Standard parts – inch

Weldon type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque in/lbs
					
R335.10-02.50-3-2	R335.10-02.50-2	335.10-01.00-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-02.50-3-3	R335.10-02.50-3	335.10-01.00-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-03.00-3-2	R335.10-03.00-2	335.10-01.25-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs
R335.10-03.00-3-3	R335.10-03.00-3	335.10-01.25-3-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Clamp key	Torque in/lbs	Arbor screw
						
R335.10-02.50-2B	R335.10-02.50-2	335.10-00.75-1.25B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-02.50-3B	R335.10-02.50-3	335.10-00.75-1.25B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-03.00-2B	R335.10-03.00-2	335.10-00.75-1.50B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695
R335.10-03.00-3B	R335.10-03.00-3	335.10-00.75-1.50B-A	335.10-0516-T15P(3X)	1/4HEX-T15PX50	57.5 in.lbs	220.17-695

Arbor type cutters

Designation	Cutter body Part No.	Holder Part No.	Assembly screw	Insert key	Torque in/lbs	Arbor screw
						
R335.10-04.00-2B	R335.10-04.00-2	335.10-01.00-1.89B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S1/2UNFX1-1/2
R335.10-04.00-3B	R335.10-04.00-3	335.10-01.00-1.89B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S1/2UNFX1-1/2
R335.10-05.00-2B	R335.10-05.00-2	335.10-01.25-2.28B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S5/8UNFX11/2
R335.10-05.00-3B	R335.10-05.00-3	335.10-01.25-2.28B-A	335.10-0516-T15P(4X)	1/4HEX-T15PX50	57.5 in.lbs	UC6S5/8UNFX11/2
R335.10-06.00-2B	R335.10-06.00-2	335.10-01.50-3-15B-A	335.10-1030-T30P(4X)	1/4HEX-T30PX50	88.5 in.lbs	UC6S3/4UNFX1-1/4
R335.10-06.00-3B	R335.10-06.00-3	335.10-01.50-3-15B-A	335.10-1030-T30P(4X)	1/4HEX-T30PX50	88.5 in.lbs	UC6S3/4UNFX1-1/4

335.10– Insert selection – mm/*Inch*

SMG					f_z			
					30%	20%	10%	5%
P1	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,20 0.0080
P2	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,22 0.0085
P3	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,095 *0.0038*	0,11 *0.0044*	0,14 0.0055	0,20 0.0080
P4	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,11 *0.0044*	0,14 0.0055	0,19 0.0075
P5	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
P6	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
P7	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
P8	150.10-2.25N-16 CP500	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,095 *0.0038*	0,11 *0.0044*	0,14 0.0055	0,20 0.0080
P11	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,085 *0.0034*	0,095 *0.0038*	0,13 0.0050	0,17 0.0065
P12	150.10-2.25N-16 CP600	150.10-2.5N-12 CP600	*150.10-3N-12 CP600*	*150.10-4N-12 CP600*	0,055 *0.0022*	0,065 *0.0026*	0,085 0.0034	0,12 0.0048
M1	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,22 0.0085
M2	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
M3	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,070 *0.0028*	0,085 *0.0034*	0,11 0.0044	0,15 0.0060
M4	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
M5	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
K1	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,10 *0.0040*	0,11 *0.0044*	0,15 0.0060	0,22 0.0085
K2	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K3	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K4	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K5	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,080 *0.0032*	0,095 *0.0038*	0,12 0.0048	0,17 0.0065
K6	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,090 *0.0036*	0,10 *0.0040*	0,14 0.0055	0,19 0.0075
K7	150.10-2.25N-16 TGP45	150.10-2.5N-16 TGP45	*150.10-3N-16 TGP45*	*150.10-4N-16 TGP45*	0,080 *0.0032*	0,095 *0.0038*	0,12 0.0048	0,17 0.0065
N1	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
N2	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
N3	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
N11	150.10-2.25N-14 CP500	150.10-2.5N-14 CP500	*150.10-3N-14 CP500*	*150.10-4N-14 CP500*	0,12 *0.0048*	0,14 *0.0055*	0,19 0.0075	0,26 0.010
S1	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
S2	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
S3	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,060 *0.0024*	0,065 *0.0026*	0,090 0.0036	0,12 0.0048
S11	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,070 *0.0028*	0,085 *0.0034*	0,11 0.0044	0,15 0.0060
S12	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,070 *0.0028*	0,085 *0.0034*	0,11 0.0044	0,15 0.0060
S13	150.10-2.25N-14 CP600	150.10-2.5N-14 CP600	*150.10-3N-14 CP600*	*150.10-4N-14 CP600*	0,065 *0.0026*	0,075 *0.0030*	0,095 0.0038	0,13 0.0050
H5	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,060 *0.0024*	0,070 *0.0028*	0,095 0.0038	0,13 0.0050
H8	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,048 *0.0019*	0,055 *0.0022*	0,070 0.0028	0,10 0.0040
H11	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,060 *0.0024*	0,070 *0.0028*	0,095 0.0038	0,13 0.0050
H12	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,048 *0.0019*	0,055 *0.0022*	0,070 0.0028	0,10 0.0040
H21	150.10-2.25N-16 CP500	150.10-2.5N-16 CP500	*150.10-3N-16 CP500*	*150.10-4N-16 CP500*	0,048 *0.0019*	0,055 *0.0022*	0,070 0.0028	0,10 0.0040

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	CP500				CP600				HX				TGP45				T350M			
	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%	30%	20%	10%	5%
P1	195 *640*	210 *690*	230 *750*	250 *820*	185 *610*	200 *660*	220 *720*	240 *790*	— —	— —	— —	— —	250 *820*	270 *890*	295 *970*	325 *1075*	215 *710*	230 *750*	255 *840*	275 *900*
P2	190 *620*	205 *670*	225 *740*	245 *800*	180 *590*	195 *640*	215 *710*	235 *770*	— —	— —	— —	— —	240 *790*	260 *850*	290 *950*	310 *1025*	210 *690*	225 *740*	245 *800*	270 *890*
P3	165 *540*	180 *590*	200 *660*	215 *710*	155 *510*	170 *560*	190 *620*	205 *670*	— —	— —	— —	— —	215 *710*	225 *740*	250 *820*	270 *890*	180 *590*	195 *640*	220 *720*	235 *770*
P4	150 *490*	160 *520*	175 *570*	190 *620*	140 *460*	150 *490*	165 *540*	180 *590*	— —	— —	— —	— —	185 *610*	200 *660*	220 *720*	240 *790*	160 *520*	175 *570*	190 *620*	205 *670*
P5	140 *460*	150 *490*	165 *540*	180 *590*	135 *445*	145 *475*	160 *520*	170 *560*	— —	— —	— —	— —	180 *590*	195 *640*	215 *710*	235 *770*	155 *510*	165 *540*	185 *610*	200 *660*
P6	160 *520*	170 *560*	190 *620*	205 *670*	150 *490*	160 *520*	180 *590*	195 *640*	— —	— —	— —	— —	200 *660*	215 *710*	240 *790*	260 *850*	175 *570*	185 *610*	205 *670*	220 *720*
P7	150 *490*	160 *520*	175 *570*	190 *620*	145 *475*	150 *490*	170 *560*	180 *590*	— —	— —	— —	— —	190 *620*	205 *670*	225 *740*	245 *800*	165 *540*	175 *570*	195 *640*	210 *690*
P8	140 *460*	150 *490*	165 *540*	180 *590*	130 *425*	145 *475*	160 *520*	170 *560*	— —	— —	— —	— —	180 *590*	190 *620*	210 *690*	230 *750*	150 *490*	165 *540*	185 *610*	200 *660*
P11	145 *475*	155 *510*	170 *560*	185 *610*	140 *460*	150 *490*	165 *540*	175 *570*	— —	— —	— —	— —	185 *610*	200 *660*	220 *720*	240 *790*	160 *520*	170 *560*	190 *620*	205 *670*
P12	95 *310*	100 *330*	110 *360*	120 *395*	90 *295*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —	120 *395*	125 *410*	140 *460*	155 *510*	105 *345*	110 *360*	120 *395*	130 *425*
M1	155 *510*	165 *540*	180 *590*	200 *660*	145 *475*	155 *510*	175 *570*	190 *620*	105 *345*	110 *360*	120 *395*	130 *425*	175 *570*	185 *610*	205 *670*	225 *740*	160 *520*	175 *570*	190 *620*	205 *670*
M2	125 *410*	135 *445*	150 *490*	165 *540*	120 *395*	130 *425*	145 *475*	155 *510*	85 *280*	90 *295*	100 *330*	105 *345*	145 *475*	155 *510*	170 *560*	185 *610*	135 *445*	140 *460*	160 *520*	170 *560*
M3	105 *345*	110 *360*	120 *395*	130 *425*	100 *330*	105 *345*	115 *375*	125 *410*	70 *230*	75 *245*	80 *260*	85 *280*	115 *375*	125 *410*	140 *460*	150 *490*	110 *360*	115 *375*	125 *410*	140 *460*
M4	80 *260*	85 *280*	95 *310*	100 *330*	75 *245*	80 *260*	90 *295*	95 *310*	55 *180*	55 *180*	60 *195*	65 *215*	90 *295*	95 *310*	105 *345*	115 *375*	85 *280*	90 *295*	100 *330*	105 *345*
M5	65 *215*	70 *230*	80 *260*	85 *280*	65 *215*	70 *230*	75 *245*	80 *260*	45 *150*	47 *155*	50 *165*	55 *180*	75 *245*	80 *260*	90 *295*	95 *310*	70 *230*	75 *245*	80 *260*	90 *295*
K1	150 *490*	165 *540*	180 *590*	195 *640*	145 *475*	155 *510*	170 *560*	185 *610*	95 *310*	100 *330*	110 *360*	120 *395*	190 *620*	205 *670*	230 *750*	245 *800*	165 *540*	180 *590*	195 *640*	215 *710*
K2	135 *445*	145 *475*	160 *520*	170 *560*	130 *425*	135 *445*	150 *490*	165 *540*	85 *280*	90 *295*	100 *330*	105 *345*	170 *560*	185 *610*	205 *670*	220 *720*	145 *475*	155 *510*	175 *570*	190 *620*
K3	115 *375*	120 *395*	135 *445*	145 *475*	110 *360*	115 *375*	130 *425*	140 *460*	75 *245*	80 *260*	85 *280*	90 *295*	145 *475*	155 *510*	170 *560*	185 *610*	125 *410*	135 *445*	145 *475*	160 *520*
K4	110 *360*	115 *375*	130 *425*	140 *460*	105 *345*	110 *360*	120 *395*	130 *425*	70 *230*	75 *245*	80 *260*	85 *280*	135 *445*	150 *490*	165 *540*	180 *590*	120 *395*	125 *410*	140 *460*	150 *490*
K5	65 *215*	70 *230*	80 *260*	85 *280*	65 *215*	70 *230*	75 *245*	80 *260*	43 *140*	45 *150*	49 *160*	55 *180*	85 *280*	90 *295*	100 *330*	110 *360*	70 *230*	80 *260*	85 *280*	95 *310*
K6	95 *310*	100 *330*	115 *375*	120 *395*	90 *295*	95 *310*	105 *345*	115 *375*	60 *195*	65 *215*	70 *230*	75 *245*	120 *395*	130 *425*	145 *475*	155 *510*	105 *345*	110 *360*	125 *410*	135 *445*
K7	85 *280*	90 *295*	100 *330*	110 *360*	80 *260*	85 *280*	95 *310*	105 *345*	55 *180*	60 *195*	60 *195*	65 *215*	110 *360*	115 *375*	125 *410*	140 *460*	90 *295*	100 *330*	110 *360*	120 *395*
N1	900 *2950*	970 *3175*	1050 *3450*	1150 *3775*	850 *2800*	920 *3025*	1000 *3275*	1100 *3600*	580 *1900*	610 *2000*	670 *2200*	710 *2325*	— —	— —	— —	— —	— —	— —	— —	— —
N2	450 *1475*	490 *1600*	530 *1750*	580 *1900*	430 *1400*	465 *1525*	510 *1675*	550 *1800*	230 *750*	245 *800*	270 *890*	285 *940*	— —	— —	— —	— —	— —	— —	— —	— —
N3	300 *980*	325 *1075*	355 *1175*	390 *1275*	285 *940*	310 *1025*	340 *1125*	370 *1225*	155 *510*	165 *540*	180 *590*	190 *620*	— —	— —	— —	— —	— —	— —	— —	— —
N11	345 *1125*	370 *1225*	405 *1325*	445 *1450*	330 *1075*	355 *1175*	390 *1275*	425 *1400*	175 *570*	190 *620*	205 *670*	215 *710*	— —	— —	— —	— —	— —	— —	— —	— —
S1	37 *120*	40 *130*	44 *145*	48 *155*	35 *115*	38 *125*	42 *140*	45 *150*	20 *65*	22 *70*	24 *80*	25 *80*	— —	— —	— —	— —	39 *130*	42 *140*	46 *150*	50 *165*
S2	30 *100*	32 *105*	35 *115*	38 *125*	28 *90*	31 *100*	34 *110*	37 *120*	16 *50*	17 *55*	19 *60*	20 *65*	— —	— —	— —	— —	31 *100*	34 *110*	37 *120*	40 *130*
S3	26 *85*	28 *90*	31 *100*	33 *110*	25 *80*	27 *90*	29 *95*	32 *105*	14 *46*	15 *49*	16 *50*	17 *55*	— —	— —	— —	— —	27 *90*	29 *95*	32 *105*	35 *115*
S11	50 *165*	55 *180*	60 *195*	65 *215*	45 *150*	48 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	70 *230*
S12	37 *120*	39 *130*	43 *140*	47 *155*	42 *140*	44 *145*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	60 *195*
S13	21 *70*	23 *75*	25 *80*	27 *90*	24 *80*	26 *85*	28 *90*	31 *100*	— —	— —	— —	— —	— —	— —	— —	— —	27 *90*	29 *95*	31 *100*	34 *110*
H5	31 *100*	34 *110*	37 *120*	40 *130*	30 *100*	32 *105*	35 *115*	38 *125*	32 *105*	33 *110*	36 *120*	39 *130*	36 *120*	38 *125*	43 *140*	46 *150*	34 *110*	37 *120*	40 *130*	44 *145*
H8	33 *110*	36 *120*	39 *130*	43 *140*	31 *100*	34 *110*	38 *125*	41 *135*	— —	— —	— —	— —	38 *125*	41 *135*	45 *150*	48 *155*	36 *120*	39 *130*	43 *140*	47 *155*
H11	40 *130*	43 *140*	47 *155*	50 *165*	38 *125*	41 *135*	45 *150*	48 *155*	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	60 *195*	44 *145*	47 *155*	50 *165*	55 *180*
H12	38 *125*	42 *140*	46 *150*	50 *165*	37 *120*	40 *130*	44 *145*	47 *155*	— —	— —	— —	— —	44 *145*	47 *155*	50 *165*	55 *180*	65 *215*	70 *230*	80 *260*	85 *280*
H21	33 *110*	36 *120*	39 *130*	43 *140*	31 *100*	34 *110*	38 *125*	41 *135*	— —	— —	— —	— —	38 *125*	41 *135*	45 *150*	48 *155*	36 *120*	39 *130*	43 *140*	47 *155*



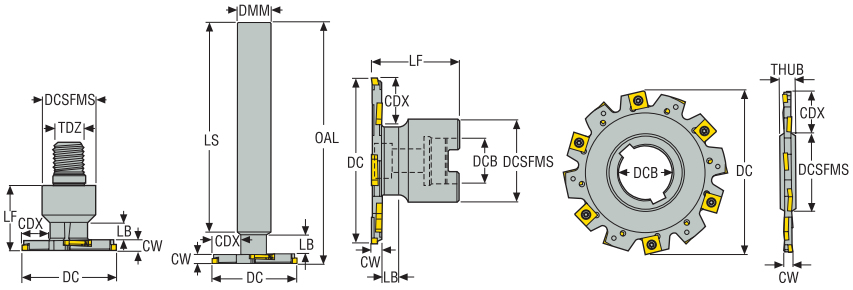
335.19

Economical, precise and free-cutting disc milling cutter system dedicated for small width of cut slotting and cutting off operations

- Width of cut 4-12 mm (.157 - .500 inch) - Flat bottom slot with SNHQ inserts.
- Cutter range diameter 40-250 mm (1.5 - 8 inch)
- Available with Cylindrical, Arbor, Arbor hole and Combimaster connection, with through coolant and close pitch option
- High insert precision with built-in wiper flat and corner radii range 0.2-6 mm (.008 - 0.236 inch)
- Economical solution with up to 4 cutting edges per inserts
- Theoretical tolerance of the slot -0.02 /+0.08mm - -0.001 / +0.003”

Width 4 mm - full side

Cutter 335.19 - Insert SNHQ – Metric



- For insert selection and cutting data recommendations, see page(s) 394-395
- For complete insert programme, see page(s) 826, 827, 833
- For spare parts and technical information, see page 390-391
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DMM	TDZ	DCB	DCSFMS	OAL	THUB	LF	LS	LB	RPMX	Weight	SNHQ..R	SNHQ..L
			mm	mm	mm			mm		mm	mm	mm	mm	mm	mm	mm		kg		
R335.19-1040.RE-04.2NA	03277857	Combimaster	40,0	4,0	11,6	2	4	–	M10	–	18,5	–	–	23,0	–	8,26	21500	0,1	1102	1102
R335.19-2550.0-04.2	02565023	Cylindrical	50,0	4,0	13,9	2	4	25,0	–	–	–	150,0	–	–	132,2	11,0	19100	0,7	1102	1102
R335.19-1250.RE-04.3NA	03277859	Combimaster	50,0	4,0	14,9	3	6	–	M12	–	23,0	–	–	28,0	–	10,26	19100	0,2	1102	1102
R335.19-1663.RE-04.4NA	03277862	Combimaster	63,0	4,0	17,7	4	8	–	M16	–	30,0	–	–	35,0	–	11,26	17100	0,3	1102	1102
R335.19-3263.0-04.4	02565024	Cylindrical	63,0	4,0	13,9	4	8	32,0	–	–	–	170,0	–	–	148,6	0,0	17100	1,2	1102	1102
R335.19-063.04.22-3	75011447	Arbor	63,0	4,0	13,9	3	6	–	–	22,0	40,0	–	–	50,0	–	11,3	17100	0,5	1102	1102
R335.19-063.04.16-4	02565016	Arbor	63,0	4,0	13,9	4	8	–	–	16,0	33,0	–	–	35,0	–	–	17100	0,3	1102	1102
335.19-063.04.22-4	02565012	Arbor hole	63,0	4,0	13,6	4	8	–	–	22,0	33,0	–	8,0	6,0	–	–	17100	0,1	1102	1102
R335.19-080.04.22-4	75066088	Arbor	80,0	4,0	22,4	4	8	–	–	22,0	40,0	–	–	50,0	–	11,3	15200	0,5	1102	1102
R335.19-1680.RE-04.5NA	03277866	Combimaster	80,0	4,0	26,2	5	10	–	M16	–	30,0	–	–	35,0	–	11,26	15200	0,4	1102	1102
R335.19-080.04.22-5	02565017	Arbor	80,0	4,0	22,4	5	10	–	–	22,0	40,0	–	–	50,0	–	11,3	15200	0,5	1102	1102
R335.19-100.04.27-6	75011449	Arbor	100,0	4,0	22,1	6	12	–	–	27,0	48,0	–	–	50,0	–	–	13500	0,8	1102	1102
335.19-100.04.27-6	75090131	Arbor hole	100,0	4,0	24,6	6	12	–	–	27,0	41,0	–	12,0	8,0	–	–	13500	0,3	1102	1102
R335.19-20100.RE-04.7NA	03277870	Combimaster	100,0	4,0	32,7	7	14	–	M20	–	36,5	–	–	35,0	–	13,432	13500	0,6	1102	1102
R335.19-125.04.32-7	02565018	Arbor	125,0	4,0	29,6	7	14	–	–	32,0	58,0	–	–	50,0	–	–	12200	1,1	1102	1102
335.19-125.04.40-7	75090190	Arbor hole	125,0	4,0	30,1	7	14	–	–	40,0	55,0	–	12,0	8,0	–	–	12200	0,4	1102	1102
R335.19-20125.RE-04.8NA	03277873	Combimaster	125,0	4,0	45,2	8	16	–	M20	–	36,5	–	–	35,0	–	13,432	12200	0,6	1102	1102
R335.19-160.04.40-9	02565020	Arbor	160,0	4,0	41,1	9	18	–	–	40,0	70,0	–	–	50,0	–	–	10700	1,2	1102	1102
335.19-160.04.40-9	75090137	Arbor hole	160,0	4,0	42,6	9	18	–	–	40,0	65,0	–	12,0	8,0	–	–	10700	0,7	1102	1102

Spare Parts, included in delivery

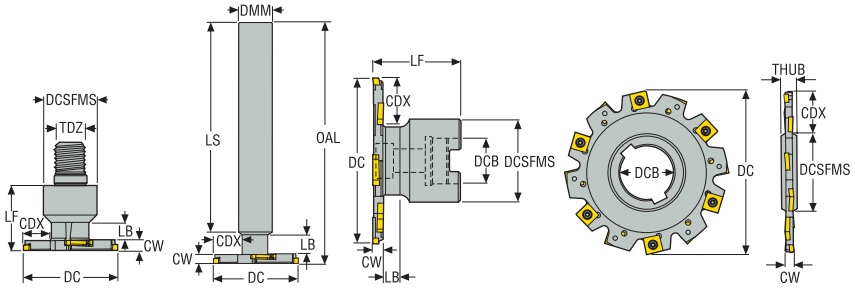
Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
335/R335.19 RE	–	H4B-T09P	C93504-T09P	2.0NM	T00-09P20
R335.19 DCB=22	MC6S10X40	H4B-T09P	C93504-T09P	2.0NM	T00-09P20
R335.19 DCB=16	TCEI0825	H4B-T09P	C93504-T09P	2.0NM	T00-09P20
R335.19 DCB=40	–	H4B-T09P	C93504-T09P	2.0NM	T00-09P20
R335.19 DCB=27	MC6S12X35	H4B-T09P	C93504-T09P	2.0NM	T00-09P20
R335.19 DCB=32	MC6S16X35	H4B-T09P	C93504-T09P	2.0NM	T00-09P20

Torque and fixed keys, see page 872

Cutter 335.19 - Insert SNHQ

Width 5 mm - full side

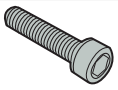


- For insert selection and cutting data recommendations, see page(s) 394-395
- For complete insert programme, see page(s) 826, 827, 833
- For spare parts and technical information, see page 390-391
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DMM	TDZ	DCB	DCSFMS	OAL	THUB	LF	LS	LB	RPMX	Weight	SNHQ..R	SNHQ..L
			mm	mm	mm			mm		mm	mm	mm	mm	mm	mm	mm		kg		
R335.19-1040.RE-05.2NA	03277858	Combimaster	40,0	5,0	11,6	2	4	–	M10	–	18,5	–	–	23,0	–	7,275	18700	0,2	1103	1103
R335.19-1250.RE-05.3NA	03277860	Combimaster	50,0	5,0	14,9	3	6	–	M12	–	23,0	–	–	28,0	–	9,275	16800	0,2	1103	1103
R335.19-2550.0-05.2	02565034	Cylindrical	50,0	5,0	13,9	2	4	25,0	–	–	–	150,0	–	–	132,2	10,0	16800	0,7	1103	1103
R335.19-1663.RE-05.4NA	03277863	Combimaster	63,0	5,0	17,6	4	8	–	M16	–	30,0	–	–	35,0	–	10,275	14900	0,3	1103	1103
R335.19-063.05.22-3	75011452	Arbor	63,0	5,0	13,9	3	6	–	–	22,0	40,0	–	–	50,0	–	10,3	14900	0,5	1103	1103
R335.19-1680.RE-05.5NA	03277867	Combimaster	80,0	5,0	26,1	5	10	–	M16	–	30,0	–	–	35,0	–	10,275	13200	0,4	1103	1103
R335.19-3280.0-05.5	02565036	Cylindrical	80,0	5,0	22,5	5	10	32,0	–	–	–	170,0	–	–	148,6	0,0	13200	1,2	1103	1103
R335.19-080.05.22-5	02565029	Arbor	80,0	5,0	22,4	5	10	–	–	22,0	40,0	–	–	50,0	–	10,3	13200	0,5	1103	1103
R335.19-080.05.22-4	75066089	Arbor	80,0	5,0	22,4	4	8	–	–	22,0	40,0	–	–	50,0	–	10,3	13200	0,5	1103	1103
335.19-080.05.22-5	02565027	Arbor hole	80,0	5,0	19,6	5	10	–	–	22,0	33,0	–	12,0	8,5	–	–	13200	0,2	1103	1103
R335.19-20100.RE-05.7NA	03277871	Combimaster	100,0	5,0	32,6	7	14	–	M20	–	36,5	–	–	35,0	–	12,447	11800	0,6	1103	1103
R335.19-100.05.27-6	75011453	Arbor	100,0	5,0	22,1	6	12	–	–	27,0	48,0	–	–	50,0	–	–	11800	0,8	1103	1103
335.19-100.05.27-6	75090132	Arbor hole	100,0	5,0	25,6	6	12	–	–	27,0	41,0	–	12,0	8,5	–	–	11800	0,3	1103	1103
R335.19-20125.RE-05.8NA	03277874	Combimaster	125,0	5,0	45,1	8	16	–	M20	–	36,5	–	–	35,0	–	12,447	10700	0,7	1103	1103
335.19-125.05.40-7	75090191	Arbor hole	125,0	5,0	31,1	7	14	–	–	40,0	55,0	–	12,0	8,5	–	–	10700	0,5	1103	1103
R335.19-125.05.32-7	02565031	Arbor	125,0	5,0	29,6	7	14	–	–	32,0	58,0	–	–	50,0	–	–	10700	1,1	1103	1103
335.19-160.05.40-9	75090138	Arbor hole	160,0	5,0	43,6	9	18	–	–	40,0	65,0	–	12,0	8,5	–	–	9300	0,8	1103	1103
R335.19-160.05.40-9	02565032	Arbor	160,0	5,0	41,1	9	18	–	–	40,0	70,0	–	–	50,0	–	–	9300	1,2	1103	1103

Spare Parts, included in delivery

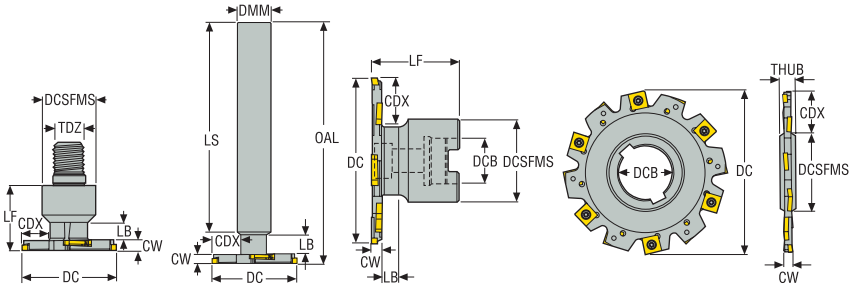
Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
335/R335.19 RE/Cyl	–	H4B-T09P	C93505-T09P	2.0NM	T00-09P20
R335.19 DCB=22	MC6S10X40	H4B-T09P	C93505-T09P	2.0NM	T00-09P20
R335.19 DCB=27	MC6S12X35	H4B-T09P	C93505-T09P	2.0NM	T00-09P20
R335.19 DCB=40	–	H4B-T09P	C93505-T09P	2.0NM	T00-09P20
R335.19 DCB=32	MC6S16X35	H4B-T09P	C93505-T09P	2.0NM	T00-09P20

Torque and fixed keys, see page 872

Width 6 mm - full side

Cutter 335.19 - Insert SNHQ – Metric

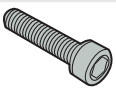


- For insert selection and cutting data recommendations, see page(s) 394-395
- For complete insert programme, see page(s) 826, 827, 833
- For spare parts and technical information, see page 390-391
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DMM	TDZ	DCB	DCSFMS	OAL	THUB	LF	LS	LB	RPMX	Weight	SNHQ..R	SNHQ..L
			mm	mm	mm			mm		mm	mm	mm	mm	mm	mm	mm		kg		
R335.19-1250.RE-06.2NA	03277861	Combimaster	50,0	6,0	14,9	2	4	–	M12	–	23,0	–	–	28,0	–	8,285	12300	0,2	1203	1203
R335.19-2550.0-06.2	02565041	Cylindrical	50,0	6,0	13,9	2	4	25,0	–	–	–	150,0	–	–	132,2	9,0	12300	0,7	1203	1203
R335.19-1663.RE-06.3NA	03277864	Combimaster	63,0	6,0	17,6	3	6	–	M16	–	30,0	–	–	35,0	–	9,285	10900	0,3	1203	1203
R335.19-3263.0-06.3	02565042	Cylindrical	63,0	6,0	14,0	3	6	32,0	–	–	–	170,0	–	–	148,6	0,0	10900	1,1	1203	1203
R335.19-063.06.16-3	02565038	Arbor	63,0	6,0	13,9	3	6	–	–	16,0	33,0	–	–	35,0	–	–	10900	0,3	1203	1203
R335.19-063.06.22-3	75011448	Arbor	63,0	6,0	13,9	3	6	–	–	22,0	40,0	–	–	50,0	–	9,3	10900	0,5	1203	1203
335.19-063.06.22-3	02565037	Arbor hole	63,0	6,0	13,6	3	6	–	–	22,0	33,0	–	12,0	9,0	–	–	10900	0,2	1203	1203
R335.19-1680.RE-06.4NA	03277868	Combimaster	80,0	6,0	26,3	4	8	–	M16	–	30,0	–	–	35,0	–	9,285	9700	0,4	1203	1203
R335.19-3280.0-06.4	02565043	Cylindrical	80,0	6,0	22,5	4	8	32,0	–	–	–	170,0	–	–	148,6	0,0	9700	1,3	1203	1203
R335.19-080.06.22-4	75066090	Arbor	80,0	6,0	22,4	4	8	–	–	22,0	40,0	–	–	50,0	–	9,3	9700	0,6	1203	1203
R335.19-20100.RE-06.6NA	03277872	Combimaster	100,0	6,0	32,8	6	12	–	M20	–	36,5	–	–	35,0	–	11,457	8700	0,5	1203	1203
R335.19-100.06.27-5	75011450	Arbor	100,0	6,0	22,0	5	10	–	–	27,0	48,0	–	–	50,0	–	–	8700	0,9	1203	1203
335.19-100.06.27-5	75011284	Arbor hole	100,0	6,0	25,6	5	10	–	–	27,0	41,0	–	12,0	9,0	–	–	8700	0,4	1203	1203
R335.19-125.06.32-6	02565039	Arbor	125,0	6,0	29,6	6	12	–	–	32,0	58,0	–	–	50,0	–	–	7700	1,3	1203	1203
335.19-125.06.40-6	75011289	Arbor hole	125,0	6,0	31,1	6	12	–	–	40,0	55,0	–	12,0	9,0	–	–	7700	0,5	1203	1203
R335.19-160.06.40-8	75012913	Arbor	160,0	6,0	41,1	8	16	–	–	40,0	70,0	–	–	50,0	–	–	6800	1,3	1203	1203
335.19-160.06.40-8	75011294	Arbor hole	160,0	6,0	43,6	8	16	–	–	40,0	65,0	–	12,0	9,0	–	–	6800	0,8	1203	1203
335.19-200.06.50-9	75090141	Arbor hole	200,0	6,0	61,6	9	18	–	–	50,0	69,0	–	12,0	9,0	–	–	6300	1,2	1203	1203
335.19-250.06.50-12	75012301	Arbor hole	250,0	6,0	86,6	12	24	–	–	50,0	69,0	–	12,0	9,0	–	–	5600	1,9	1203	1203

Spare Parts, included in delivery

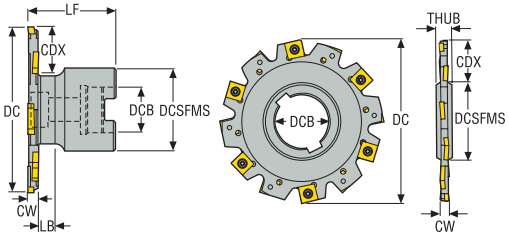
Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
335/R335.19 RE/Cyl	–	H4B-T15P	C94005-T15P	3.5NM	T00-15P35
R335.19 DCB=16	TCEI0825	H4B-T15P	C94005-T15P	3.5NM	T00-15P35
R335.19 DCB=22	MC6S10X40	H4B-T15P	C94005-T15P	3.5NM	T00-15P35
R335.19 DCB=27	MC6S12X35	H4B-T15P	C94005-T15P	3.5NM	T00-15P35
R335.19 DCB=32	MC6S16X35	H4B-T15P	C94005-T15P	3.5NM	T00-15P35
R335.19 DCB=40	–	H4B-T15P	C94005-T15P	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Cutter 335.19 - Insert SNHQ – Metric

Width 7/8/10 mm - full side



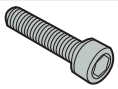
- For insert selection and cutting data recommendations, see page(s) 394-395
- For complete insert programme, see page(s) 826, 827, 833
- For spare parts and technical information, see page 390-391
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	TDZ	DCB	DCSFMS	THUB	LF	LS	LB	RPMX	Weight	SNHQ..R	SNHQ..L
			mm	mm	mm				mm	mm	mm	mm	mm	mm		kg		
R335.19-1663.RE-07.3NA	03277865	Combimaster	63,0	7,0	17,6	3	6	M16	–	30,0	–	35,0	–	8,285	9400	0,3	1204/12045*	1204/12045*
R335.19-063.07.16-3	02565044	Arbor	63,0	7,0	13,8	3	6	–	16,0	33,0	–	35,0	–	–	9400	0,3	1204/12045*	1204/12045*
R335.19-063.07.22-3	75012680	Arbor	63,0	7,0	13,8	3	6	–	22,0	40,0	–	50,0	–	8,3	9400	0,5	1204/12045*	1204/12045*
R335.19-1680.RE-07.4NA	03277869	Combimaster	80,0	7,0	26,3	4	8	M16	–	30,0	–	35,0	–	8,285	8400	0,4	1204/12045*	1204/12045*
R335.19-080.07.22-4	75066091	Arbor	80,0	7,0	22,0	4	8	–	22,0	40,0	–	50,0	–	8,3	8400	0,6	1204/12045*	1204/12045*
335.19-080.07.22-4	00088988	Arbor hole	80,0	7,0	20,6	4	8	–	22,0	33,0	12,0	9,5	–	–	8400	0,2	1204/12045*	1204/12045*
R335.19-100.07.27-5	75012681	Arbor	100,0	7,0	22,0	5	10	–	27,0	48,0	–	50,0	–	–	7500	0,9	1204/12045*	1204/12045*
335.19-100.07.27-5	75012670	Arbor hole	100,0	7,0	26,6	5	10	–	27,0	41,0	12,0	9,5	–	–	7500	0,4	1204/12045*	1204/12045*
R335.19-125.07.32-6	02565045	Arbor	125,0	7,0	29,6	6	12	–	32,0	58,0	–	50,0	–	–	6700	1,3	1204/12045*	1204/12045*
335.19-125.07.40-6	75012672	Arbor hole	125,0	7,0	32,1	6	12	–	40,0	55,0	12,0	9,5	–	–	6700	0,6	1204/12045*	1204/12045*
R335.19-160.07.40-8	75012685	Arbor	160,0	7,0	41,1	8	16	–	40,0	70,0	–	50,0	–	–	5900	1,4	1204/12045*	1204/12045*
335.19-160.07.40-8	75012674	Arbor hole	160,0	7,0	44,6	8	16	–	40,0	65,0	12,0	9,5	–	–	5900	0,8	1204/12045*	1204/12045*
335.19-200.07.50-9	75012676	Arbor hole	200,0	7,0	62,6	9	18	–	50,0	69,0	12,0	9,5	–	–	5200	1,4	1204/12045*	1204/12045*
335.19-250.07.50-12	75012678	Arbor hole	250,0	7,0	87,6	12	24	–	50,0	69,0	12,0	9,5	–	–	4700	2,1	1204/12045*	1204/12045*
R335.19-100.10.27-5	75011451	Arbor	100,0	10,0	22,0	5	10	–	27,0	48,0	–	50,0	–	–	6600	1,0	1205	1205
335.19-100.10.27-5	75011288	Arbor hole	100,0	10,0	27,6	5	10	–	27,0	41,0	12,0	11,0	–	–	6600	0,5	1205	1205
R335.19-125.10.32-6	02565046	Arbor	125,0	10,0	29,6	6	12	–	32,0	58,0	–	50,0	–	–	6000	1,3	1205	1205
335.19-125.10.40-6	75011293	Arbor hole	125,0	10,0	33,1	6	12	–	40,0	55,0	12,0	11,0	–	–	6000	0,7	1205	1205
R335.19-160.10.40-8	75012914	Arbor	160,0	10,0	41,1	8	16	–	40,0	70,0	–	50,0	–	–	5200	1,7	1205	1205
335.19-160.10.40-8	75011298	Arbor hole	160,0	10,0	46,2	8	16	–	40,0	65,0	12,0	11,0	–	–	5200	1,2	1205	1205
335.19-200.10.50-9	75011373	Arbor hole	200,0	10,0	63,6	9	18	–	50,0	69,0	12,0	11,0	–	–	4700	1,9	1205	1205
335.19-250.10.50-12	75012210	Arbor hole	250,0	10,0	88,6	12	24	–	50,0	69,0	12,0	11,0	–	–	4200	3,0	1205	1205

*To generate CW=8mm use insert SNHQ12045..., LF=50,5mm and 35,5mm

Spare Parts, included in delivery

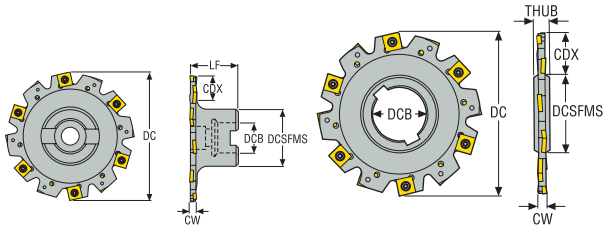
Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
335/R335.19 RE CW7	–	H4B-T15P	C94006-T15P	3.5NM	T00-15P35
R335.19 DCB=16 CW7	TCEI0825	H4B-T15P	C94006-T15P	3.5NM	T00-15P35
R335.19 DCB=22 CW7	MC6S10X40	H4B-T15P	C94006-T15P	3.5NM	T00-15P35
R335.19 DCB=27 CW7	MC6S12X35	H4B-T15P	C94006-T15P	3.5NM	T00-15P35
R335.19 DCB=32 CW7	MC6S16X35	H4B-T15P	C94006-T15P	3.5NM	T00-15P35
R335.19 DCB=40 CW7	–	H4B-T15P	C94006-T15P	3.5NM	T00-15P35
R335.19 DCB=27 CW10	MC6S12X35	H4B-T15P	C94008-T15P	3.5NM	T00-15P35
335.19 CW10	–	H4B-T15P	C94008-T15P	3.5NM	T00-15P35
R335.19 DCB=32 CW10	MC6S16X35	H4B-T15P	C94008-T15P	3.5NM	T00-15P35
R335.19 DCB=40 CW10	–	H4B-T15P	C94008-T15P	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Cutter 335.19 - Insert SNHQ – Metric

Width 12 mm - full side

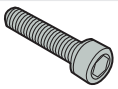


- For insert selection and cutting data recommendations, see page(s) 394-395
- For complete insert programme, see page(s) 826, 827, 833
- For spare parts and technical information, see page 390-391
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	SNHQ..R	SNHQ..L
			mm	mm	mm			mm	mm	mm	mm		kg		
R335.19-100.12.27-5	75012682	Arbor	100,0	12,0	22,0	5	10	27,0	48,0	–	50,0	6000	1,1	1207	1207
335.19-100.12.27-5	75012671	Arbor hole	100,0	12,0	27,9	5	10	27,0	41,0	12,0	12,0	6000	0,5	1207	1207
R335.19-125.12.32-6	02565047	Arbor	125,0	12,0	29,6	6	12	32,0	58,0	–	50,0	5300	1,6	1207	1207
R335.19-160.12.40-8	75012686	Arbor	160,0	12,0	41,1	8	16	40,0	70,0	–	50,0	4700	1,8	1207	1207
335.19-160.12.40-8	75012339	Arbor hole	160,0	12,0	45,9	8	16	40,0	65,0	12,0	12,0	4700	1,3	1207	1207
335.19-200.12.50-9	75012677	Arbor hole	200,0	12,0	64,2	9	18	50,0	69,0	12,0	12,0	4200	2,2	1207	1207
335.19-250.12.50-11	75012679	Arbor hole	250,0	12,0	89,2	11	22	50,0	69,0	12,0	12,0	3700	3,7	1207	1207

Spare Parts, included in delivery

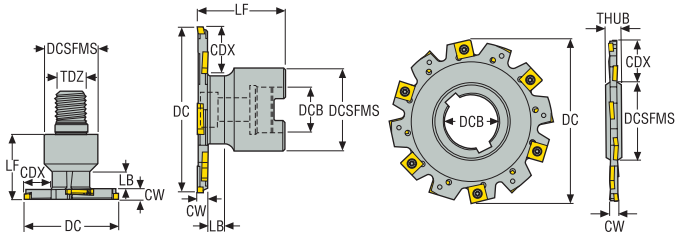
Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
R335.19 DCB=27	MC6S12X35	H4B-T15P	C94010-T15P	3.5NM	T00-15P35
335.19	–	H4B-T15P	C94010-T15P	3.5NM	T00-15P35
R335.19 DCB=32	MC6S16X35	H4B-T15P	C94010-T15P	3.5NM	T00-15P35
R335.19 DCB=40	–	H4B-T15P	C94010-T15P	3.5NM	T00-15P35

Torque and fixed keys, see page 872

Width 0.156 / 0.187 / 0.250 inch – full side

Cutter 335.19 - Insert SNHQ – inch



- For insert selection and cutting data recommendations, see page(s) 394-395
- For complete insert programme, see page(s) 826, 827, 833
- For spare parts and technical information, see page 390-391
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	LB	RPMX	Weight	SNHQ..R	SNHQ..L
			inch	inch	inch			inch	inch	inch	inch	inch		lbs		
R335.19-01.50-RE-0.15-2NA	03277875	Combimaster	1.500	0.156	0.445	2	4	–	0.728	–	0.906	0.326	22000	0.220	1102	1102
R335.19-02.00-RE-0.15-3NA	03277877	Combimaster	2.000	0.156	0.602	3	6	–	0.906	–	1.102	0.405	19100	0.440	1102	1102
R335.19-02.50-0.15-4	02881176	Arbor	2.500	0.156	0.559	4	8	0.750	1.575	–	2.000	0.445	17100	1.100	1102	1102
R335.19-02.50-RE-0.15-4NA	03277880	Combimaster	2.500	0.156	0.705	4	8	–	1.181	–	1.378	0.444	17100	0.660	1102	1102
R335.19-03.00-0.15-5	02881184	Arbor	3.000	0.156	0.807	5	10	0.750	1.575	–	2.000	0.445	15200	1.320	1102	1102
R335.19-03.00-RE-0.15-5NA	03277883	Combimaster	3.000	0.156	0.957	5	10	–	1.181	–	1.378	0.444	15200	0.880	1102	1102
R335.19-04.00-RE-0.15-7NA	03277886	Combimaster	4.000	0.156	1.319	7	14	–	1.437	–	1.378	0.444	13500	1.320	1102	1102
R335.19-01.50-RE-0.18-2NA	03277876	Combimaster	1.500	0.187	0.445	2	4	–	0.728	–	0.906	0.295	19100	0.220	1103	1103
R335.19-02.00-RE-0.18-3NA	03277878	Combimaster	2.000	0.187	0.602	3	6	–	0.906	–	1.102	0.374	16800	0.440	1103	1103
R335.19-02.50-0.18-4	02881177	Arbor	2.500	0.187	0.555	4	8	0.750	1.575	–	2.000	0.413	14900	1.100	1103	1103
R335.19-03.00-0.18-5	02881185	Arbor	3.000	0.187	0.807	5	10	0.750	1.575	–	2.000	0.413	13200	1.100	1103	1103
R335.19-03.00-RE-0.18-5NA	03277884	Combimaster	3.000	0.187	0.953	5	10	–	1.181	–	1.378	0.414	13200	0.880	1103	1103
335.19-04.00-0.18-6	02869718	Arbor hole	4.000	0.187	1.035	6	12	1.000	1.625	0.500	0.344	–	11800	0.660	1103	1103
R335.19-04.00-0.18-6	02869759	Arbor	4.000	0.187	0.906	6	12	1.000	1.880	–	2.000	–	11800	1.980	1103	1103
R335.19-04.00-RE-0.18-7NA	03277887	Combimaster	4.000	0.187	1.315	7	14	–	1.437	–	1.378	0.414	11800	1.320	1103	1103
335.19-05.00-0.18-7	02869719	Arbor hole	5.000	0.187	1.409	7	14	1.250	1.875	0.500	0.344	–	10700	1.100	1103	1103
335.19-06.00-0.18-9	02869720	Arbor hole	6.000	0.187	1.909	9	18	1.250	1.875	0.500	0.344	–	9300	1.320	1103	1103
R335.19-02.00-RE-0.25-2NA	03277879	Combimaster	2.000	0.250	0.602	2	4	–	0.906	–	1.102	0.312	12300	0.440	1204	1204
R335.19-02.50-0.25-3	02881178	Arbor	2.500	0.250	0.555	3	6	0.750	1.575	–	2.000	0.350	9400	1.100	1204	1204
R335.19-02.50-RE-0.25-3NA	03277882	Combimaster	2.500	0.250	0.705	3	6	–	1.181	–	1.378	0.352	9400	0.660	1204	1204
R335.19-03.00-0.25-4	02881186	Arbor	3.000	0.250	0.807	4	8	0.750	1.575	–	2.000	0.350	8400	1.320	1204	1204
R335.19-03.00-RE-0.25-4NA	03277885	Combimaster	3.000	0.250	0.961	4	8	–	1.181	–	1.378	0.352	8400	0.880	1204	1204
R335.19-04.00-RE-0.25-6NA	03277888	Combimaster	4.000	0.250	1.323	6	12	–	1.437	–	1.378	0.352	7500	1.320	1204	1204
R335.19-04.00-0.25-5	02869760	Arbor	4.000	0.250	0.906	5	10	1.000	1.880	–	2.000	–	7500	1.760	1204	1204
335.19-04.00-0.25-5	02869721	Arbor hole	4.000	0.250	1.075	5	10	1.000	1.625	0.500	0.375	–	7500	0.660	1204	1204
335.19-05.00-0.25-6	02869722	Arbor hole	5.000	0.250	1.449	6	12	1.250	1.875	0.500	0.375	–	6700	1.100	1204	1204
R335.19-05.00-0.25-6	02869761	Arbor	5.000	0.250	1.220	6	12	1.250	2.250	–	2.000	–	6700	2.650	1204	1204
335.19-06.00-0.25-7	02869723	Arbor hole	6.000	0.250	1.949	7	14	1.250	1.875	0.500	0.375	–	5900	1.760	1204	1204
R335.19-06.00-0.25-7	02869762	Arbor	6.000	0.250	1.220	7	14	1.500	2.750	–	2.000	–	5900	3.750	1204	1204
335.19-08.00-0.25-9	02869724	Arbor hole	8.000	0.250	2.512	9	18	1.500	2.750	0.500	0.375	–	5200	0.880	1204	1204

Spare Parts, included in delivery

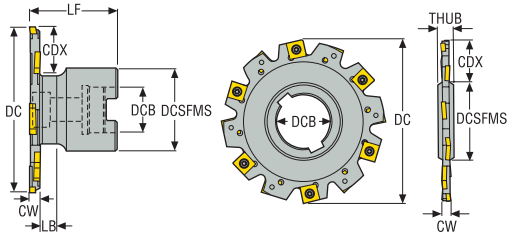
Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
R335.19RE CW=0.156	–	H4B-T09P	C93504-T09P	17.7IN.LBS	T00-09P20
R335.19 DCB=0.75 CW=0.156	UC6S3/8UNFX1-3/4	H4B-T09P	C93504-T09P	17.7IN.LBS	T00-09P20
335.19, R335.19RE CW=0.187	–	H4B-T09P	C93505-T09P	17.7IN.LBS	T00-09P20
R335.19 DCB=0.75 CW=0.187	UC6S3/8UNFX1-3/4	H4B-T09P	C93505-T09P	17.7IN.LBS	T00-09P20
R335.19 DCB=1.00 CW=0.187	UC6S1/2UNFX1-1/2	H4B-T09P	C93505-T09P	17.7IN.LBS	T00-09P20
335.19, R335.19RE CW=0.25	–	H4B-T15P	C94055-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=0.75 CW=0.25	UC6S3/8UNFX1-3/4	H4B-T15P	C94055-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=1.00 CW=0.25	UC6S1/2UNFX1-1/2	H4B-T15P	C94055-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=1.25 CW=0.25	UC6S5/8UNFX11/2	H4B-T15P	C94055-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=1.50 CW=0.25	ULC6S3/4UNFX11/2	H4B-T15P	C94055-T15P	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Width 0.313 / 0.375 / 0.5 inch – full side

Cutter 335.19 - Insert SNHQ – inch



- For insert selection and cutting data recommendations, see page(s) 394-395
- For complete insert programme, see page(s) 826, 827, 833
- For spare parts and technical information, see page 390-391
- See “CW” Cutting Width information page 380
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	LB	RPMX	Weight	SNHQ..R	SNHQ..L
			inch	inch	inch			inch	inch	inch	inch	inch		lbs		
R335.19-02.50-0.31-3	02881179	Arbor	2.500	0.313	0.555	3	6	0.750	1.575	–	2.000	0.287	9400	1.100	12045	12045
R335.19-03.00-0.31-4	02881187	Arbor	3.000	0.313	0.807	4	8	0.750	1.575	–	2.000	0.287	8400	1.320	12045	12045
R335.19-04.00-0.31-5	02869763	Arbor	4.000	0.313	0.906	5	10	1.000	1.880	–	2.000	–	7500	1.760	12045	12045
335.19-05.00-0.31-6	02869727	Arbor hole	5.000	0.313	1.449	6	12	1.250	1.875	0.500	0.406	–	6700	1.320	12045	12045
335.19-06.00-0.31-7	02869728	Arbor hole	6.000	0.313	1.949	7	14	1.250	1.875	0.500	0.406	–	5900	2.430	12045	12045
R335.19-02.50-0.37-3	02881180	Arbor	2.500	0.375	0.555	3	6	0.750	1.575	–	2.000	0.224	8400	1.100	1205	1205
R335.19-03.00-0.37-4	02881188	Arbor	3.000	0.375	0.807	4	8	0.750	1.575	–	2.000	0.224	8400	1.100	1205	1205
R335.19-04.00-0.37-5	02869766	Arbor	4.000	0.375	0.906	5	10	1.000	1.880	–	2.000	–	6600	1.980	1205	1205
335.19-04.00-0.37-5	02869731	Arbor hole	4.000	0.375	1.114	5	10	1.000	1.625	0.500	0.437	–	6600	1.100	1205	1205
335.19-05.00-0.37-6	02869732	Arbor hole	5.000	0.375	1.488	6	12	1.250	1.875	0.500	0.437	–	6000	1.320	1205	1205
335.19-06.00-0.37-7	02869733	Arbor hole	6.000	0.375	2.020	7	14	1.250	1.875	0.500	0.437	–	5200	2.200	1205	1205
R335.19-04.00-0.50-5	02869769	Arbor	4.000	0.500	0.906	5	10	1.000	1.880	–	2.000	–	6000	2.200	1207	1207
335.19-04.00-0.50-5	02869736	Arbor hole	4.000	0.500	1.126	5	10	1.000	1.625	0.500	0.500	–	6000	1.100	1207	1207
R335.19-05.00-0.50-6	02869770	Arbor	5.000	0.500	1.220	6	12	1.250	2.250	–	2.000	–	5300	3.750	1207	1207
335.19-06.00-0.50-7	02869738	Arbor hole	6.000	0.500	2.000	7	14	1.250	1.875	0.500	0.500	–	4700	2.870	1207	1207

Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
R335.19 DCB=0.75 CW=0.313	UC6S3/8UNFX1-3/4	H4B-T15P	C94006-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=1.00 CW=0.313	UC6S1/2UNFX1-1/2	H4B-T15P	C94006-T15P	31.0IN.LBS	T00-15P35
335.19- CW=0.313	–	H4B-T15P	C94006-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=0.75 CW=0.375	UC6S3/8UNFX1-3/4	H4B-T15P	C94008-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=1.00 CW=0.375	UC6S1/2UNFX1-1/2	H4B-T15P	C94008-T15P	31.0IN.LBS	T00-15P35
335.19 CW=0.375	–	H4B-T15P	C94008-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=1.00 CW=0.5	UC6S1/2UNFX1-1/2	H4B-T15P	C94010-T15P	31.0IN.LBS	T00-15P35
335.19 CW=0.5	–	H4B-T15P	C94010-T15P	31.0IN.LBS	T00-15P35
R335.19 DCB=1.25 CW=0.5	UC6S5/8UNFX11/2	H4B-T15P	C94010-T15P	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

Disc milling cutter 335.19 – Technical information

Cutter side



LH = Left hand insert
RH = Right hand insert

SNHQ insert choice: Width of cut and corner radius choice

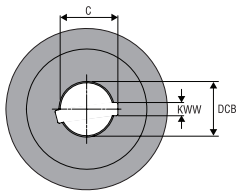


Inserts	a_p	R 0,2	R 0,4	R 0,8	R1,0	R 1,2	R 1,6	R 2,0	R 2,4	R 3,0	R 3,1	R 3,5	R 4,0	R 5,0	R 6,0
SNHQ 1102	4	■	■	■		■	■	■							
SNHQ 1103	5	■	■	■		■	■	■							
SNHQ 1203	6	■	■	■	■	■	■	■	x	o					
SNHQ 1204	7	■	■	■		■	■	■	x		x	o			
SNHQ 12045	8	■	■	■		■	■	■	x		x		o		
SNHQ 1205	10	■	■	■	■	■	■	■	x		x		x	o	
SNHQ 1207	12		■	■		■	■	■	x		x		x	x	o

Inserts	a_p	.008	.016	.031	.039	.047	.063	.079	.094	.118	.122	.138	.157	.197	.236
SNHQ 1102	.156	■	■	■		■	■	■							
SNHQ 1103	.187	■	■	■		■	■	■							
SNHQ 1204	.250	■	■	■		■	■	■	x		x				
SNHQ 12045	.313	■	■	■		■	■	■	x		x				
SNHQ 1205	.375	■	■	■	■	■	■	■	x		x		x		
SNHQ 1207	.500		■	■		■	■	■	x		x		x	x	x

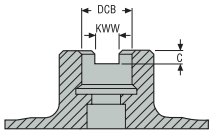
■ = SNHQ 4 edges
x= SNHQ 2 edges
o= Full radius possibillities

Keyway for Arbor hole type and Arbor type cutter



Dimensions in mm		
DCB	KWW	C
22	6	24,15
27	7	29,9
40	10	43,6
50	12	53,6

Dimensions in inch		
DCB	KWW	C
1.00	*0.250*	*1.110*
1.25	*0.312*	*1.393*
1.50	*0.375*	*1.673*
2.00	*0.500*	*2.198*



Dimensions in mm		
DCB	KWW	C
16	8,4	5,6
22	10,4	6,3
27	12,4	7
32	14,4	8
40	16,4	9

Dimensions in inch		
DCB	KWW	C
0.75	*0.32*	*0.19*
1.00	*0.38*	*0.22*
1.25	*0.51*	*0.28*
1.50	*0.63*	*0.38*

SNHQ – Insert selection – Metric / *Inch*

SMG		f_z		
		30%	20%	10%
P1	SNHQ...-M07 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P2	SNHQ...-M07 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
P3	SNHQ...-M07 F40M	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
P4	SNHQ...-M07 F40M	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
P5	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P6	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P7	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P8	SNHQ...-M07 F30M	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
P11	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P12	SNHQ...-M07 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
M1	SNHQ...-M07 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
M2	SNHQ...-M07 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
M3	SNHQ...-M07 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
M4	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
M5	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
K1	SNHQ...-M07 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
K2	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K3	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K4	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K5	SNHQ...-M07 MP2501	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
K6	SNHQ...-M07 MP2501	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K7	SNHQ...-M07 MP2501	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
N1	SNHQ...-E05 H25	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N2	SNHQ...-E05 H25	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N3	SNHQ...-E05 H25	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N11	SNHQ...-E05 H25	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
S1	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S2	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S3	SNHQ...-M07 F40M	0,075 *0.0030*	0,085 *0.0034*	0,11 *0.0044*
S11	SNHQ...-M07 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S12	SNHQ...-M07 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S13	SNHQ...-M07 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
H5	SNHQ...-M07 F30M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
H8	SNHQ...-M07 F30M	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*
H11	SNHQ...-M07 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
H12	SNHQ...-M07 F40M	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*
H21	SNHQ...-M07 F30M	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

SNHQ – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F30M			F40M			H25			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	195 *640*	205 *670*	230 *750*	185 *610*	195 *640*	215 *710*	— —	— —	— —	320 *1050*	335 *1100*	360 *1175*
P2	185 *610*	200 *660*	220 *720*	175 *570*	190 *620*	210 *690*	— —	— —	— —	305 *1000*	325 *1075*	350 *1150*
P3	165 *540*	175 *570*	195 *640*	155 *510*	165 *540*	185 *610*	— —	— —	— —	270 *890*	280 *920*	300 *980*
P4	145 *475*	155 *510*	170 *560*	135 *445*	150 *490*	165 *540*	— —	— —	— —	235 *770*	250 *820*	265 *870*
P5	140 *460*	150 *490*	165 *540*	135 *445*	140 *460*	155 *510*	— —	— —	— —	230 *750*	240 *790*	255 *840*
P6	155 *510*	165 *540*	185 *610*	150 *490*	160 *520*	175 *570*	— —	— —	— —	255 *840*	270 *890*	290 *950*
P7	150 *490*	160 *520*	175 *570*	140 *460*	150 *490*	165 *540*	— —	— —	— —	240 *790*	255 *840*	270 *890*
P8	135 *445*	145 *475*	165 *540*	130 *425*	140 *460*	155 *510*	— —	— —	— —	225 *740*	235 *770*	255 *840*
P11	145 *475*	155 *510*	170 *560*	135 *445*	145 *475*	160 *520*	— —	— —	— —	235 *770*	245 *800*	265 *870*
P12	95 *310*	100 *330*	110 *360*	90 *295*	95 *310*	105 *345*	— —	— —	— —	145 *475*	150 *490*	160 *520*
M1	150 *490*	165 *540*	180 *590*	140 *460*	155 *510*	170 *560*	— —	— —	— —	170 *560*	185 *610*	200 *660*
M2	125 *410*	135 *445*	150 *490*	120 *395*	125 *410*	140 *460*	— —	— —	— —	140 *460*	150 *490*	165 *540*
M3	100 *330*	110 *360*	120 *395*	95 *310*	105 *345*	115 *375*	— —	— —	— —	115 *375*	120 *395*	135 *445*
M4	80 *260*	85 *280*	90 *295*	75 *245*	80 *260*	90 *295*	— —	— —	— —	85 *280*	95 *310*	105 *345*
M5	65 *215*	70 *230*	75 *245*	60 *195*	65 *215*	75 *245*	— —	— —	— —	75 *245*	80 *260*	85 *280*
K1	145 *475*	160 *520*	175 *570*	140 *460*	150 *490*	170 *560*	— —	— —	— —	310 *1025*	330 *1075*	350 *1150*
K2	135 *445*	140 *460*	155 *510*	125 *410*	135 *445*	150 *490*	— —	— —	— —	275 *900*	290 *950*	310 *1025*
K3	115 *375*	120 *395*	135 *445*	105 *345*	115 *375*	125 *410*	— —	— —	— —	235 *770*	245 *800*	260 *850*
K4	105 *345*	115 *375*	125 *410*	100 *330*	110 *360*	120 *395*	— —	— —	— —	225 *740*	235 *770*	250 *820*
K5	65 *215*	70 *230*	75 *245*	60 *195*	65 *215*	75 *245*	— —	— —	— —	135 *445*	140 *460*	150 *490*
K6	95 *310*	100 *330*	110 *360*	90 *295*	95 *310*	105 *345*	— —	— —	— —	195 *640*	205 *670*	220 *720*
K7	85 *280*	90 *295*	100 *330*	80 *260*	85 *280*	95 *310*	— —	— —	— —	175 *570*	180 *590*	190 *620*
N1	1100 *3600*	1175 *3850*	1300 *4275*	1050 *3450*	1125 *3700*	1250 *4100*	1025 *3375*	1100 *3600*	1200 *3925*	— —	— —	— —
N2	445 *1450*	480 *1575*	530 *1750*	425 *1400*	455 *1500*	500 *1650*	415 *1350*	440 *1450*	485 *1600*	— —	— —	— —
N3	295 *970*	320 *1050*	355 *1175*	280 *920*	305 *1000*	335 *1100*	275 *900*	295 *970*	325 *1075*	— —	— —	— —
N11	340 *1125*	365 *1200*	405 *1325*	320 *1050*	345 *1125*	385 *1275*	315 *1025*	335 *1100*	370 *1225*	— —	— —	— —
S1	36 *120*	39 *130*	43 *140*	35 *115*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —
S2	29 *95*	31 *100*	35 *115*	28 *90*	30 *100*	33 *110*	— —	— —	— —	— —	— —	— —
S3	26 *85*	27 *90*	30 *100*	24 *80*	26 *85*	29 *95*	— —	— —	— —	— —	— —	— —
S11	50 *165*	55 *180*	60 *195*	49 *160*	50 *165*	55 *180*	— —	— —	— —	— —	— —	— —
S12	36 *120*	38 *125*	42 *140*	41 *135*	44 *145*	48 *155*	— —	— —	— —	— —	— —	— —
S13	21 *70*	22 *70*	24 *80*	24 *80*	25 *80*	28 *90*	— —	— —	— —	— —	— —	— —
H5	31 *100*	33 *110*	36 *120*	29 *95*	31 *100*	34 *110*	— —	— —	— —	— —	— —	— —
H8	32 *105*	34 *110*	38 *125*	31 *100*	33 *110*	36 *120*	— —	— —	— —	— —	— —	— —
H11	39 *130*	42 *140*	46 *150*	37 *120*	40 *130*	44 *145*	— —	— —	— —	— —	— —	— —
H12	38 *125*	40 *130*	45 *150*	36 *120*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —
H21	32 *105*	34 *110*	38 *125*	31 *100*	33 *110*	36 *120*	— —	— —	— —	— —	— —	— —

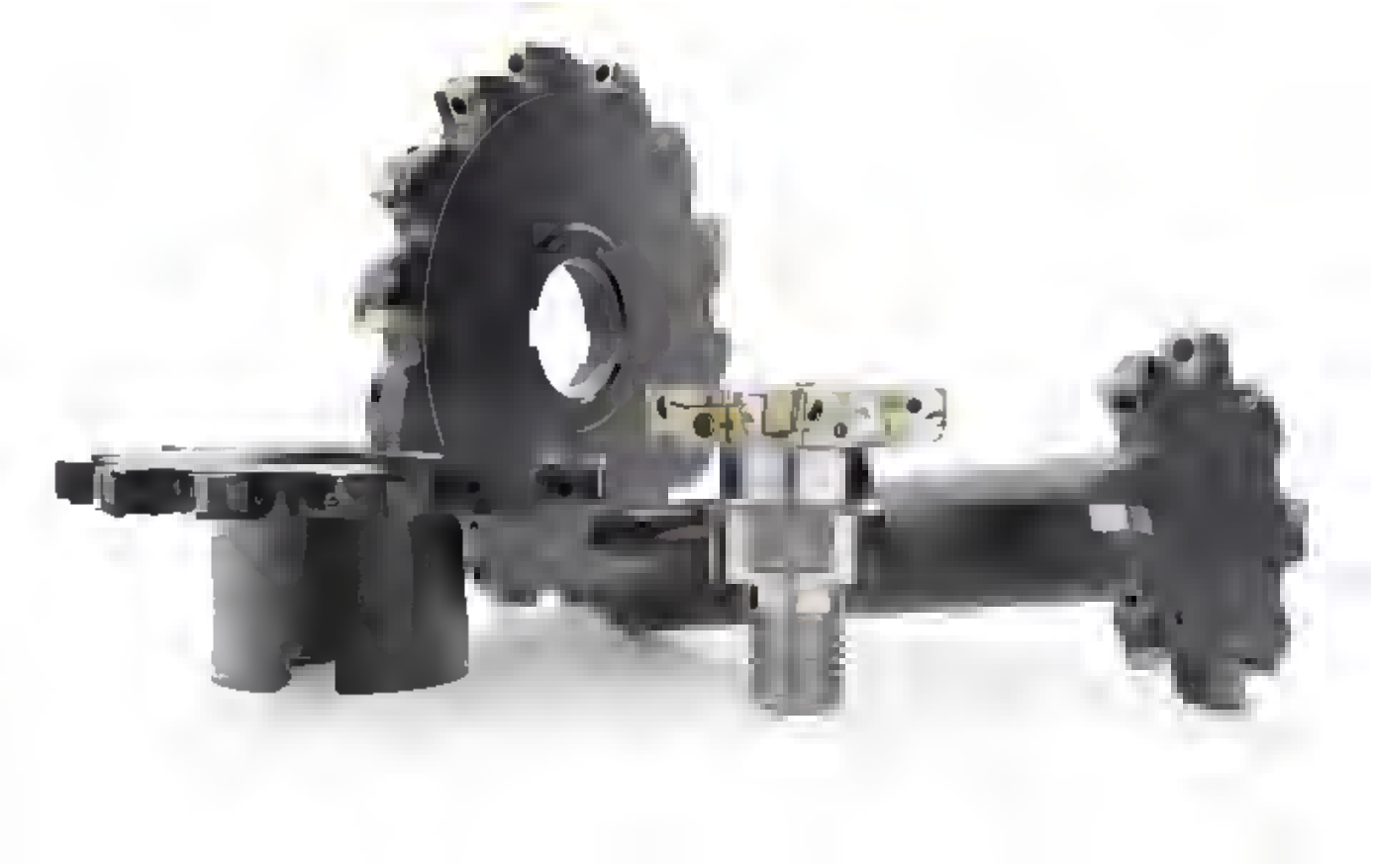
335.19 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	335.19-...-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P2	335.19-...-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P3	335.19-...-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
P4	335.19-...-M08 F40M	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
P5	335.19-...-M08 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P6	335.19-...-M08 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P7	335.19-...-M08 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P8	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
P11	335.19-...-M08 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P12	335.19-...-M08 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
M1	335.19-...-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
M2	335.19-...-M08 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
M3	335.19-...-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
M4	335.19-...-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
M5	335.19-...-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
K1	335.19-...-MD09 F40M	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
K2	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K3	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K4	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K5	335.19-...-MD09 F40M	0,11 *0.0044*	0,13 *0.0050*	0,18 *0.0070*
K6	335.19-...-MD09 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K7	335.19-...-MD09 F40M	0,11 *0.0044*	0,13 *0.0050*	0,18 *0.0070*
S1	335.19-...-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S2	335.19-...-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S3	335.19-...-M08 F40M	0,075 *0.0030*	0,085 *0.0034*	0,11 *0.0044*
S11	335.19-...-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S12	335.19-...-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S13	335.19-...-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
H5	335.19-...-MD09 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
H8	335.19-...-MD09 F40M	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
H11	335.19-...-MD09 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
H12	335.19-...-MD09 F40M	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
H21	335.19-...-MD09 F40M	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.19 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			MP2501		
	30%	20%	10%	30%	20%	10%
P1	175 *570*	185 *610*	205 *670*	295 *970*	310 *1025*	330 *1075*
P2	170 *560*	180 *590*	200 *660*	285 *940*	300 *980*	320 *1050*
P3	145 *475*	155 *510*	175 *570*	250 *820*	260 *850*	280 *920*
P4	130 *425*	140 *460*	155 *510*	220 *720*	230 *750*	250 *820*
P5	125 *410*	135 *445*	150 *490*	210 *690*	220 *720*	235 *770*
P6	140 *460*	150 *490*	165 *540*	235 *770*	250 *820*	270 *890*
P7	135 *445*	140 *460*	160 *520*	225 *740*	235 *770*	255 *840*
P8	125 *410*	130 *425*	145 *475*	210 *690*	220 *720*	235 *770*
P11	130 *425*	140 *460*	155 *510*	215 *710*	230 *750*	245 *800*
P12	85 *280*	90 *295*	100 *330*	140 *460*	145 *475*	155 *510*
M1	135 *445*	145 *475*	160 *520*	155 *510*	165 *540*	185 *610*
M2	115 *375*	120 *395*	135 *445*	130 *425*	135 *445*	150 *490*
M3	90 *295*	100 *330*	105 *345*	105 *345*	110 *360*	120 *395*
M4	70 *230*	75 *245*	85 *280*	80 *260*	85 *280*	95 *310*
M5	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	80 *260*
K1	135 *445*	145 *475*	160 *520*	290 *950*	305 *1000*	325 *1075*
K2	120 *395*	125 *410*	140 *460*	255 *840*	265 *870*	285 *940*
K3	100 *330*	110 *360*	120 *395*	215 *710*	225 *740*	245 *800*
K4	95 *310*	105 *345*	115 *375*	205 *670*	215 *710*	230 *750*
K5	60 *195*	60 *195*	70 *230*	125 *410*	130 *425*	140 *460*
K6	85 *280*	90 *295*	100 *330*	180 *590*	190 *620*	205 *670*
K7	75 *245*	80 *260*	90 *295*	160 *520*	170 *560*	180 *590*
N1	990 *3250*	1075 *3525*	1175 *3850*	— —	— —	— —
N2	400 *1300*	430 *1400*	475 *1550*	— —	— —	— —
N3	265 *870*	285 *940*	315 *1025*	— —	— —	— —
N11	305 *1000*	325 *1075*	365 *1200*	— —	— —	— —
S1	33 *110*	35 *115*	39 *130*	— —	— —	— —
S2	26 *85*	28 *90*	31 *100*	— —	— —	— —
S3	23 *75*	25 *80*	27 *90*	— —	— —	— —
S11	46 *150*	50 *165*	55 *180*	— —	— —	— —
S12	39 *130*	42 *140*	46 *150*	— —	— —	— —
S13	22 *70*	24 *80*	27 *90*	— —	— —	— —
H5	28 *90*	30 *100*	33 *110*	— —	— —	— —
H8	29 *95*	31 *100*	35 *115*	— —	— —	— —
H11	36 *120*	38 *125*	42 *140*	— —	— —	— —
H12	34 *110*	36 *120*	40 *130*	— —	— —	— —
H21	29 *95*	31 *100*	35 *115*	— —	— —	— —



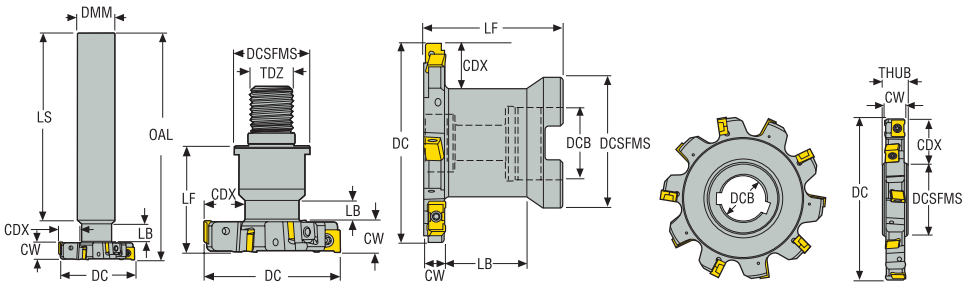
335.18

Highly economical, versatile and free-cutting disc milling cutter system dedicated for medium width of cut slotting, or half side and face cutting operations

- Width of cut 8-20 mm (.312 - .7500 inch) - slot with flat bottom
- Cutter range diameter 32-315 mm (1.25 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Cylindrical, Arbor, Arbor hole and Combimaster connection, with through coolant and close pitch option
- Corner radii range 0.4-4 mm (.016 - 0.16 inch), and possibility to apply round insert dia 8/10/12mm in adjustable system
- Economical solution with up to 4 cutting edges per insert
- Basic tolerance of the slot:
  Fixed pocket cutters: +/-0.08mm (+/-0.003”)
  Adjustable cutters: +/-0.07mm (+/-0.0025”)

Width 8/10 mm - full side - Fixed pocket

Cutter 335.18 - Insert LNK. – Metric

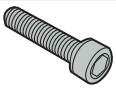


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DMM	TDZ	DCB	DCSFMS	OAL	THUB	LF	LS	LB	RPMX	Weight	Insert
			mm	mm	mm			mm		mm	mm	mm	mm	mm	mm	mm		kg	
R335.18-1632.0-08.1N	02541821	Cylindrical	32,0	8,0	9,0	1	2	16,0	–	–	–	140,0	–	–	108,0	23,0	17300	0,3	LNK.05..
R335.18-1032.RE-08.2NA	03277891	Combimaster	32,0	8,0	8,4	2	4	–	M10	–	18,5	–	–	28,0	–	8,89	17300	0,1	LNK.05..
R335.18-2040.0-08.2N	02541822	Cylindrical	40,0	8,0	12,0	2	4	20,0	–	–	–	140,0	–	–	108,0	22,0	15400	0,4	LNK.05..
R335.18-1240.RE-08.2NA	03277893	Combimaster	40,0	8,0	11,2	2	4	–	M12	–	23,0	–	–	30,0	–	8,39	15400	0,2	LNK.05..
R335.18-1650.RE-08.3NA	03277895	Combimaster	50,0	8,0	14,2	3	6	–	M16	–	30,0	–	–	35,0	–	10,59	13800	0,3	LNK.05..
R335.18-2550.0-08.3N	02541829	Cylindrical	50,0	8,0	15,0	3	6	25,0	–	–	–	150,0	–	–	110,0	29,5	13800	0,7	LNK.05..
R335.18-2063.RE-08.4NA	03277897	Combimaster	63,0	8,0	15,0	4	8	–	M20	–	36,5	–	–	40,0	–	14,89	12300	0,4	LNK.05..
R335.18-3263.0-08.3N	02541831	Cylindrical	63,0	8,0	15,5	3	6	32,0	–	–	–	170,0	–	–	155,0	0,0	12300	1,2	LNK.05..
R335.18-063.08.22-3N	02541815	Arbor	63,0	8,0	15,0	3	6	–	–	22,0	40,0	–	–	50,0	–	28,9	12300	0,4	LNK.05..
R335.18-080.08.22-4N	02541817	Arbor	80,0	8,0	23,5	4	8	–	–	22,0	40,0	–	–	50,0	–	28,9	10900	0,5	LNK.05..
R335.18-100.08.27-5N	02541818	Arbor	100,0	8,0	25,0	5	10	–	–	27,0	48,0	–	–	50,0	–	0,0	9700	0,9	LNK.05..
335.18-100.08.27-5N	02541812	Arbor hole	100,0	8,0	27,9	5	10	–	–	27,0	41,0	–	15,0	11,5	–	–	9700	0,4	LNK.05..
R335.18-125.08.32-6N	02541819	Arbor	125,0	8,0	34,0	6	12	–	–	32,0	58,0	–	–	50,0	–	0,0	8400	1,1	LNK.05..
R335.18-1032.RE-10.2NA	03277892	Combimaster	32,0	10,0	8,5	2	4	–	M10	–	18,5	–	–	28,0	–	6,89	17300	0,1	LNK.05..
R335.18-1632.0-10.1N-LN05	02541833	Cylindrical	32,0	10,0	9,0	1	2	16,0	–	–	–	140,0	–	–	108,0	21,0	17300	0,3	LNK.05..
R335.18-1240.RE-10.2NA	03277894	Combimaster	40,0	10,0	11,5	2	4	–	M12	–	23,0	–	–	30,0	–	6,39	15400	0,2	LNK.05..
R335.18-2040.0-10.2N-LN05	02541834	Cylindrical	40,0	10,0	12,0	2	4	20,0	–	–	–	140,0	–	–	108,0	20,0	15400	0,4	LNK.05..
R335.18-2040.0-10.2N	02449072	Cylindrical	40,0	10,0	12,0	2	4	20,0	–	–	–	140,0	–	–	108,0	20,0	14900	0,4	LNK.06..
R335.18-1650.RE-10.3NA	03279026	Combimaster	50,0	10,0	14,4	3	6	–	M16	–	30,0	–	–	35,0	–	8,59	13400	0,3	LNK.06..
R335.18-2550.0-10.3N	02449095	Cylindrical	50,0	10,0	15,0	3	6	25,0	–	–	–	150,0	–	–	110,0	27,5	13400	0,7	LNK.06..
R335.18-2063.RE-10.4NA	03277898	Combimaster	63,0	10,0	15,1	4	8	–	M20	–	36,5	–	–	40,0	–	12,89	11900	0,5	LNK.06..
R335.18-3263.0-10.3N	02449097	Cylindrical	63,0	10,0	15,5	3	6	32,0	–	–	–	170,0	–	–	155,0	0,0	11900	1,2	LNK.06..
R335.18-063.10.22-3N	00039922	Arbor	63,0	10,0	15,0	3	6	–	–	22,0	40,0	–	–	50,0	–	27,0	11900	0,5	LNK.06..
R335.18-3280.0-10.4N	02449098	Cylindrical	80,0	10,0	24,0	4	8	32,0	–	–	–	170,0	–	–	155,0	0,0	10500	1,4	LNK.06..
R335.18-080.10.22-4N	00039923	Arbor	80,0	10,0	23,5	4	8	–	–	22,0	40,0	–	–	50,0	–	27,0	10500	0,6	LNK.06..
335.18-080.10.27-4N	02449039	Arbor hole	80,0	10,0	19,0	4	8	–	–	27,0	41,0	–	15,0	12,5	–	–	10500	0,3	LNK.06..
R335.18-100.10.27-5N	00039924	Arbor	100,0	10,0	26,0	5	10	–	–	27,0	48,0	–	–	50,0	–	–	9400	1,0	LNK.06..
335.18-100.10.27-5N	02449040	Arbor hole	100,0	10,0	28,0	5	10	–	–	27,0	41,0	–	15,0	12,5	–	–	9400	0,5	LNK.06..
R335.18-125.10.32-6N	02448768	Arbor	125,0	10,0	34,0	6	12	–	–	32,0	58,0	–	–	50,0	–	0,0	8400	1,1	LNK.06..

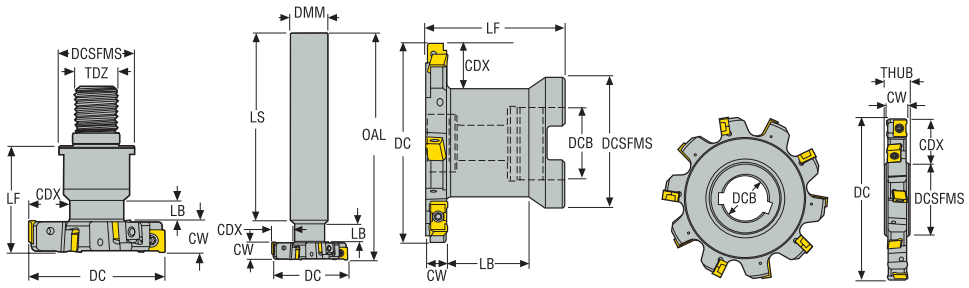
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
335.18 / R335.18 .RE / R335.18 .0 CW=8	–	H4B-T08P	C02508-T08P	1.2NM	T00-08P12
R335.18 DCB=22 CW=08	MC6S10X40	H4B-T08P	C02508-T08P	1.2NM	T00-08P12
R335.18 DCB=27 CW=08	MC6S12X40	H4B-T08P	C02508-T08P	1.2NM	T00-08P12
R335.18 DCB=32 CW=08	–	H4B-T08P	C02508-T08P	1.2NM	T00-08P12
R335.18 .RE / R335.18 .0 CW=10 LN..05	–	H4B-T08P	C02508-T08P	1.2NM	T00-08P12
335.18 / R335.18 .RE / R335.18 .0 CW=10 LN..06	–	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
R335.18 DCB=22 CW=10	MC6S10X40	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
R335.18 DCB=27 CW=10	MC6S12X40	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
R335.18 DCB=32 CW=10	–	H4B-T09P	C73007-T09P	2.0NM	T00-09P20

Width 12/14 mm - full side - Fixed pocket

Cutter 335.18 - Insert LNK. – Metric



- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DMM	TDZ	DCB	DCSFMS	OAL	THUB	LF	LS	LB	RPMX	Weight	Insert
			mm	mm	mm			mm		mm	mm	mm	mm	mm	mm	mm		kg	
R335.18-2550.0-12.3N	02449125	Cylindrical	50,0	12,0	15,0	3	6	25,0	–	–	–	150,0	–	–	110,0	25,5	13400	0,7	LNK.06..
R335.18-1650.RE-12.3NA	03277896	Combimaster	50,0	12,0	14,5	3	6	–	M16	–	30,0	–	–	35,0	–	6,59	13400	0,3	LNK.06..
R335.18-3263.0-12.3N	02449176	Cylindrical	63,0	12,0	15,5	3	6	32,0	–	–	–	170,0	–	–	155,0	0,0	11900	1,3	LNK.06..
R335.18-063.12.22-3N	00039925	Arbor	63,0	12,0	15,0	3	6	–	–	22,0	40,0	–	–	50,0	–	25,0	11900	0,4	LNK.06..
R335.18-3280.0-12.4N	02449178	Cylindrical	80,0	12,0	24,0	4	8	32,0	–	–	–	170,0	–	–	155,0	0,0	10500	1,4	LNK.06..
R335.18-080.12.22-4N	00039926	Arbor	80,0	12,0	23,5	4	8	–	–	22,0	40,0	–	–	50,0	–	25,0	10500	0,7	LNK.06..
335.18-080.12.27-4N	02449043	Arbor hole	80,0	12,0	19,0	4	8	–	–	27,0	41,0	–	15,0	13,5	–	–	10500	0,3	LNK.06..
R335.18-100.12.27-5N	00039927	Arbor	100,0	12,0	26,0	5	10	–	–	27,0	48,0	–	–	50,0	–	0,0	9400	1,0	LNK.06..
335.18-100.12.27-5N	02449044	Arbor hole	100,0	12,0	28,0	5	10	–	–	27,0	41,0	–	15,0	13,5	–	–	9400	0,5	LNK.06..
R335.18-125.12.32-6N	02448769	Arbor	125,0	12,0	34,0	6	12	–	–	32,0	58,0	–	–	50,0	–	0,0	8400	1,2	LNK.06..
335.18-125.12.40-6N	02449045	Arbor hole	125,0	12,0	33,0	6	12	–	–	40,0	55,0	–	15,0	13,5	–	–	8400	0,8	LNK.06..
R335.18-063.14.22-3N	00039928	Arbor	63,0	14,0	15,0	3	6	–	–	22,0	40,0	–	–	50,0	–	23,0	11900	0,5	LNK.08..
R335.18-080.14.22-4N	00039929	Arbor	80,0	14,0	23,5	4	8	–	–	22,0	40,0	–	–	50,0	–	23,0	10500	0,6	LNK.08..
R335.18-100.14.27-5N	00039930	Arbor	100,0	14,0	26,0	5	10	–	–	27,0	48,0	–	–	50,0	–	0,0	9400	1,1	LNK.08..
R335.18-125.14.32-6N	02448771	Arbor	125,0	14,0	34,0	6	12	–	–	32,0	58,0	–	–	50,0	–	0,0	8400	1,4	LNK.08..
335.18-160.14.40-7N	02449047	Arbor hole	160,0	14,0	51,0	7	14	–	–	40,0	55,0	–	15,0	14,5	–	–	7500	1,6	LNK.08..

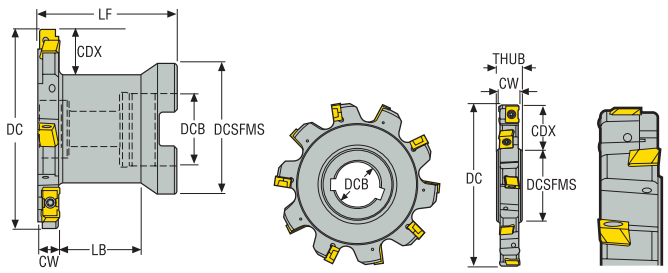
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
335.18 / R335.18 .RE/R335.18 .0	–	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
R335.18 DCB=22	MC6S10X40	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
R335.18 DCB=27	MC6S12X40	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
R335.18 DCB=32	–	H4B-T09P	C73007-T09P	2.0NM	T00-09P20

Cutter 335.18 - Insert LNK. – Metric

Width 17/20 mm - full side - Fixed pocket

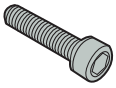


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	LB	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm	mm		kg	
R335.18-080.17.22-3N	02469590	Arbor	80,0	17,0	24,0	3	9	22,0	40,0	–	50,0	20,0	10500	0,6	LNK.06..
R335.18-125.17.32-4N	02469592	Arbor	125,0	17,0	33,5	4	12	32,0	58,0	–	50,0	0,0	8400	1,5	LNK.06..
R335.18-160.17.40-5N	02469593	Arbor	160,0	17,0	45,0	5	15	40,0	70,0	–	50,0	0,0	7500	2,4	LNK.06..
R335.18-080.20.22-4N	02469597	Arbor	80,0	20,0	24,0	4	12	22,0	40,0	–	50,0	16,9	10500	0,7	LNK.08..
R335.18-100.20.27-5N	02469598	Arbor	100,0	20,0	26,0	5	15	27,0	48,0	–	50,0	0,0	9400	1,2	LNK.08..
R335.18-125.20.32-6N	02469599	Arbor	125,0	20,0	33,5	6	18	32,0	58,0	–	50,0	0,0	8400	1,6	LNK.08..
R335.18-160.20.40-7N	02469600	Arbor	160,0	20,0	45,0	7	21	40,0	70,0	–	50,0	0,0	7500	2,5	LNK.08..

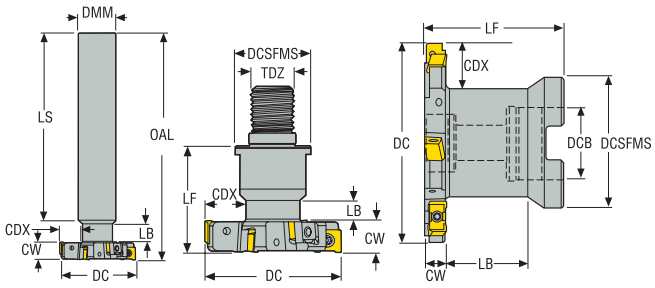
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
R335.18 DCB=22	MC6S10X40	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
335.18 DCB=40 / R335.18 DCB=32/40	–	H4B-T09P	C73007-T09P	2.0NM	T00-09P20
R335.18 DCB=27	MC6S12X40	H4B-T09P	C73007-T09P	2.0NM	T00-09P20

Width 0.312-0.375” - full side - Fixed pocket

Cutter 335.18 - Insert LNK. – inch



- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DMM	TDZ	DCB	DCSFMS	OAL	THUB	LF	LS	LB	RPMX	Weight	Insert
			inch	inch	inch			inch		inch	inch	inch	inch	inch	inch	inch		lbs	
R335.18-1.25-0-0.31F-1N	02541852	Cylindrical	1.250	0.312	0.350	1	2	0.625	–	–	–	5.500	–	–	4.398	0.748	17300	0.660	LNK.05
R335.18-01.50-RE-0.31F-2NA	03277902	Combimaster	1.500	0.312	0.406	2	4	–	M12	–	0.906	–	–	1.181	–	0.333	15400	0.440	LNK.05..
R335.18-1.50-0-0.31F-2N	02541853	Cylindrical	1.500	0.312	0.409	2	4	0.750	–	–	–	5.500	–	–	4.398	0.748	15400	0.880	LNK.05
R335.18-02.00-RE-0.31F-3NA	03277904	Combimaster	2.000	0.312	0.575	3	6	–	M16	–	1.181	–	–	1.378	–	0.420	13800	0.660	LNK.05..
R335.18-2.00-0-0.31F-3N	02541854	Cylindrical	2.000	0.312	0.591	3	6	1.000	–	–	–	6.000	–	–	4.398	1.197	13800	1.540	LNK.05
R335.18-02.50-0.31F-3N	02541842	Arbor	2.500	0.312	0.598	3	6	–	–	0.750	1.580	–	–	2.000	–	1.209	12300	0.880	LNK.05
R335.18-2.50-0-0.31F-3N	02541856	Cylindrical	2.500	0.312	0.626	3	6	1.250	–	–	–	6.750	–	–	6.437	–	12300	2.650	LNK.05
R335.18-03.00-0.31F-4N	02541843	Arbor	3.000	0.312	0.713	4	8	–	–	1.000	1.880	–	–	2.000	–	1.150	10900	1.320	LNK.05
R335.18-04.00-0.31F-5N	02541844	Arbor	4.000	0.312	1.059	5	10	–	–	1.000	1.880	–	–	2.000	–	–	9700	1.980	LNK.05
R335.18-05.00-0.31F-6N	02541845	Arbor	5.000	0.312	1.378	6	12	–	–	1.250	2.250	–	–	2.000	–	–	8400	2.200	LNK.05
R335.18-1.25-0-0.37F-1N	02541858	Cylindrical	1.250	0.375	0.350	1	2	0.625	–	–	–	5.500	–	–	4.398	0.685	17300	0.880	LNK.05
R335.18-01.50-RE-0.37F-2NA	03277903	Combimaster	1.500	0.375	0.413	2	4	–	M12	–	0.906	–	–	1.181	–	0.270	15400	0.440	LNK.05..
R335.18-1.50-0-0.37F-2N	02541859	Cylindrical	1.500	0.375	0.413	2	4	0.750	–	–	–	5.500	–	–	4.398	0.685	15400	0.880	LNK.05
R335.18-02.00-RE-0.37F-3NA	03277905	Combimaster	2.000	0.375	0.587	3	6	–	M16	–	1.181	–	–	1.378	–	0.357	13800	0.660	LNK.05..
R335.18-2.00-0-0.37F-3N	02541860	Cylindrical	2.000	0.375	0.591	3	6	1.000	–	–	–	6.000	–	–	4.398	1.134	13800	1.540	LNK.05
R335.18-02.50-0.37F-3N	02541846	Arbor	2.500	0.375	0.598	3	6	–	–	0.750	1.580	–	–	2.000	–	1.146	12300	0.880	LNK.05
R335.18-2.50-0-0.37F-3N	02541861	Cylindrical	2.500	0.375	0.626	3	6	1.250	–	–	–	6.750	–	–	6.437	–	12300	2.430	LNK.05
R335.18-03.00-0.37F-4N	02541847	Arbor	3.000	0.375	0.713	4	8	–	–	1.000	1.880	–	–	2.000	–	1.087	10900	1.540	LNK.05
R335.18-04.00-0.37F-5N	02541848	Arbor	4.000	0.375	1.059	5	10	–	–	1.000	1.880	–	–	2.000	–	–	9700	2.200	LNK.05
R335.18-05.00-0.37F-6N	02541849	Arbor	5.000	0.375	1.378	6	12	–	–	1.250	2.250	–	–	2.000	–	–	8400	2.200	LNK.05

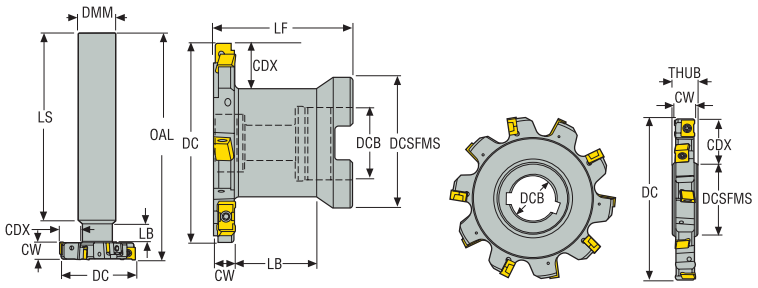
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
R335 -RE- / R335.18 -0-	–	H4B-T08P	C02508-T08P	10.6IN.LBS	T00-08P12
R335.18 DCB=0.750	UC6S3/8UNFX1-3/4	H4B-T08P	C02508-T08P	10.6IN.LBS	T00-08P12
R335.18 DCB=1.000	UC6S1/2UNFX1-1/2	H4B-T08P	C02508-T08P	10.6IN.LBS	T00-08P12
R335.18 DCB=1.250	–	H4B-T08P	C02508-T08P	10.6IN.LBS	T00-08P12

Cutter 335.18 - Insert LNK. – inch

Width 0.500/0.625/ 0.750” - full side - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DMM	DCB	DCSFMS	OAL	THUB	LF	LS	LB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch	inch	inch	inch	inch		lbs	
R335.18-02.00-0-0.50F-3N	02479049	Cylindrical	2.000	0.500	0.591	3	6	1.000	–	–	6.000	–	–	4.402	1.008	13400	1.540	LNK.08
R335.18-02.00-RE-0.5F-3NA	03277906	Combimaster	2.000	0.500	0.587	3	6	–	–	1.181	–	–	1.378	–	0.232	13400	0.660	LNK.08..
R335.18-02.50-0-0.50F-3N	02479056	Cylindrical	2.500	0.500	0.626	3	6	1.250	–	–	6.750	–	–	6.142	–	11900	2.870	LNK.08
R335.18-02.50-0.50F-3N	02478983	Arbor	2.500	0.500	0.598	3	6	–	0.750	1.580	–	–	2.000	–	1.024	12300	1.100	LNK.08
R335.18-03.00-0-0.50F-4N	02479063	Cylindrical	3.000	0.500	0.874	4	8	1.250	–	–	6.750	–	–	6.142	–	10500	2.870	LNK.08
R335.18-03.00-0.50F-4N	02478988	Arbor	3.000	0.500	0.713	4	8	–	1.000	1.880	–	–	2.000	–	0.961	10500	1.540	LNK.08
335.18-03.00-0.50F-4N	02478872	Arbor hole	3.000	0.500	0.709	4	8	–	1.000	1.630	–	0.625	0.563	–	–	10900	0.660	LNK.08
R335.18-04.00-0.50F-5N	02478994	Arbor	4.000	0.500	1.059	5	10	–	1.000	1.880	–	–	2.000	–	–	9400	2.200	LNK.08
R335.18-05.00-0.50F-6N	02478999	Arbor	5.000	0.500	1.378	6	12	–	1.250	2.250	–	–	2.000	–	–	8400	2.650	LNK.08
335.18-06.00-0.50F-7N	02478901	Arbor hole	6.000	0.500	1.811	7	14	–	1.500	2.252	–	0.625	0.563	–	–	7500	2.870	LNK.08
R335.18-04.00-0.62F-3N	02479012	Arbor	4.000	0.625	1.059	3	9	–	1.000	1.880	–	–	2.000	–	–	9400	2.650	LNK.06
R335.18-03.00-0.75F-3N	02479024	Arbor	3.000	0.750	0.709	3	9	–	1.000	1.880	–	–	2.000	–	0.709	10500	1.760	LNK.08
R335.18-04.00-0.75F-3N	02479032	Arbor	4.000	0.750	1.059	3	9	–	1.000	1.880	–	–	2.000	–	–	9400	2.870	LNK.08
R335.18-05.00-0.75F-4N	02479041	Arbor	5.000	0.750	1.378	4	12	–	1.250	2.250	–	–	2.000	–	–	8400	3.750	LNK.08

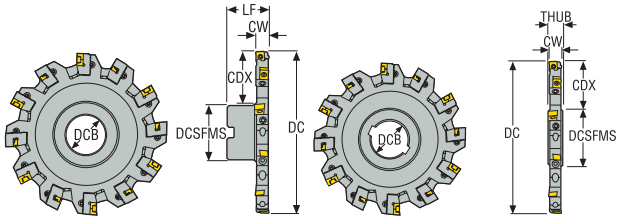
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
335.18 / R335 -RE- / R335.18 -0-	–	H4B-T09P	C73007-T09P	17.7IN.LBS	T00-09P20
R335.18 DCB=0.750	UC6S3/8UNFX1-3/4	H4B-T09P	C73007-T09P	17.7IN.LBS	T00-09P20
R335.18 DCB=1.000	UC6S1/2UNFX1-1/2	H4B-T09P	C73007-T09P	17.7IN.LBS	T00-09P20
R335.18 DCB=1.250/1.500	–	H4B-T09P	C73007-T09P	17.7IN.LBS	T00-09P20

Width 8-12 mm - full side - Adjustable design

Cutter 335.18 - Insert LNK. – Metric



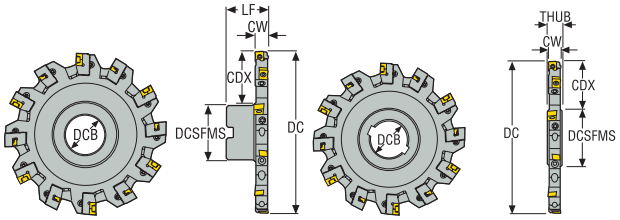
- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
R335.18-080.0810.27-3N	02611694	Arbor	80,0	8,0	10,0	14,8	3	6	27,0	48,0	–	50,0	10900	0,8	LNK.05..
R335.18-100.0810.27-4N	02576013	Arbor	100,0	8,0	10,0	24,8	4	8	27,0	48,0	–	50,0	9400	0,9	LNK.05..
335.18-100.0810.27-4N	02575751	Arbor hole	100,0	8,0	10,0	27,2	4	8	27,0	41,0	15,0	11,5	9400	0,4	LNK.05..
R335.18-125.0810.32-5N	02576014	Arbor	125,0	8,0	10,0	32,3	5	10	32,0	58,0	–	50,0	8400	1,0	LNK.05..
335.18-125.0810.40-5N	02575752	Arbor hole	125,0	8,0	10,0	32,7	5	10	40,0	55,0	15,0	11,5	8400	0,6	LNK.05..
R335.18-160.0810.40-6N	02576015	Arbor	160,0	8,0	10,0	43,8	6	12	40,0	70,0	–	50,0	7500	1,6	LNK.05..
335.18-160.0810.40-6N	02575753	Arbor hole	160,0	8,0	10,0	50,2	6	12	40,0	55,0	15,0	11,5	7500	1,0	LNK.05..
R335.18-200.0810XL.40-7N	02713370	Arbor	200,0	8,0	10,0	53,5	7	14	40,0	90,0	–	50,0	6700	2,7	LNK.05..
335.18-200.0810XL.50-7N	02712923	Arbor hole	200,0	8,0	10,0	63,5	7	14	50,0	69,0	15,0	11,5	6700	1,4	LNK.05..
R335.18-250.0810XL.40-9N	02713381	Arbor	250,0	8,0	10,0	78,0	18	18	40,0	90,0	–	50,0	6000	4,4	LNK.05..
335.18-250.0810XL.50-9N	02712939	Arbor hole	250,0	8,0	10,0	88,5	9	18	50,0	69,0	15,0	11,5	6000	2,3	LNK.05..
335.18-315.0810XL.50-12N	02712948	Arbor hole	315,0	8,0	10,0	121,0	12	24	50,0	69,0	15,0	11,5	5300	2,4	LNK.05..
R335.18-080.1012.27-3N	00018581	Arbor	80,0	10,0	12,0	14,8	3	6	27,0	48,0	–	50,0	10500	0,8	LNK.06..
R335.18-100.1012.27-4N	00018597	Arbor	100,0	10,0	12,0	24,8	4	8	27,0	48,0	–	50,0	9400	0,9	LNK.06..
335.18-100.1012.27-4N	00018408	Arbor hole	100,0	10,0	12,0	27,2	4	8	27,0	41,0	15,0	12,5	9400	0,4	LNK.06..
R335.18-125.1012.32-5N	00018613	Arbor	125,0	10,0	12,0	32,3	5	10	32,0	58,0	–	50,0	8400	1,1	LNK.06..
335.18-125.1012.40-5N	00018417	Arbor hole	125,0	10,0	12,0	32,7	5	10	40,0	55,0	15,0	12,5	8400	0,6	LNK.06..
R335.18-160.1012.40-6N	00018641	Arbor	160,0	10,0	12,0	43,8	6	12	40,0	70,0	–	50,0	7500	1,8	LNK.06..
335.18-160.1012.40-6N	00018427	Arbor hole	160,0	10,0	12,0	50,2	6	12	40,0	55,0	15,0	12,5	7500	1,2	LNK.06..
R335.18-200.1012XL.40-7N	02713374	Arbor	200,0	10,0	12,0	53,5	7	14	40,0	90,0	–	50,0	6700	3,0	LNK.06..
335.18-200.1012XL.50-7N	02712930	Arbor hole	200,0	10,0	12,0	63,5	7	14	50,0	69,0	15,0	12,5	6700	1,5	LNK.06..
R335.18-250.1012XL.40-9N	02713382	Arbor	250,0	10,0	12,0	78,0	9	18	40,0	90,0	–	50,0	6000	4,5	LNK.06..
335.18-250.1012XL.50-9N	02712940	Arbor hole	250,0	10,0	12,0	88,5	9	18	50,0	69,0	15,0	12,5	6000	2,8	LNK.06..
335.18-315.1012XL.50-12N	02712950	Arbor hole	315,0	10,0	12,0	121,0	12	24	50,0	69,0	15,0	12,5	5300	4,5	LNK.06..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Cutter 335.18 - Insert LNK. – Metric

Width 12-15 mm - full side - Adjustable design



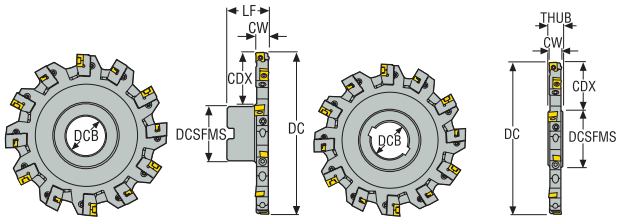
- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
R335.18-080.1215.27-3N	00018712	Arbor	80,0	12,0	15,0	14,8	3	6	27,0	48,0	–	50,0	10500	0,7	LNK.08..
R335.18-100.1215.27-4N	00018734	Arbor	100,0	12,0	15,0	24,8	4	8	27,0	48,0	–	50,0	9400	0,9	LNK.08..
335.18-100.1215.27-4N	00018513	Arbor hole	100,0	12,0	15,0	27,2	4	8	27,0	41,0	15,0	13,5	9400	0,6	LNK.08..
R335.18-125.1215.32-5N	00018763	Arbor	125,0	12,0	15,0	32,3	5	10	32,0	58,0	–	50,0	8400	1,2	LNK.08..
335.18-125.1215.40-5N	00018535	Arbor hole	125,0	12,0	15,0	32,7	5	10	40,0	55,0	15,0	13,5	8400	0,8	LNK.08..
R335.18-160.1215.40-6N	00018782	Arbor	160,0	12,0	15,0	43,8	6	12	40,0	70,0	–	50,0	7500	2,0	LNK.08..
335.18-160.1215.40-6N	00018543	Arbor hole	160,0	12,0	15,0	50,2	6	12	40,0	55,0	15,0	13,5	7500	1,4	LNK.08..
R335.18-200.1215XL.40-7N	02713376	Arbor	200,0	12,0	15,0	53,5	7	14	40,0	90,0	–	50,0	6700	3,3	LNK.08..
335.18-200.1215XL.50-7N	02712932	Arbor hole	200,0	12,0	15,0	63,5	7	14	50,0	69,0	15,0	13,5	6700	2,1	LNK.08..
R335.18-250.1215XL.40-9N	02713383	Arbor	250,0	12,0	15,0	78,0	9	18	40,0	90,0	–	50,0	6000	5,1	LNK.08..
335.18-250.1215XL.50-9N	02712941	Arbor hole	250,0	12,0	15,0	88,5	9	18	50,0	69,0	15,0	13,5	6000	3,6	LNK.08..
335.18-315.1215XL.50-12N	02712951	Arbor hole	315,0	12,0	15,0	121,0	12	24	50,0	69,0	15,0	13,5	5300	5,5	LNK.08..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Width 0.313-0.591” - full side - Adjustable design

Cutter 335.18 - Insert LNK. – inch



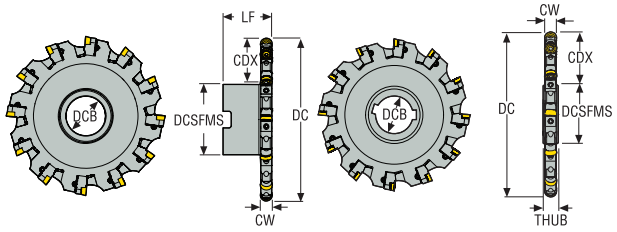
- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	LB	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch	inch		lbs	
R335.18-04.00-0506N	02834763	Arbor	4.000	0.312	0.394	1.024	4	8	1.000	1.880	–	2.000	–	9400	1.760	LNK.05
335.18-04.00-0506N	02834805	Arbor hole	4.000	0.312	0.394	1.102	4	8	1.000	1.551	0.625	0.470	–	9400	0.880	LNK.05
R335.18-05.00-0506N	02834764	Arbor	5.000	0.312	0.394	1.339	5	10	1.250	2.250	–	2.000	–	8400	2.650	LNK.05
335.18-05.00-0506N	02834810	Arbor hole	5.000	0.312	0.394	1.299	5	10	1.500	2.252	0.625	0.470	–	8400	1.320	LNK.05
R335.18-06.00-0506N	02834765	Arbor	6.000	0.312	0.394	1.575	6	12	1.500	2.750	–	2.000	–	7500	3.310	LNK.05
335.18-06.00-0506N	02834762	Arbor hole	6.000	0.312	0.394	1.772	6	12	1.500	2.252	0.625	0.470	–	7500	1.980	LNK.05
R335.18-08.00-XL0506N	02740895	Arbor	8.000	0.312	0.394	2.224	7	14	1.500	3.500	–	2.000	–	6700	6.170	LNK.05
335.18-08.00-XL0506N	02740202	Arbor hole	8.000	0.312	0.394	2.421	7	14	2.000	3.000	0.625	0.469	–	6700	3.310	LNK.05
R335.18-10.00-XL0506N	02741525	Arbor	10.000	0.312	0.394	3.209	9	18	1.500	3.500	–	2.000	–	6000	17.640	LNK.05
335.18-10.00-XL0506N	02740460	Arbor hole	10.000	0.312	0.394	3.386	9	18	2.000	3.000	0.625	0.469	–	6000	7.720	LNK.05
335.18-12.00-XL0506N	02740860	Arbor hole	12.000	0.312	0.394	4.390	11	22	2.000	3.000	0.625	0.469	–	5300	7.940	LNK.05
R335.18-04.00-0708N	00079782	Arbor	4.000	0.394	0.472	1.014	4	8	1.000	1.880	–	2.000	–	9400	2.200	LNK.06
R335.18-05.00-0708N	00079783	Arbor	5.000	0.394	0.472	1.329	5	10	1.250	2.250	–	2.000	–	8400	3.090	LNK.06
335.18-05.00-0708N	00079701	Arbor hole	5.000	0.394	0.472	1.258	5	10	1.500	2.252	0.625	0.509	–	8400	1.760	LNK.06
R335.18-06.00-0708N	00079784	Arbor	6.000	0.394	0.472	1.534	6	12	1.500	2.750	–	2.000	–	7500	3.750	LNK.06
335.18-06.00-0708N	00079702	Arbor hole	6.000	0.394	0.472	1.766	6	12	1.500	2.252	0.625	0.509	–	7500	2.430	LNK.06
R335.18-08.00-XL0708N	02740896	Arbor	8.000	0.394	0.472	2.224	7	14	1.500	3.500	–	2.000	–	6700	2.870	LNK.06
335.18-08.00-XL0708N	02740235	Arbor hole	8.000	0.394	0.472	2.421	7	14	2.000	3.000	0.625	0.509	–	6700	3.970	LNK.06
R335.18-10.00-XL0708N	02741541	Arbor	10.000	0.394	0.472	3.209	9	18	1.500	3.500	–	2.000	–	6000	18.960	LNK.06
335.18-10.00-XL0708N	02740497	Arbor hole	10.000	0.394	0.472	3.386	9	18	2.000	3.000	0.625	0.509	–	6000	9.260	LNK.06
335.18-12.00-XL0708N	02740866	Arbor hole	12.000	0.394	0.472	4.390	11	22	2.000	3.000	0.625	0.509	–	5300	9.700	LNK.06
R335.18-04.00-0809N	00079963	Arbor	4.000	0.472	0.591	1.014	4	8	1.000	1.880	–	2.000	–	9400	2.430	LNK.08
R335.18-05.00-0809N	00079964	Arbor	5.000	0.472	0.591	1.329	5	10	1.250	2.250	–	2.000	–	8400	3.530	LNK.08
335.18-05.00-0809N	00079932	Arbor hole	5.000	0.472	0.591	1.285	5	10	1.500	2.252	0.625	0.549	–	8400	1.980	LNK.08
R335.18-06.00-0809N	00079965	Arbor	6.000	0.472	0.591	1.585	6	12	1.500	2.750	–	2.000	–	7500	4.190	LNK.08
335.18-06.00-0809N	00079933	Arbor hole	6.000	0.472	0.591	1.790	6	12	1.500	2.252	0.625	0.549	–	7500	2.870	LNK.08
R335.18-08.00-XL0809N	02740897	Arbor	8.000	0.472	0.591	2.224	7	14	1.500	3.500	–	2.000	–	6700	8.600	LNK.08
335.18-08.00-XL0809N	02740236	Arbor hole	8.000	0.472	0.591	2.421	7	14	2.000	3.000	0.625	0.549	–	6700	7.500	LNK.08
R335.18-10.00-XL0809N	02741544	Arbor	10.000	0.472	0.591	3.209	9	18	1.500	3.500	–	2.000	–	6000	19.840	LNK.08
335.18-10.00-XL0809N	02740498	Arbor hole	10.000	0.472	0.591	3.386	9	18	2.000	3.000	0.625	0.549	–	6000	7.940	LNK.08
335.18-12.00-XL0809N	02740867	Arbor hole	12.000	0.472	0.591	4.390	11	22	2.000	3.000	0.625	0.549	–	5300	15.430	LNK.08

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Cutter 335.18 - Insert RD..08/RD..10T3 – Metric

Width 8-12 mm - full side - radius profile - Adjustable design



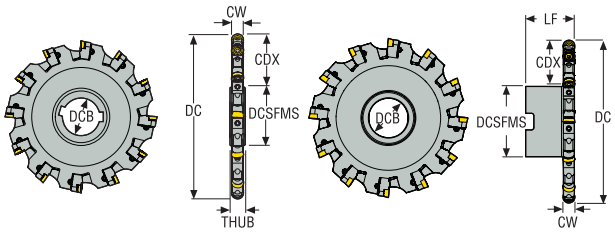
- For insert selection and cutting data recommendations, see page(s) 470-475
- For complete insert programme, see page(s) 817
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.0810.27-6N-R4	02611700	Arbor	82,0	8,0	10,0	15,8	6	27,0	48,0	–	50,0	10500	0,7	RD..08..
R335.18-100.0810.27-8N-R4	02576017	Arbor	102,0	8,0	10,0	25,8	8	27,0	48,0	–	50,0	9400	0,8	RD..08..
335.18-100.0810.27-8N-R4	02575800	Arbor hole	102,0	8,0	10,0	28,2	8	27,0	41,0	15,0	11,5	9400	0,4	RD..08..
R335.18-125.0810.32-10N-R4	02576018	Arbor	127,0	8,0	10,0	32,3	10	32,0	58,0	–	50,0	8400	1,0	RD..08..
335.18-125.0810.40-10N-R4	02575801	Arbor hole	127,0	8,0	10,0	33,7	10	40,0	55,0	15,0	11,5	8400	0,6	RD..08..
R335.18-160.0810.40-12N-R4	02576020	Arbor	162,0	8,0	10,0	44,8	12	40,0	70,0	–	50,0	7500	1,6	RD..08..
335.18-160.0810.40-12N-R4	02575802	Arbor hole	162,0	8,0	10,0	51,2	12	40,0	55,0	15,0	11,5	7500	1,0	RD..08..
R335.18-200.0810XL.40-14N-R4	02713377	Arbor	200,0	8,0	10,0	53,5	14	40,0	90,0	–	50,0	6700	2,6	RD..08..
335.18-200.0810XL.50-14N-R4	02712934	Arbor hole	200,0	8,0	10,0	63,5	14	50,0	69,0	15,0	11,5	6700	1,4	RD..08..
R335.18-250.0810XL.40-18N-R4	02713384	Arbor	250,0	8,0	10,0	78,0	18	40,0	90,0	–	50,0	6000	3,5	RD..08..
335.18-250.0810XL.50-18N-R4	02712943	Arbor hole	250,0	8,0	10,0	88,5	18	50,0	69,0	15,0	11,5	6000	2,3	RD..08..
335.18-315.0810XL.50-24N-R4	02712952	Arbor hole	315,0	8,0	10,0	121,0	24	50,0	69,0	15,0	11,5	5300	3,7	RD..08..
R335.18-080.1012.27-3N-R5	00030352	Arbor	82,0	10,0	12,0	15,8	3	27,0	48,0	–	50,0	10500	0,7	RD..10T3
R335.18-100.1012.27-4N-R5	00030355	Arbor	102,0	10,0	12,0	25,8	4	27,0	48,0	–	50,0	9400	1,0	RD..10T3
335.18-100.1012.27-4N-R5	00030328	Arbor hole	102,0	10,0	12,0	28,2	4	27,0	41,0	15,0	12,5	9400	0,6	RD..10T3
R335.18-125.1012.32-5N-R5	00030359	Arbor	127,0	10,0	12,0	33,3	5	32,0	58,0	–	50,0	8400	1,1	RD..10T3
335.18-125.1012.40-5N-R5	00030340	Arbor hole	127,0	10,0	12,0	33,7	5	40,0	55,0	15,0	12,5	8400	0,7	RD..10T3
R335.18-160.1012.40-6N-R5	00030362	Arbor	162,0	10,0	12,0	44,8	6	40,0	70,0	–	50,0	7500	1,7	RD..10T3
335.18-160.1012.40-6N-R5	00030343	Arbor hole	162,0	10,0	12,0	51,2	6	40,0	55,0	15,0	12,5	7500	1,3	RD..10T3
R335.18-200.1012XL.40-7N-R5	02713379	Arbor	200,0	10,0	12,0	53,5	7	40,0	90,0	–	50,0	6700	2,2	RD..10T3
335.18-200.1012XL.50-7N-R5	02712935	Arbor hole	200,0	10,0	12,0	63,5	7	50,0	69,0	15,0	12,5	6700	1,7	RD..10T3
R335.18-250.1012XL.40-9N-R5	02713386	Arbor	250,0	10,0	12,0	78,0	9	40,0	90,0	–	50,0	6000	4,0	RD..10T3
335.18-250.1012XL.50-9N-R5	02712946	Arbor hole	250,0	10,0	12,0	88,5	9	50,0	69,0	15,0	12,5	6000	1,7	RD..10T3
335.18-315.1012XL.50-12N-R5	02712954	Arbor hole	315,0	10,0	12,0	121,0	12	50,0	69,0	15,0	12,5	5300	4,6	RD..10T3

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Width 12-15 mm - full side - radius profile - Adjustable design

Cutter 335.18 - Insert RP..1204 – Metric



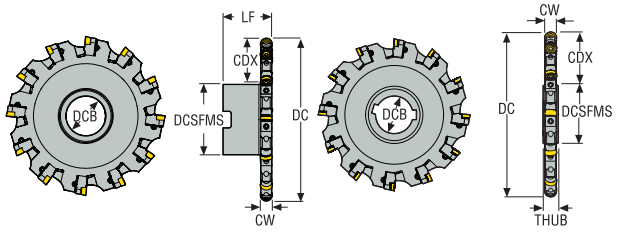
- For insert selection and cutting data recommendations, see page(s) 476-478
- For complete insert programme, see page(s) 819
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.1215.27-3N-R6	00030404	Arbor	82,0	12,0	15,0	15,8	3	27,0	48,0	–	50,0	10000	0,7	RP..1204
R335.18-100.1215.27-4N-R6	00030412	Arbor	102,0	12,0	15,0	25,8	4	27,0	48,0	–	50,0	9400	0,9	RP..1204
335.18-100.1215.27-4N-R6	00030370	Arbor hole	102,0	12,0	15,0	28,2	4	27,0	41,0	15,0	13,5	9400	0,8	RP..1204
R335.18-125.1215.32-5N-R6	00030417	Arbor	127,0	12,0	15,0	33,3	5	32,0	58,0	–	50,0	8400	1,2	RP..1204
335.18-125.1215.40-5N-R6	00030374	Arbor hole	127,0	12,0	15,0	33,7	5	40,0	55,0	15,0	13,5	8400	0,9	RP..1204
R335.18-160.1215.40-6N-R6	00030420	Arbor	162,0	12,0	15,0	44,8	6	40,0	70,0	–	50,0	7500	1,9	RP..1204
335.18-160.1215.40-6N-R6	00030377	Arbor hole	162,0	12,0	15,0	51,2	6	40,0	55,0	15,0	13,5	7500	1,5	RP..1204
R335.18-200.1215XL.40-7N-R6	02713380	Arbor	200,0	12,0	15,0	53,5	7	40,0	90,0	–	50,0	6700	3,2	RP..1204
335.18-200.1215XL.50-7N-R6	02712937	Arbor hole	200,0	12,0	15,0	63,5	7	50,0	69,0	15,0	13,5	6700	2,0	RP..1204
R335.18-250.1215XL.40-9N-R6	02713387	Arbor	250,0	12,0	15,0	78,0	9	40,0	90,0	–	50,0	6000	4,5	RP..1204
335.18-250.1215XL.50-9N-R6	02712947	Arbor hole	250,0	12,0	15,0	88,5	9	50,0	69,0	15,0	13,5	6000	3,4	RP..1204
335.18-315.1215XL.50-12N-R6	02712955	Arbor hole	315,0	12,0	15,0	121,0	12	50,0	69,0	15,0	13,5	5300	5,5	RP..1204

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Cutter 335.18 - Insert RD..08/RD..10/RP..12 – inch

Width 0.315-0.472” - full side - radius profile - Adjustable design



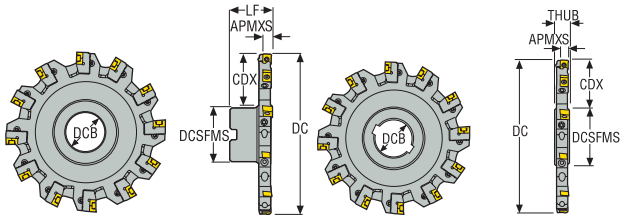
- For insert selection and cutting data recommendations, see page(s) 470-478
- For complete insert programme, see page(s) 817
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch	inch		inch	inch	inch	inch		lbs	
R335.18-04.00-0506N-R4	02834713	Arbor	4.079	0.315	0.394	1.063	4	1.000	1.880	–	2.000	9400	1.760	RD..08
335.18-04.00-0506N-R4	02834707	Arbor hole	4.079	0.315	0.394	1.142	4	1.000	1.551	0.625	0.470	9400	0.880	RD..08
R335.18-05.00-0506N-R4	02834714	Arbor	5.079	0.315	0.394	1.378	5	1.250	2.250	–	2.000	8400	2.650	RD..08
335.18-05.00-0506N-R4	02834708	Arbor hole	5.079	0.315	0.394	1.299	5	1.500	2.252	0.625	0.470	8400	1.320	RD..08
R335.18-06.00-0506N-R4	02834715	Arbor	6.079	0.315	0.394	1.614	6	1.500	2.750	–	2.000	7500	3.310	RD..08
335.18-06.00-0506N-R4	02834709	Arbor hole	6.079	0.315	0.394	1.772	6	1.500	2.252	0.625	0.470	7500	1.980	RD..08
R335.18-08.00-XL0506N-R4	02740898	Arbor	8.000	0.315	0.394	2.224	7	1.500	3.500	–	2.000	6700	6.170	RD..08
335.18-08.00-XL0506N-R4	02740237	Arbor hole	8.000	0.315	0.394	2.421	14	2.000	3.000	0.625	0.470	6700	3.310	RD..08
R335.18-10.00-XL0506N-R4	02741547	Arbor	10.000	0.315	0.394	3.209	9	1.500	3.500	–	2.000	6000	17.640	RD..08
335.18-10.00-XL0506N-R4	02740500	Arbor hole	10.000	0.315	0.394	3.386	9	2.000	3.000	0.625	0.470	6000	5.510	RD..08
335.18-12.00-XL0506N-R4	02740869	Arbor hole	12.000	0.315	0.394	4.390	11	2.000	3.000	0.625	0.470	5300	7.940	RD..08
R335.18-04.00-0708N-R5	00079997	Arbor	4.079	0.394	0.472	1.063	4	1.000	1.880	–	2.000	9400	2.650	RD..10
R335.18-05.00-0708N-R5	00079998	Arbor	5.079	0.394	0.472	1.378	5	1.250	2.250	–	2.000	8400	3.090	RD..10
335.18-05.00-0708N-R5	00079978	Arbor hole	5.079	0.394	0.472	1.295	5	1.500	2.252	0.625	0.509	8400	1.760	RD..10
R335.18-06.00-0708N-R5	00079999	Arbor	6.079	0.394	0.472	1.614	6	1.500	2.750	–	2.000	7500	3.750	RD..10
335.18-06.00-0708N-R5	00079979	Arbor hole	6.079	0.394	0.472	1.811	6	1.500	2.252	0.625	0.509	7500	2.430	RD..10
R335.18-08.00-XL0708N-R5	02740899	Arbor	8.000	0.394	0.472	2.224	7	1.500	3.500	–	2.000	6700	6.830	RD..10
335.18-08.00-XL0708N-R5	02740238	Arbor hole	8.000	0.394	0.472	2.421	7	2.000	3.000	0.625	0.509	6700	6.830	RD..10
R335.18-10.00-XL0708N-R5	02741551	Arbor	10.000	0.394	0.472	3.209	9	1.500	3.500	–	2.000	6000	9.260	RD..10
335.18-10.00-XL0708N-R5	02740502	Arbor hole	10.000	0.394	0.472	3.386	9	2.000	3.000	0.625	0.509	6000	6.610	RD..10
335.18-12.00-XL0708N-R5	02740870	Arbor hole	12.000	0.394	0.472	4.390	11	2.000	3.000	0.625	0.509	5300	9.700	RD..10
R335.18-04.00-0809N-R6	00080158	Arbor	4.079	0.472	0.591	1.053	4	1.000	1.880	–	2.000	9400	2.650	RP..12
R335.18-05.00-0809N-R6	00080160	Arbor	5.079	0.472	0.591	1.368	5	1.250	2.250	–	2.000	8400	3.530	RP..12
335.18-05.00-0809N-R6	00080035	Arbor hole	5.079	0.472	0.591	1.339	5	1.500	2.252	0.625	0.549	8400	1.980	RP..12
R335.18-06.00-0809N-R6	00080181	Arbor	6.079	0.472	0.591	1.624	6	1.500	2.750	–	2.000	7500	5.070	RP..12
335.18-06.00-0809N-R6	00080045	Arbor hole	6.079	0.472	0.591	1.829	6	1.500	2.252	0.625	0.549	7500	2.870	RP..12
R335.18-08.00-XL0809N-R6	02740900	Arbor	8.000	0.472	0.591	2.224	7	1.500	3.500	–	2.000	6700	8.600	RP..12
335.18-08.00-XL0809N-R6	02740240	Arbor hole	8.000	0.472	0.591	2.421	7	2.000	3.000	0.625	0.549	6700	4.630	RP..12
R335.18-10.00-XL0809N-R6	02741552	Arbor	10.000	0.472	0.591	3.209	9	1.500	3.500	–	2.000	6000	2.200	RP..12
335.18-10.00-XL0809N-R6	02740503	Arbor hole	10.000	0.472	0.591	3.386	9	2.000	3.000	0.625	0.549	6000	7.940	RP..12
335.18-12.00-XL0809N-R6	02740872	Arbor hole	12.000	0.472	0.591	4.390	11	2.000	3.000	0.625	0.549	5300	15.430	RP..12

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Width max 5-6 mm - Half side - Right hand with cassette

Cutter 335.18 - Insert LNK. – Metric

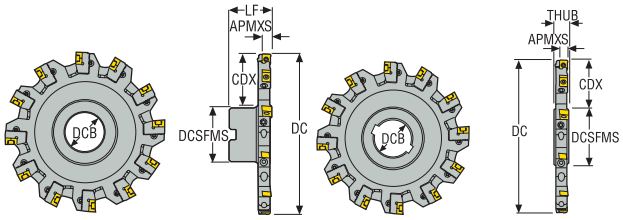


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.0810.27-6R	02611697	Arbor	80,0	5,0	14,8	6	48,0	27,0	–	50,0	10500	0,7	LNK.05..
R335.18-100.0810.27-8R	02576023	Arbor	100,0	5,0	24,8	8	48,0	27,0	–	50,0	9400	0,8	LNK.05..
335.18-100.0810.27-8R	02575757	Arbor hole	100,0	5,0	27,2	8	41,0	27,0	15,0	11,5	9400	0,4	LNK.05..
R335.18-125.0810.32-10R	02576025	Arbor	125,0	5,0	32,3	10	58,0	32,0	–	50,0	8400	1,0	LNK.05..
335.18-125.0810.40-10R	02575758	Arbor hole	125,0	5,0	32,7	10	55,0	40,0	15,0	11,5	8400	0,6	LNK.05..
R335.18-160.0810.40-12R	02576026	Arbor	160,0	5,0	43,8	12	70,0	40,0	–	50,0	7500	1,5	LNK.05..
335.18-160.0810.40-12R	02575759	Arbor	160,0	5,0	50,2	12	55,0	40,0	15,0	11,5	7500	1,0	LNK.05..
R335.18-200.0810XL.40-14R	02713422	Arbor	200,0	5,0	53,5	14	90,0	40,0	–	50,0	6700	2,6	LNK.05..
335.18-200.0810XL.50-14R	02713151	Arbor hole	200,0	5,0	63,5	14	69,0	50,0	15,0	11,5	6700	1,7	LNK.05..
R335.18-250.0810XL.40-18R	02713432	Arbor	250,0	5,0	78,0	18	90,0	40,0	–	50,0	6000	3,1	LNK.05..
335.18-250.0810XL.50-18R	02713163	Arbor hole	250,0	5,0	88,5	18	69,0	50,0	15,0	11,5	6000	2,3	LNK.05..
335.18-315.0810XL.50-24R	02713172	Arbor hole	315,0	5,0	121,0	24	69,0	50,0	15,0	11,5	5300	1,9	LNK.05..
R335.18-080.1012.27-6R	00018584	Arbor	80,0	6,0	14,8	6	48,0	27,0	–	50,0	10500	0,8	LNK.06..
R335.18-100.1012.27-8R	00018603	Arbor	100,0	6,0	24,8	8	48,0	27,0	–	50,0	9400	1,2	LNK.06..
335.18-100.1012.27-8R	00018409	Arbor hole	100,0	6,0	27,2	8	41,0	27,0	15,0	12,5	9400	0,4	LNK.06..
R335.18-125.1012.32-10R	00018618	Arbor	125,0	6,0	32,3	10	58,0	32,0	–	50,0	8400	1,0	LNK.06..
335.18-125.1012.40-10R	00018421	Arbor hole	125,0	6,0	32,7	10	55,0	40,0	15,0	12,5	8400	0,7	LNK.06..
R335.18-160.1012.40-12R	00018674	Arbor	160,0	6,0	43,8	12	70,0	40,0	–	50,0	7500	1,9	LNK.06..
335.18-160.1012.40-12R	00018431	Arbor hole	160,0	6,0	50,2	12	55,0	40,0	15,0	12,5	7500	1,5	LNK.06..
R335.18-200.1012XL.40-14R	02713423	Arbor	200,0	6,0	53,5	14	90,0	40,0	–	50,0	6700	2,9	LNK.06..
335.18-200.1012XL.50-14R	02713154	Arbor hole	200,0	6,0	63,5	14	69,0	50,0	15,0	12,5	6700	1,7	LNK.06..
R335.18-250.1012XL.40-18R	02713435	Arbor	250,0	6,0	78,0	18	90,0	40,0	–	50,0	6000	4,0	LNK.06..
335.18-250.1012XL.50-18R	02713165	Arbor hole	250,0	6,0	88,5	18	69,0	50,0	15,0	12,5	6000	2,8	LNK.06..
335.18-315.1012XL.50-24R	02713177	Arbor hole	315,0	6,0	121,0	24	69,0	50,0	15,0	12,5	5300	1,9	LNK.06..

Cutter 335.18 - Insert LNK. – Metric

Width max 7,5 mm - Half side - Right hand with cassette

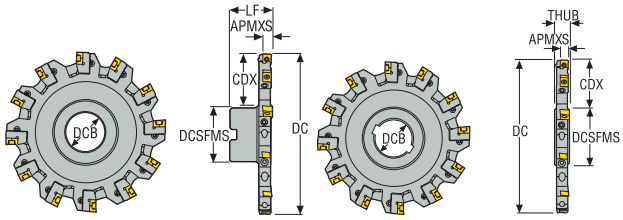


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.1215.27-6R	00018723	Arbor	80,0	7,5	14,8	6	48,0	27,0	–	50,0	10500	1,1	LNK.08..
R335.18-100.1215.27-8R	00018754	Arbor	100,0	7,5	24,8	8	48,0	27,0	–	50,0	9400	0,9	LNK.08..
335.18-100.1215.27-8R	00018515	Arbor hole	100,0	7,5	27,2	8	41,0	27,0	15,0	13,5	9400	0,5	LNK.08..
R335.18-125.1215.32-10R	00018766	Arbor	125,0	7,5	32,3	10	58,0	32,0	–	50,0	8400	1,2	LNK.08..
335.18-125.1215.40-10R	00018540	Arbor hole	125,0	7,5	32,7	10	55,0	40,0	15,0	13,5	8400	0,9	LNK.08..
R335.18-160.1215.40-12R	00018784	Arbor	160,0	7,5	43,8	12	70,0	40,0	–	50,0	7500	2,7	LNK.08..
335.18-160.1215.40-12R	00018546	Arbor hole	160,0	7,5	50,2	12	55,0	40,0	15,0	13,5	7500	1,5	LNK.08..
R335.18-200.1215XL.40-14R	02713424	Arbor	200,0	7,5	53,5	14	90,0	40,0	–	50,0	6700	3,6	LNK.08..
335.18-200.1215XL.50-14R	02713155	Arbor hole	200,0	7,5	63,5	14	69,0	50,0	15,0	13,5	6700	1,7	LNK.08..
R335.18-250.1215XL.40-18R	02713437	Arbor	250,0	7,5	78,0	18	90,0	40,0	–	50,0	6000	4,5	LNK.08..
335.18-250.1215XL.50-18R	02713166	Arbor hole	250,0	7,5	88,5	18	69,0	50,0	15,0	13,5	6000	2,5	LNK.08..
335.18-315.1215XL.50-24R	02713178	Arbor hole	315,0	7,5	121,0	24	69,0	50,0	15,0	13,5	5300	2,2	LNK.08..

Width max 0.197-0.236” - Half side - Right hand with cassette

Cutter 335.18 - Insert LNK. – inch

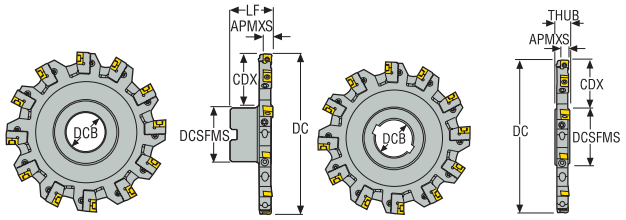


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMX	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
R335.18-04.00-0506R	02834790	Arbor	4.000	0.197	1.024	8	1.880	1.000	–	2.000	9400	1.760	LNK.05
335.18-04.00-0506R	02834787	Arbor hole	4.000	0.197	1.102	8	1.550	1.000	0.625	0.469	9400	0.880	LNK.05
R335.18-05.00-0506R	02834791	Arbor	5.000	0.197	1.339	10	2.250	1.250	–	2.000	8400	2.650	LNK.05
335.18-05.00-0506R	02834788	Arbor hole	5.000	0.197	1.299	10	2.252	1.500	0.625	0.469	8400	1.320	LNK.05
R335.18-06.00-0506R	02834792	Arbor	6.000	0.197	1.575	12	2.750	1.500	–	2.000	7500	3.310	LNK.05
335.18-06.00-0506R	02834789	Arbor hole	6.000	0.197	1.772	12	2.252	1.500	0.625	0.469	7500	1.980	LNK.05
R335.18-08.00-XL0506R	02740901	Arbor	8.000	0.197	2.224	14	3.500	1.500	–	2.000	6700	6.170	LNK.05
335.18-08.00-XL0506R	02740241	Arbor hole	8.000	0.197	2.421	14	3.000	2.000	0.625	0.469	6700	3.310	LNK.05
R335.18-10.00-XL0506R	02741554	Arbor	10.000	0.197	3.209	18	3.500	1.500	–	2.000	6000	8.160	LNK.05
335.18-10.00-XL0506R	02740505	Arbor hole	10.000	0.197	3.386	18	3.000	2.000	0.625	0.469	6000	5.510	LNK.05
335.18-12.00-XL0506R	02740874	Arbor hole	12.000	0.197	4.390	22	3.000	2.000	0.625	0.469	5300	7.940	LNK.05
R335.18-04.00-0708R	00079792	Arbor	4.000	0.236	1.014	8	1.880	1.000	–	2.000	9400	2.200	LNK.06
R335.18-05.00-0708R	00079832	Arbor	5.000	0.236	1.329	10	2.250	1.250	–	2.000	8400	3.090	LNK.06
335.18-05.00-0708R	00079766	Arbor hole	5.000	0.236	1.258	10	2.252	1.500	0.625	0.508	8400	1.760	LNK.06
R335.18-06.00-0708R	00079833	Arbor	6.000	0.236	1.534	12	2.750	1.500	–	2.000	7500	3.750	LNK.06
335.18-06.00-0708R	00079767	Arbor hole	6.000	0.236	1.766	12	2.252	1.500	0.625	0.508	7500	2.430	LNK.06
R335.18-08.00-XL0708R	02740902	Arbor	8.000	0.236	2.224	14	3.500	1.500	–	2.000	6700	6.830	LNK.06
335.18-08.00-XL0708R	02740242	Arbor hole	8.000	0.236	2.421	14	3.000	2.000	0.625	0.508	6700	3.970	LNK.06
R335.18-10.00-XL0708R	02741556	Arbor	10.000	0.236	3.209	18	3.500	1.500	–	2.000	6000	9.260	LNK.06
335.18-10.00-XL0708R	02740506	Arbor hole	10.000	0.236	3.386	18	3.000	2.000	0.625	0.508	6000	6.610	LNK.06
335.18-12.00-XL0708R	02740875	Arbor hole	12.000	0.236	4.390	22	3.000	2.000	0.625	0.508	5300	9.700	LNK.06

Cutter 335.18 - Insert LNK. – inch

Width max 0.295” - Half side - Right hand with cassette

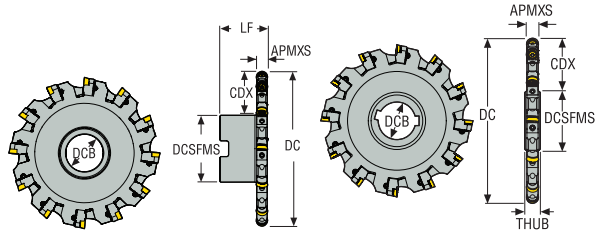


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMX	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
R335.18-04.00-0809R	00079968	Arbor	4.000	0.295	1.014	8	1.880	1.000	–	2.000	9400	2.430	LNK.08
R335.18-05.00-0809R	00079969	Arbor	5.000	0.295	1.329	10	2.250	1.250	–	2.000	8400	3.530	LNK.08
335.18-05.00-0809R	00079951	Arbor hole	5.000	0.295	1.285	10	2.252	1.500	0.625	0.547	8400	2.650	LNK.08
R335.18-06.00-0809R	00079970	Arbor	6.000	0.295	1.585	12	2.750	1.500	–	2.000	7500	4.190	LNK.08
335.18-06.00-0809R	00079952	Arbor hole	6.000	0.295	1.790	12	2.252	1.500	0.625	0.547	7500	2.870	LNK.08
R335.18-08.00-XL0809R	02740903	Arbor	8.000	0.295	2.224	14	3.500	1.500	–	2.000	6700	7.720	LNK.08
335.18-08.00-XL0809R	02740244	Arbor hole	8.000	0.295	2.421	14	3.000	2.000	0.625	0.547	6700	4.850	LNK.08
R335.18-10.00-XL0809R	02741557	Arbor	10.000	0.295	3.209	18	3.500	1.500	–	2.000	6000	10.800	LNK.08
335.18-10.00-XL0809R	02740507	Arbor hole	10.000	0.295	3.386	18	3.000	2.000	0.625	0.547	6000	7.940	LNK.08
335.18-12.00-XL0809R	02740876	Arbor hole	12.000	0.295	4.390	22	3.000	2.000	0.625	0.547	5300	11.900	LNK.08

Half side - Right hand - Radius profile with cassette

Cutter 335.18 - Insert RD..10T3/RP..1204 – Metric

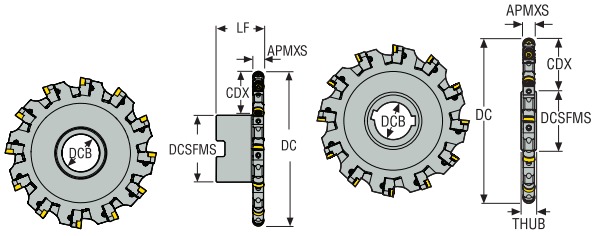


- For insert selection and cutting data recommendations, see page(s) 473-478
- For complete insert programme, see page(s) 817, 819
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.1012.27-6R-R5	00030353	Arbor	82,0	5,0	15,8	6	27,0	48,0	–	50,0	10500	0,8	RD..10T3
R335.18-100.1012.27-8R-R5	00030357	Arbor	102,0	5,0	25,8	8	27,0	48,0	–	50,0	9400	1,2	RD..10T3
335.18-100.1012.27-8R-R5	00030329	Arbor hole	102,0	5,0	28,2	8	27,0	41,0	15,0	12,5	9400	0,4	RD..10T3
R335.18-125.1012.32-10R-R5	00030360	Arbor	127,0	5,0	33,3	10	32,0	58,0	–	50,0	8400	1,2	RD..10T3
335.18-125.1012.40-10R-R5	00030341	Arbor hole	127,0	5,0	33,7	10	40,0	55,0	15,0	12,5	8400	0,7	RD..10T3
R335.18-160.1012.40-12R-R5	00030364	Arbor	162,0	5,0	44,8	12	40,0	70,0	–	50,0	7500	0,1	RD..10T3
335.18-160.1012.40-12R-R5	00030344	Arbor hole	162,0	5,0	51,2	12	40,0	55,0	15,0	12,5	7500	1,2	RD..10T3
R335.18-200.1012XL.40-14R-R5	02713429	Arbor	200,0	5,0	53,5	14	40,0	90,0	–	50,0	6700	2,9	RD..10T3
335.18-200.1012XL.50-14R-R5	02713159	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	15,0	12,5	6700	1,7	RD..10T3
R335.18-250.1012XL.40-18R-R5	02713438	Arbor	250,0	5,0	78,0	18	40,0	90,0	–	50,0	6000	4,0	RD..10T3
335.18-250.1012XL.50-18R-R5	02713169	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	15,0	12,5	6000	3,8	RD..10T3
335.18-315.1012XL.50-24R-R5	02713180	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	15,0	12,5	5300	4,6	RD..10T3
R335.18-080.1215.27-6R-R6	00030407	Arbor	82,0	6,0	14,8	6	27,0	48,0	–	50,0	10500	0,7	RP..1204
R335.18-100.1215.27-8R-R6	00030414	Arbor	102,0	6,0	25,8	8	27,0	48,0	–	50,0	9400	1,1	RP..1204
335.18-100.1215.27-8R-R6	00030372	Arbor hole	102,0	6,0	28,2	8	27,0	41,0	15,0	13,5	9400	0,5	RP..1204
R335.18-125.1215.32-10R-R6	00030418	Arbor	127,0	6,0	33,3	10	32,0	58,0	–	50,0	8400	1,4	RP..1204
335.18-125.1215.40-10R-R6	00030375	Arbor hole	127,0	6,0	33,7	10	40,0	55,0	15,0	13,5	8400	0,9	RP..1204
R335.18-160.1215.40-12R-R6	00030421	Arbor	162,0	6,0	44,8	12	40,0	70,0	–	50,0	7500	1,9	RP..1204
335.18-160.1215.40-12R-R6	00030378	Arbor hole	162,0	6,0	51,2	12	40,0	55,0	15,0	13,5	7500	1,5	RP..1204
R335.18-200.1215XL.40-14R-R6	02713431	Arbor	200,0	6,0	53,5	14	40,0	90,0	–	50,0	6700	4,3	RP..1204
335.18-200.1215XL.50-14R-R6	02713162	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	15,0	13,5	6700	2,0	RP..1204
R335.18-250.1215XL.40-18R-R6	02713441	Arbor	250,0	6,0	78,0	18	40,0	90,0	–	50,0	6000	4,5	RP..1204
335.18-250.1215XL.50-18R-R6	02713170	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	15,0	13,5	6000	4,7	RP..1204
335.18-315.1215XL.50-24R-R6	02713182	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	15,0	13,5	5300	7,0	RP..1204

Cutter 335.18 - Insert RD..10T3/RP..1204 – inch

Half side - Right hand - Radius profile with cassette

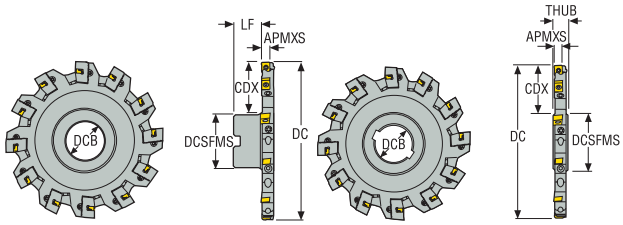


- For insert selection and cutting data recommendations, see page(s) 473-478
- For complete insert programme, see page(s) 817, 819
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
R335.18-08.00-XL0708R-R5	02740905	Arbor	8.000	0.197	2.264	14	1.500	3.500	–	2.000	6700	6.830	RD..10
335.18-08.00-XL0708R-R5	02740245	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.625	0.509	6700	3.970	RD..10
R335.18-10.00-XL0708R-R5	02741559	Arbor	10.000	0.197	3.248	18	1.500	3.500	–	2.000	6000	9.260	RD..10
335.18-10.00-XL0708R-R5	02740508	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.625	0.509	6000	6.610	RD..10
335.18-12.00-XL0708R-R5	02740883	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.625	0.509	5300	9.700	RD..10
R335.18-04.00-0809R-R6	02599486	Arbor	4.079	0.236	1.053	8	1.000	1.880	–	2.000	9400	2.650	RP..12
R335.18-05.00-0809R-R6	02599487	Arbor	5.079	0.236	1.368	10	1.250	2.250	–	2.000	8400	3.530	RP..12
335.18-05.00-0809R-R6	02599495	Arbor hole	5.079	0.236	1.324	10	1.500	2.252	0.625	0.548	8400	1.980	RP..12
R335.18-06.00-0809R-R6	02599488	Arbor	6.079	0.236	1.624	12	1.500	2.750	–	2.000	7500	4.190	RP..12
335.18-06.00-0809R-R6	02599496	Arbor hole	6.079	0.236	1.829	12	1.500	2.252	0.625	0.548	7500	2.870	RP..12
R335.18-08.00-XL0809R-R6	02740906	Arbor	8.000	0.236	2.264	14	1.500	3.500	–	2.000	6700	8.380	RP..12
335.18-08.00-XL0809R-R6	02740246	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.625	0.548	6700	4.850	RP..12
R335.18-10.00-XL0809R-R6	02741561	Arbor	10.000	0.236	3.248	18	1.500	3.500	–	2.000	6000	10.800	RP..12
335.18-10.00-XL0809R-R6	02740527	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.625	0.548	6000	7.940	RP..12
335.18-12.00-XL0809R-R6	02740884	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.625	0.548	5300	11.900	RP..12

Width max 5-6 mm - Half side - Left hand with cassette

Cutter 335.18 - Insert LNK. – Metric

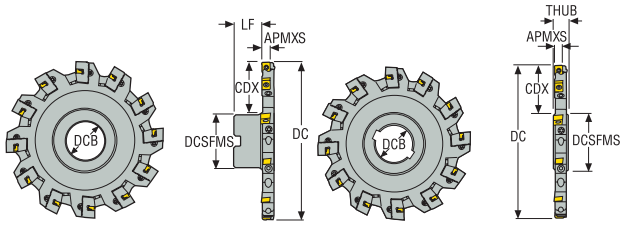


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.0810.27-6L	02611696	Arbor	80,0	5,0	14,8	6	48,0	27,0	–	42,0	10500	0,7	LNK.05..
R335.18-100.0810.27-8L	02576028	Arbor	100,0	5,0	24,8	8	48,0	27,0	–	42,0	9400	0,8	LNK.05..
335.18-100.0810.27-8L	02575778	Arbor hole	100,0	5,0	27,2	8	41,0	27,0	15,0	3,5	9400	0,4	LNK.05..
R335.18-125.0810.32-10L	02576029	Arbor	125,0	5,0	32,3	10	58,0	32,0	–	42,0	8400	1,0	LNK.05..
335.18-125.0810.40-10L	02575787	Arbor hole	125,0	5,0	32,7	10	55,0	40,0	15,0	3,5	8400	0,6	LNK.05..
R335.18-160.0810.40-12L	02576030	Arbor	160,0	5,0	43,8	12	70,0	40,0	–	42,0	7500	1,6	LNK.05..
335.18-160.0810.40-12L	02575796	Arbor hole	160,0	5,0	50,2	12	55,0	40,0	15,0	3,5	7500	1,0	LNK.05..
R335.18-200.0810XL.40-14L	02713444	Arbor	200,0	5,0	53,5	14	90,0	40,0	–	42,0	6700	2,7	LNK.05..
335.18-200.0810XL.50-14L	02713344	Arbor hole	200,0	5,0	63,5	14	69,0	50,0	15,0	3,5	6700	1,7	LNK.05..
R335.18-250.0810XL.40-18L	02713466	Arbor	250,0	5,0	78,0	18	90,0	40,0	–	42,0	6000	3,5	LNK.05..
335.18-250.0810XL.50-18L	02713355	Arbor hole	250,0	5,0	88,5	18	69,0	50,0	15,0	3,5	6000	1,7	LNK.05..
335.18-315.0810XL.50-24L	02713361	Arbor hole	315,0	5,0	121,0	24	69,0	50,0	15,0	3,5	5300	1,9	LNK.05..
R335.18-080.1012.27-6L	00018592	Arbor	80,0	6,0	14,8	6	48,0	27,0	–	40,0	10500	1,0	LNK.06..
R335.18-100.1012.27-8L	00018612	Arbor	100,0	6,0	24,8	8	48,0	27,0	–	40,0	9400	0,9	LNK.06..
335.18-100.1012.27-8L	00018412	Arbor hole	100,0	6,0	27,2	8	41,0	27,0	15,0	2,5	9400	0,4	LNK.06..
R335.18-125.1012.32-10L	00018624	Arbor	125,0	6,0	32,3	10	58,0	32,0	–	40,0	8400	0,9	LNK.06..
335.18-125.1012.40-10L	00018426	Arbor hole	125,0	6,0	32,7	10	55,0	40,0	15,0	2,5	8400	0,8	LNK.06..
R335.18-160.1012.40-12L	00018687	Arbor	160,0	6,0	43,8	12	70,0	40,0	–	40,0	7500	1,3	LNK.06..
335.18-160.1012.40-12L	00018439	Arbor hole	160,0	6,0	50,2	12	55,0	40,0	15,0	2,5	7500	1,5	LNK.06..
R335.18-200.1012XL.40-14L	02713459	Arbor	200,0	6,0	53,5	14	90,0	40,0	–	40,0	6700	2,9	LNK.06..
335.18-200.1012XL.50-14L	02713348	Arbor hole	200,0	6,0	63,5	14	69,0	50,0	15,0	2,5	6700	1,7	LNK.06..
R335.18-250.1012XL.40-18L	02713467	Arbor	250,0	6,0	78,0	18	90,0	40,0	–	40,0	6000	3,9	LNK.06..
335.18-250.1012XL.50-18L	02713356	Arbor hole	250,0	6,0	88,5	18	69,0	50,0	15,0	2,5	6000	1,8	LNK.06..
335.18-315.1012XL.50-24L	02713363	Arbor hole	315,0	6,0	121,0	24	69,0	50,0	15,0	2,5	5300	4,5	LNK.06..

Cutter 335.18 - Insert LNK. – Metric

Width max 7,5 mm - Half side - Left hand with cassette

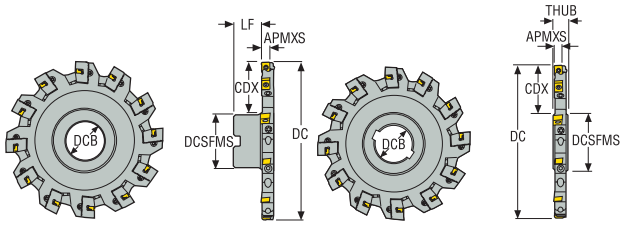


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.1215.27-6L	00018729	Arbor	80,0	7,5	14,8	6	48,0	27,0	–	38,0	10500	0,8	LNK.08..
R335.18-100.1215.27-8L	00018756	Arbor	100,0	7,5	24,8	8	48,0	27,0	–	38,0	9400	1,1	LNK.08..
335.18-100.1215.27-8L	00018530	Arbor hole	100,0	7,5	27,2	8	41,0	27,0	15,0	1,5	9400	0,6	LNK.08..
R335.18-125.1215.32-10L	00018777	Arbor	125,0	7,5	33,3	10	58,0	32,0	–	38,0	8400	1,0	LNK.08..
335.18-125.1215.40-10L	00018542	Arbor hole	125,0	7,5	32,7	10	55,0	40,0	15,0	1,5	8400	0,9	LNK.08..
R335.18-160.1215.40-12L	00018788	Arbor	160,0	7,5	43,8	12	70,0	40,0	–	38,0	7500	2,1	LNK.08..
335.18-160.1215.40-12L	00018548	Arbor hole	160,0	7,5	50,2	12	55,0	40,0	15,0	1,5	7500	1,4	LNK.08..
R335.18-200.1215XL.40-14L	02713461	Arbor	200,0	7,5	53,5	14	90,0	40,0	–	38,0	6700	3,5	LNK.08..
335.18-200.1215XL.50-14L	02713349	Arbor hole	200,0	7,5	63,5	14	69,0	50,0	15,0	1,5	6700	2,0	LNK.08..
R335.18-250.1215XL.40-18L	02713470	Arbor	250,0	7,5	78,0	18	90,0	40,0	–	90,0	6000	4,5	LNK.08..
335.18-250.1215XL.50-18L	02713357	Arbor hole	250,0	7,5	88,5	18	69,0	50,0	15,0	1,5	6000	3,2	LNK.08..
335.18-315.1215XL.50-24L	02713364	Arbor hole	315,0	7,5	121,0	24	69,0	50,0	15,0	1,5	5300	5,6	LNK.08..

Width max 0.197-0.236” - Half side - Left hand with cassette

Cutter 335.18 - Insert LNK. – inch

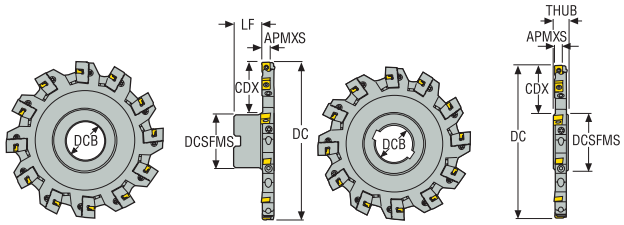


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 811-812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMX	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
R335.18-04.00-0506L	02834741	Arbor	4.000	0.236	1.024	8	1.880	1.000	–	1.685	9400	1.760	LNK.05
335.18-04.00-0506L	02834738	Arbor hole	4.000	0.197	1.102	8	1.550	1.000	0.625	0.154	9400	0.880	LNK.05
R335.18-05.00-0506L	02834742	Arbor	5.000	0.197	1.339	10	2.250	1.250	–	1.685	8400	2.650	LNK.05
335.18-05.00-0506L	02834739	Arbor hole	5.000	0.197	1.299	10	2.252	1.500	0.625	0.154	8400	1.320	LNK.05
R335.18-06.00-0506L	02834743	Arbor	6.000	0.197	1.575	12	2.750	1.500	–	1.685	7500	3.310	LNK.05
335.18-06.00-0506L	02834740	Arbor hole	6.000	0.197	1.772	12	2.252	1.500	0.625	0.154	7500	1.980	LNK.05
R335.18-08.00-XL0506L	02740907	Arbor	8.000	0.197	2.224	14	3.500	1.500	–	1.685	6700	6.170	LNK.05
335.18-08.00-XL0506L	02740247	Arbor hole	8.000	0.197	2.421	14	3.000	2.000	0.625	0.154	6700	3.310	LNK.05
R335.18-10.00-XL0506L	02741562	Arbor	10.000	0.197	3.209	18	3.500	1.500	–	1.685	6000	8.160	LNK.05
335.18-10.00-XL0506L	02740528	Arbor hole	10.000	0.197	3.386	18	3.000	2.000	0.625	0.154	6000	5.510	LNK.05
335.18-12.00-XL0506L	02740885	Arbor hole	12.000	0.197	4.390	22	3.000	2.000	0.625	0.154	5300	7.940	LNK.05
R335.18-04.00-0708L	00079837	Arbor	4.000	0.236	1.014	8	1.880	1.000	–	1.606	9400	2.200	LNK.06
R335.18-05.00-0708L	00079838	Arbor	5.000	0.236	1.329	10	2.250	1.250	–	1.606	8400	3.090	LNK.06
335.18-05.00-0708L	00079776	Arbor hole	5.000	0.236	1.258	10	2.252	1.500	0.625	0.117	8400	1.760	LNK.06
R335.18-06.00-0708L	00079839	Arbor	6.000	0.236	1.534	12	2.750	1.500	–	1.606	7500	3.750	LNK.06
335.18-06.00-0708L	00079777	Arbor hole	6.000	0.236	1.766	12	2.252	1.500	0.625	0.117	7500	2.430	LNK.06
R335.18-08.00-XL0708L	02740908	Arbor	8.000	0.236	2.224	14	3.500	1.500	–	1.606	6700	6.830	LNK.06
335.18-08.00-XL0708L	02740248	Arbor hole	8.000	0.236	2.421	14	3.000	2.000	0.625	0.117	6700	3.970	LNK.06
R335.18-10.00-XL0708L	02741564	Arbor	10.000	0.236	3.209	18	3.500	1.500	–	1.606	6000	9.260	LNK.06
335.18-10.00-XL0708L	02740530	Arbor hole	10.000	0.236	3.386	18	3.000	2.000	0.625	0.117	6000	6.610	LNK.06
335.18-12.00-XL0708L	02740887	Arbor hole	12.000	0.236	4.390	22	3.000	2.000	0.625	0.117	5300	9.700	LNK.06

Cutter 335.18 - Insert LNK. – inch

Width max 0.295” - Half side - Half side - Left hand with cassette

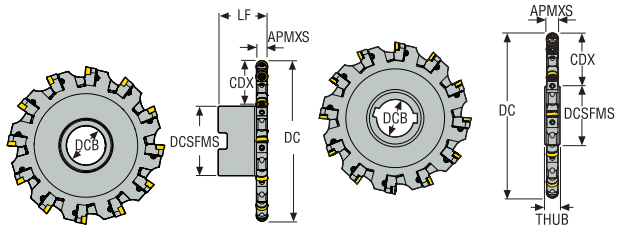


- For insert selection and cutting data recommendations, see page(s) 454-455
- For complete insert programme, see page(s) 812
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMX	CDX	ZEFP	DCSFMS	DCB	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
R335.18-04.00-0809L	00079973	Arbor	4.000	0.295	1.014	8	1.880	1.000	–	1.528	9400	2.430	LNK.08
R335.18-05.00-0809L	00079974	Arbor	5.000	0.295	1.329	10	2.250	1.250	–	1.528	8400	3.530	LNK.08
335.18-05.00-0809L	00079957	Arbor hole	5.000	0.295	1.285	10	2.252	1.500	0.625	0.077	8400	1.980	LNK.08
R335.18-06.00-0809L	00079975	Arbor	6.000	0.295	1.585	12	2.750	1.500	–	1.528	7500	4.190	LNK.08
335.18-06.00-0809L	00079958	Arbor hole	6.000	0.295	1.790	12	2.252	1.500	0.625	0.077	7500	2.870	LNK.08
R335.18-08.00-XL0809L	02740909	Arbor	8.000	0.295	2.224	14	3.500	1.500	–	1.528	6700	7.720	LNK.08
335.18-08.00-XL0809L	02740249	Arbor hole	8.000	0.295	2.421	14	3.000	2.000	0.625	0.077	6700	4.850	LNK.08
R335.18-10.00-XL0809L	02741566	Arbor	10.000	0.295	3.209	18	3.500	1.500	–	1.528	6000	10.800	LNK.08
335.18-10.00-XL0809L	02740531	Arbor hole	10.000	0.295	3.386	18	3.000	2.000	0.625	0.077	6000	7.940	LNK.08
335.18-12.00-XL0809L	02740888	Arbor hole	12.000	0.295	4.390	22	3.000	2.000	0.625	0.077	5300	11.900	LNK.08

Half side - Left hand - Radius profile with cassette

Cutter 335.18 - Insert RD..10T3/RP..1204 – Metric

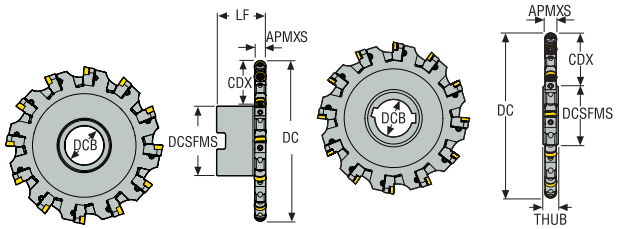


- For insert selection and cutting data recommendations, see page(s) 473-478
- For complete insert programme, see page(s) 817, 819
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.18-080.1012.27-6L-R5	00030354	Arbor	82,0	5,0	15,8	6	27,0	48,0	–	40,0	10500	0,8	RD..10T3
R335.18-100.1012.27-8L-R5	00030358	Arbor	102,0	5,0	25,8	8	27,0	48,0	–	40,0	9400	1,0	RD..10T3
335.18-100.1012.27-8L-R5	00030339	Arbor hole	102,0	5,0	28,2	8	27,0	41,0	15,0	2,5	9400	0,4	RD..10T3
R335.18-125.1012.32-10L-R5	00030361	Arbor	127,0	5,0	33,3	10	32,0	58,0	–	42,0	8400	1,2	RD..10T3
335.18-125.1012.40-10L-R5	00030342	Arbor hole	127,0	5,0	33,7	10	40,0	55,0	15,0	2,5	8400	0,8	RD..10T3
R335.18-160.1012.40-12L-R5	00030366	Arbor	162,0	5,0	44,8	12	40,0	70,0	–	40,0	7500	2,3	RD..10T3
335.18-160.1012.40-12L-R5	00030345	Arbor hole	162,0	5,0	51,2	12	40,0	55,0	15,0	2,5	7500	11,0	RD..10T3
R335.18-200.1012XL.40-14L-R5	02713464	Arbor	200,0	5,0	53,5	14	40,0	90,0	–	40,0	6700	2,9	RD..10T3
335.18-200.1012XL.50-14L-R5	02713352	Arbor hole	200,0	5,0	63,5	14	50,0	69,0	15,0	2,5	6700	3,0	RD..10T3
R335.18-250.1012XL.40-18L-R5	02713476	Arbor	250,0	5,0	78,0	18	40,0	90,0	–	40,0	6000	9,5	RD..10T3
335.18-250.1012XL.50-18L-R5	02713359	Arbor hole	250,0	5,0	88,5	18	50,0	69,0	15,0	2,5	6000	1,8	RD..10T3
335.18-315.1012XL.50-24L-R5	02713367	Arbor hole	315,0	5,0	121,0	24	50,0	69,0	15,0	2,5	5300	2,0	RD..10T3
R335.18-080.1215.27-6L-R6	00030408	Arbor	82,0	6,0	15,8	6	27,0	48,0	–	38,0	10500	0,7	RP..1204
R335.18-100.1215.27-8L-R6	00030416	Arbor	102,0	6,0	25,8	8	27,0	48,0	–	38,0	9400	1,1	RP..1204
335.18-100.1215.27-8L-R6	00030373	Arbor hole	102,0	6,0	28,2	8	27,0	41,0	15,0	1,5	9400	0,6	RP..1204
R335.18-125.1215.32-10L-R6	00030419	Arbor	127,0	6,0	32,3	10	32,0	58,0	–	38,0	8400	1,1	RP..1204
335.18-125.1215.40-10L-R6	00030376	Arbor hole	127,0	6,0	33,7	10	40,0	55,0	15,0	1,5	8400	0,9	RP..1204
R335.18-160.1215.40-12L-R6	00030422	Arbor	162,0	6,0	44,8	12	40,0	70,0	–	38,0	7500	2,0	RP..1204
335.18-160.1215.40-12L-R6	00030380	Arbor hole	162,0	6,0	51,2	12	40,0	55,0	15,0	1,5	7500	1,5	RP..1204
R335.18-200.1215XL.40-14L-R6	02713465	Arbor	200,0	6,0	53,5	14	40,0	90,0	–	38,0	6700	3,4	RP..1204
335.18-200.1215XL.50-14L-R6	02713354	Arbor hole	200,0	6,0	63,5	14	50,0	69,0	15,0	1,5	6700	1,9	RP..1204
R335.18-250.1215XL.40-18L-R6	02713478	Arbor	250,0	6,0	78,0	18	40,0	90,0	–	38,0	6000	4,4	RP..1204
335.18-250.1215XL.50-18L-R6	02713360	Arbor hole	250,0	6,0	88,5	18	50,0	69,0	15,0	1,5	6000	2,0	RP..1204
335.18-315.1215XL.50-24L-R6	02713368	Arbor hole	315,0	6,0	121,0	24	50,0	69,0	15,0	1,5	5300	2,2	RP..1204

Cutter 335.18 - Insert RD..10T3/RP..1204 – inch

Half side - Left hand - Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 473-478
- For complete insert programme, see page(s) 817, 819
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
335.18-08.00-XL0708L-R5	02740251	Arbor hole	8.000	0.197	2.421	14	2.000	3.000	0.625	0.115	6700	3.970	RD..10
335.18-10.00-XL0708L-R5	02740532	Arbor hole	10.000	0.197	3.386	18	2.000	3.000	0.625	0.115	6000	6.610	RD..10
335.18-12.00-XL0708L-R5	02740889	Arbor hole	12.000	0.197	4.390	22	2.000	3.000	0.625	0.115	5300	9.700	RD..10
R335.18-08.00-XL0708L-R5	02740910	Arbor	8.000	0.197	2.224	14	1.500	3.500	–	1.606	6700	6.830	RD..10
R335.18-10.00-XL0708L-R5	02741572	Arbor	10.000	0.197	3.248	18	1.500	3.500	–	1.606	6000	9.260	RD..10
335.18-05.00-0809L-R6	02599499	Arbor hole	5.079	0.236	1.324	10	1.500	2.252	0.625	0.078	8400	1.980	RP..12
335.18-06.00-0809L-R6	02599500	Arbor hole	6.079	0.236	1.829	12	1.500	2.252	0.625	0.078	7500	2.870	RP..12
335.18-08.00-XL0809L-R6	02740252	Arbor hole	8.000	0.236	2.421	14	2.000	3.000	0.625	0.078	6700	4.850	RP..12
335.18-10.00-XL0809L-R6	02740534	Arbor hole	10.000	0.236	3.386	18	2.000	3.000	0.625	0.078	6000	7.940	RP..12
335.18-12.00-XL0809L-R6	02740891	Arbor hole	12.000	0.236	4.390	22	2.000	3.000	0.625	0.078	5300	11.900	RP..12
R335.18-08.00-XL0809L-R6	02740911	Arbor	8.000	0.236	2.224	14	1.500	3.500	–	1.528	6700	7.720	RP..12
R335.18-10.00-XL0809L-R6	02741574	Arbor	10.000	0.236	3.248	18	1.500	3.500	–	1.528	6000	10.800	RP..12
R335.18-04.00-0809L-R6	02599491	Arbor	4.079	0.236	1.063	4	1.000	1.880	–	1.528	9400	2.430	RP..12
R335.18-05.00-0809L-R6	02599492	Arbor	5.079	0.236	1.368	10	1.250	2.250	–	1.528	8400	3.530	RP..12
R335.18-06.00-0809L-R6	02599493	Arbor	6.079	0.236	1.624	12	1.500	2.750	–	1.528	7500	4.190	RP..12



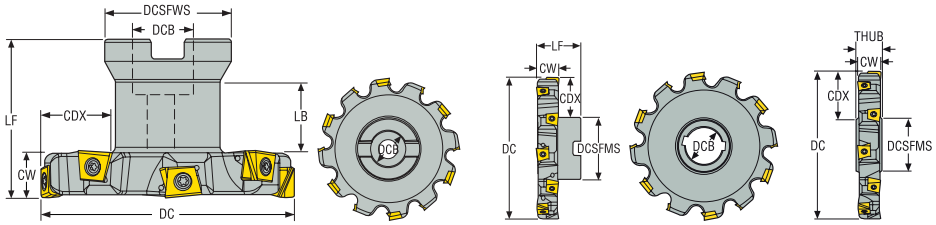
335.25

Easy to use, strong and free-cutting disc milling cutter system dedicated for large width of cut slotting, or half side and face cutting operations

- Width of cut 13.5-32 mm (.512 - 1.25 inch) - slot with flat bottom
- Cutter range diameter 80-315 mm (4.0 - 12 inch)
- Fixed or adjustable cutting width with replaceable cassettes
- Available with Arbor or Arbor hole connection , with through coolant option up to diameter 160mm
- Corner radii range 0.4-6 mm (.016 - 0.236 inch), and possibility to apply round insert dia 16/20 mm on adjustable system
- Economical solution with 4 cutting edges per insert
- Basic tolerance of the slot: Fixed pocket cutters: +/-0.08mm (+/-0.003”),Adjustable cutter: +/-0.07mm (+/-0.0025”)

Cutter 335.25 - Insert XNHQ/LNHQ – Metric

Width 15/20/25 mm - Full side and face - Fixed pocket

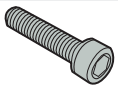
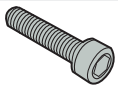


- For insert selection and cutting data recommendations, see page(s) 456-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	LB	Through coolant	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm			mm	mm	mm	mm	mm			kg		
R335.25-080.15.22-4NA	02989533	Arbor	80,0	15,0	22,7	4	8	22,0	40,0	–	50,0	21,4	✓	10200	0,7	XNHQ09…	–
R335.25-100.15.27-5NA	02989535	Arbor	100,0	15,0	25,3	5	10	27,0	48,0	–	50,0	–	✓	9200	1,0	XNHQ09…	–
R335.25-125.15.32-6NA	02989541	Arbor	125,0	15,0	32,8	6	12	32,0	58,0	–	50,0	–	✓	8200	1,7	XNHQ09…	–
R335.25-160.15.40-7NA	02989542	Arbor	160,0	15,0	44,3	7	14	40,0	70,0	–	50,0	–	✓	7200	2,5	XNHQ09…	–
335.25-160.15.40-7N	02989544	Arbor hole	160,0	15,0	52,0	7	14	40,0	55,0	15,0	15,0	–	–	7200	1,7	XNHQ09…	–
R335.25-200.15.40-8N	02989543	Arbor	200,0	15,0	54,3	8	16	40,0	90,0	–	50,0	–	–	6500	3,6	XNHQ09…	–
335.25-200.15.50-8N	02989545	Arbor hole	200,0	15,0	64,5	8	16	50,0	69,0	15,0	15,0	–	–	6500	2,6	XNHQ09…	–
R335.25-100.20.27-4NA	02953594	Arbor	100,0	20,0	25,3	4	8	27,0	48,0	–	50,0	–	✓	7200	1,3	XNHQ12…	–
R335.25-125.20.32-5NA	02953595	Arbor	125,0	20,0	32,8	5	10	32,0	58,0	–	50,0	–	✓	6500	2,0	XNHQ12…	–
R335.25-160.20.40-6NA	02953596	Arbor	160,0	20,0	44,3	6	12	40,0	70,0	–	50,0	–	✓	5700	2,9	XNHQ12…	–
335.25-160.20.40-6N	02961517	Arbor hole	160,0	20,0	51,5	6	12	40,0	55,0	20,0	20,0	–	–	5600	2,3	XNHQ12…	–
R335.25-200.20.40-7N	02953597	Arbor	200,0	20,0	54,3	7	14	40,0	90,0	–	50,0	–	–	5100	5,1	XNHQ12…	–
335.25-200.20.50-7N	02961518	Arbor hole	200,0	20,0	64,3	7	14	50,0	69,0	20,0	20,0	–	–	5100	3,5	XNHQ12…	–
R335.25-250.20.60-9N	02953598	Arbor	250,0	20,0	59,3	9	18	60,0	130,0	–	50,0	–	–	4600	7,2	XNHQ12…	–
335.25-250.20.50-9N	02961519	Arbor hole	250,0	20,0	88,5	9	18	50,0	71,0	20,0	20,0	–	–	4600	5,8	XNHQ12…	–
R335.25-125.25.32-5NA	02788023	Arbor	125,0	25,0	33,0	5	10	32,0	58,0	–	50,0	–	✓	4900	2,0	XNHQ1407…	LNHQ1407…
R335.25-160.25.40-6NA	02788024	Arbor	160,0	25,0	44,4	6	12	40,0	70,0	–	50,0	–	✓	4400	3,1	XNHQ1407…	LNHQ1407…
R335.25-200.25.40-7N	02788025	Arbor	200,0	25,0	54,5	7	14	40,0	90,0	–	50,0	–	–	3900	5,6	XNHQ1407…	LNHQ1407…
335.25-200.25.50-7N	02788028	Arbor hole	200,0	25,0	62,7	7	14	50,0	71,0	32,0	25,0	–	–	3900	4,3	XNHQ1407…	LNHQ1407…
335.25-250.25.50-9N	02788029	Arbor hole	250,0	25,0	87,7	9	18	50,0	71,0	32,0	25,0	–	–	3500	7,3	XNHQ1407…	LNHQ1407…
R335.25-250.25.60-9N	02788026	Arbor	250,0	25,0	59,5	9	18	60,0	130,0	–	50,0	–	–	3500	8,3	XNHQ1407…	LNHQ1407…

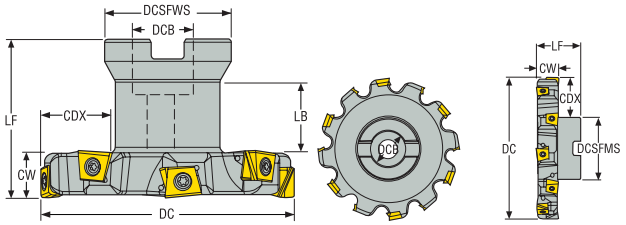
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Arbor screw	Insert clamping torque	Torque key
						
R335.25 CW=15 DC=80	MLC6S10X45	H4B-T10P	C03509-T10P	–	3.0NM	T00-10P30
R335.25 CW=15 DC=100	MLC6S12X50	H4B-T10P	C03509-T10P	–	3.0NM	T00-10P30
R335.25 CW=15 DC=125	950E1645	H4B-T10P	C03509-T10P	–	3.0NM	T00-10P30
R335.25 CW=15 DC=160	MLC6S20X40	H4B-T10P	C03509-T10P	–	3.0NM	T00-10P30
335.25 CW=15	–	H4B-T10P	C03509-T10P	–	3.0NM	T00-10P30
R335.25 CW=15 DC=200	–	–	C03509-T10P	MC6S12X50	3.0NM	T00-10P30
R335.25 CW=20 DC=100	MLC6S12X50	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
R335.25 CW=20 DC=125	950E1645	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
R335.25 CW=20 DC=160	MLC6S20X40	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
335.25 CW=20	–	H4B-T10P	C03511-T10P	–	3.0NM	T00-10P30
R335.25 CW=20 DC=200	–	H4B-T10P	C03511-T10P	MC6S12X50	3.0NM	T00-10P30
R335.25 CW=20 DC=250	–	H4B-T10P	C03511-T10P	MC6S16X50	3.0NM	T00-10P30
R335.25 CW=25 DC=125	MLC6S16X35	H4B-T15PL	C04013-T15P	–	5.0NM	T00-15P50
R335.25 CW=25 DC=160	MLC6S20X40	H4B-T15PL	C04013-T15P	–	5.0NM	T00-15P50
R335.25 CW=25 DC=200	–	H4B-T15PL	C04013-T15P	MC6S12X50	5.0NM	T00-15P50
335.25 CW=25	–	H4B-T15PL	C04013-T15P	–	5.0NM	T00-15P50
R335.25 CW=25 DC=250	–	H4B-T15PL	C04013-T15P	MC6S16X50	5.0NM	T00-15P50

Cutter 335.25 - Insert XNHQ/LNHQ – inch

Width 0.750/1.000” - Full side and face - Fixed pocket

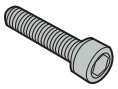


- For insert selection and cutting data recommendations, see page(s) 458-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	LB	Through coolant	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch			inch	inch	inch	inch	inch			lbs		
R335.25-05.00-0.75-5NA	02989512	Arbor	5.000	0.750	1.331	5	10	1.250	2.283	–	2.000	–	✓	6500	4.410	XNHQ12	–
R335.25-06.00-0.75-6NA	02989513	Arbor	6.000	0.750	1.595	6	12	1.500	2.756	–	2.000	–	✓	5700	6.170	XNHQ12	–
R335.25-05.00-1.000-5NA	02788030	Arbor	5.000	1.000	1.350	5	10	1.250	2.250	–	2.000	–	✓	4900	4.630	XNHQ14	LNHQ14
R335.25-06.00-1.000-6NA	02788031	Arbor	6.000	1.000	1.598	6	12	1.500	2.750	–	2.000	–	✓	4400	6.390	XNHQ14	LNHQ14
335.25-06.00-1.000-6N	02788034	Arbor hole	6.000	1.000	1.846	6	12	1.500	2.252	1.250	1.000	–	–	4400	5.730	XNHQ14	LNHQ14
R335.25-08.00-1.000-7N	02788032	Arbor	8.000	1.000	2.224	7	14	1.500	3.500	–	2.000	–	–	3900	11.680	XNHQ14	LNHQ14
335.25-10.00-1.000-9N	02788036	Arbor hole	10.000	1.000	3.429	9	18	2.000	3.000	1.250	1.000	–	–	3500	18.080	XNHQ14	LNHQ14

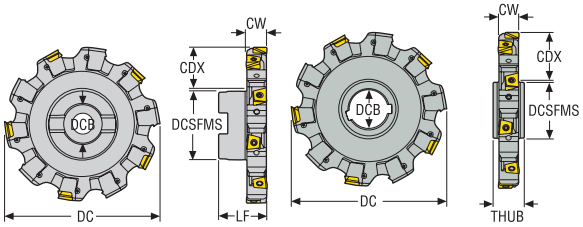
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Insert key	Insert screw	Insert clamping torque	Torque key
					
R335.25 CW 0.750 DC=5.000	ULC6S5/8UNFX11/2	H4B-T10P	C03511-T10P	26.6IN.LBS	T00-10P30
R335.25 CW 0.750 DC=6.000	ULC6S3/4UNFX11/2	H4B-T10P	C03511-T10P	26.6IN.LBS	T00-10P30
R335.25 CW 1.000 DC=5.000	ULC6S5/8UNFX11/2	H4B-T15PL	C04013-T15P	44.3IN.LBS	T00-15P50
R335.25 CW 1.000 DC=6.000	ULC6S5/8UNFX11/2	H4B-T15PL	C04013-T15P	44.3IN.LBS	T00-15P50
335.25 CW 1.000	–	H4B-T15PL	C04013-T15P	44.3IN.LBS	T00-15P50
R335.25 CW 1.000 DC=8.000	–	H4B-T15PL	C04013-T15P	44.3IN.LBS	T00-15P50

Width 13,5 - 21 mm - Full side and face - Adjustable design

Cutter 335.25 - Insert XNHQ – Metric



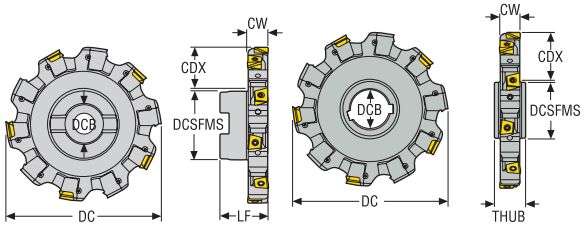
- For insert selection and cutting data recommendations, see page(s) 456-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
R335.25-100.1317.27-3N	02993725	Arbor	100,0	13,5	17,0	24,8	3	6	27,0	48,0	–	50,0	9200	1,0	XNHQ09..
R335.25-125.1317.32-4N	02993726	Arbor	125,0	13,5	17,0	32,3	4	8	32,0	58,0	–	50,0	8200	1,4	XNHQ09..
335.25-125.1317.40-4N	02993731	Arbor hole	125,0	13,5	17,0	32,9	4	8	40,0	55,0	17,0	15,25	8200	0,9	XNHQ09..
R335.25-160.1317.40-6N	02993727	Arbor	160,0	13,5	17,0	43,8	6	12	40,0	70,0	–	50,0	7200	2,3	XNHQ09..
335.25-160.1317.40-6N	02993732	Arbor hole	160,0	13,5	17,0	50,5	6	12	40,0	55,0	17,0	15,25	7200	1,5	XNHQ09..
R335.25-200.1317.40-7N	02993728	Arbor	200,0	13,5	17,0	54,0	7	14	40,0	90,0	–	50,0	6500	3,6	XNHQ09..
335.25-200.1317.50-7N	02993733	Arbor hole	200,0	13,5	17,0	63,5	7	14	50,0	69,0	17,0	15,25	6500	2,5	XNHQ09..
R335.25-250.1317XL.60-8N	02993729	Arbor	250,0	13,5	17,0	59,0	8	16	60,0	130,0	–	50,0	5800	6,0	XNHQ09..
335.25-250.1317XL.50-8N	02993734	Arbor hole	250,0	13,5	17,0	88,5	8	16	50,0	69,0	17,0	15,25	5800	3,9	XNHQ09..
R335.25-315.1317XL.60-10N	02993730	Arbor	315,0	13,5	17,0	91,5	10	20	60,0	130,0	–	50,0	5200	9,0	XNHQ09..
335.25-315.1317XL.50-10N	02993735	Arbor hole	315,0	13,5	17,0	121,0	10	20	50,0	69,0	17,0	15,25	5200	6,5	XNHQ09..
R335.25-100.1721.27-3N	02993714	Arbor	100,0	17,0	21,0	24,8	3	6	27,0	48,0	–	50,0	7200	1,1	XNHQ12..
R335.25-125.1721.32-4N	02993715	Arbor	125,0	17,0	21,0	32,3	4	8	32,0	58,0	–	50,0	6500	1,6	XNHQ12..
335.25-125.1721.40-4N	02993720	Arbor hole	125,0	17,0	21,0	32,9	4	8	40,0	55,0	21,0	19,0	8200	1,2	XNHQ12..
R335.25-160.1721.40-5N	02993716	Arbor	160,0	17,0	21,0	43,8	5	10	40,0	70,0	–	50,0	5700	2,7	XNHQ12..
335.25-160.1721.40-5N	02993721	Arbor hole	160,0	17,0	21,0	50,5	5	10	40,0	55,0	21,0	19,0	7200	1,9	XNHQ12..
R335.25-200.1721.40-6N	02993717	Arbor	200,0	17,0	21,0	54,0	6	12	40,0	90,0	–	50,0	5100	4,1	XNHQ12..
335.25-200.1721.50-6N	02993722	Arbor hole	200,0	17,0	21,0	63,5	6	12	50,0	69,0	21,0	19,0	5100	3,2	XNHQ12..
R335.25-250.1721XL.60-8N	02993718	Arbor	250,0	17,0	21,0	59,0	8	16	60,0	130,0	–	50,0	4600	6,7	XNHQ12..
335.25-250.1721XL.50-8N	02993723	Arbor hole	250,0	17,0	21,0	88,5	8	16	50,0	69,0	21,0	19,0	5800	4,9	XNHQ12..
R335.25-315.1721XL.60-10N	02993719	Arbor	315,0	17,0	21,0	91,5	10	20	60,0	130,0	–	50,0	4100	10,0	XNHQ12..
335.25-315.1721XL.50-10N	02993724	Arbor hole	315,0	17,0	21,0	121,0	10	20	50,0	69,0	21,0	19,0	5200	8,2	XNHQ12..

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Cutter 335.25 - Insert XNHQ/LNHQ – Metric

Width 21 - 32 mm - Full side and face - Adjustable design



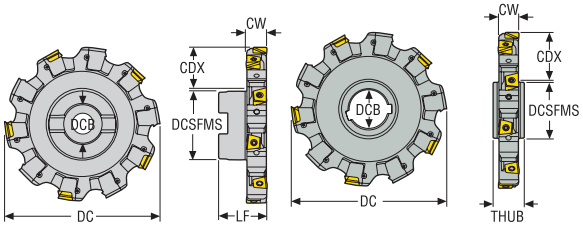
- For insert selection and cutting data recommendations, see page(s) 460-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm	mm			mm	mm	mm	mm		kg		
R335.25-125.2126.32-4N	02814578	Arbor	125,0	21,0	26,0	32,3	4	8	32,0	58,0	–	50,0	4900	1,7	XNHQ1407...	LNHQ1407...
335.25-125.2126.40-4N	02814599	Arbor hole	125,0	21,0	26,0	32,7	4	8	40,0	55,0	32,0	26,5	4900	1,3	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-5N	02814582	Arbor	160,0	21,0	26,0	43,8	5	10	40,0	70,0	–	50,0	4400	2,9	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-5N	02814603	Arbor hole	160,0	21,0	26,0	50,3	5	10	40,0	55,0	32,0	26,5	4400	2,3	XNHQ1407...	LNHQ1407...
R335.25-200.2126.40-6N	02814586	Arbor	200,0	21,0	26,0	54,0	6	12	40,0	90,0	–	50,0	3900	4,6	XNHQ1407...	LNHQ1407...
335.25-200.2126.50-6N	02814607	Arbor hole	200,0	21,0	26,0	63,3	6	12	50,0	69,0	32,0	26,5	3900	3,9	XNHQ1407...	LNHQ1407...
R335.25-250.2126XL.60-7N	02814590	Arbor	250,0	21,0	26,0	59,0	7	14	60,0	130,0	–	50,0	3500	7,3	XNHQ1407...	LNHQ1407...
335.25-250.2126XL.50-7N	02814611	Arbor hole	250,0	21,0	26,0	88,3	7	14	50,0	69,0	32,0	26,5	3500	6,0	XNHQ1407...	LNHQ1407...
R335.25-315.2126XL.60-9N	02814594	Arbor	315,0	21,0	26,0	91,5	9	18	60,0	130,0	–	50,0	3100	11,3	XNHQ1407...	LNHQ1407...
335.25-315.2126XL.60-9N	02814615	Arbor hole	315,0	21,0	26,0	113,3	9	18	60,0	84,0	32,0	26,5	3100	10,0	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-5N	02827411	Arbor	160,0	26,0	32,0	43,8	5	10	40,0	70,0	–	50,0	4600	3,4	XNHQ1707...	LNHQ1707...
335.25-160.2632.40-5N	02829065	Arbor hole	160,0	26,0	32,0	50,3	5	10	40,0	55,0	32,0	29,0	4600	3,0	XNHQ1707...	LNHQ1707...
R335.25-200.2632.40-6N	02827415	Arbor	200,0	26,0	32,0	54,0	6	12	40,0	90,0	–	50,0	4100	5,3	XNHQ1707...	LNHQ1707...
335.25-200.2632.50-6N	02827441	Arbor hole	200,0	26,0	32,0	63,3	6	12	50,0	69,0	32,0	29,0	4100	4,8	XNHQ1707...	LNHQ1707...
R335.25-250.2632XL.60-7N	02827419	Arbor	250,0	26,0	32,0	59,0	7	14	60,0	130,0	–	50,0	3700	8,4	XNHQ1707...	LNHQ1707...
335.25-250.2632XL.50-7N	02827445	Arbor hole	250,0	26,0	32,0	88,3	7	14	50,0	69,0	32,0	29,0	3700	7,4	XNHQ1707...	LNHQ1707...
R335.25-315.2632XL.60-9N	02827423	Arbor	315,0	26,0	32,0	91,5	9	18	60,0	130,0	–	50,0	3300	13,4	XNHQ1707...	LNHQ1707...
335.25-315.2632XL.60-9N	02827449	Arbor hole	315,0	26,0	32,0	113,3	9	18	60,0	84,0	32,0	29,0	3300	12,3	XNHQ1707...	LNHQ1707...

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Width 0.53-0.83” - Full side and face - Adjustable design

Cutter 335.25 - Insert XNHQ – inch



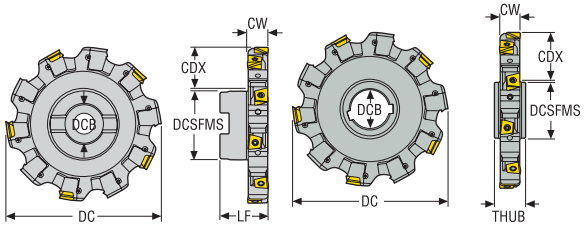
- For insert selection and cutting data recommendations, see page(s) 456-459
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
R335.25-04.00-0911N	02993907	Arbor	4.000	0.531	0.669	1.014	3	6	1.000	1.880	–	2.000	9200	2.870	XNHQ09
R335.25-05.00-0911N	02993911	Arbor	5.000	0.531	0.669	1.329	4	8	1.250	2.250	–	2.000	8200	18.740	XNHQ09
335.25-05.00-0911N	02993931	Arbor hole	5.000	0.531	0.669	1.289	4	8	1.500	2.250	0.750	0.641	8200	1.980	XNHQ09
R335.25-06.00-0911N	02993915	Arbor	6.000	0.531	0.669	1.579	5	10	1.500	2.750	–	2.000	7200	4.850	XNHQ09
335.25-06.00-0911N	02993935	Arbor hole	6.000	0.531	0.669	1.795	5	10	1.500	2.250	0.750	0.641	7200	3.750	XNHQ09
R335.25-08.00-0911N	02993919	Arbor	8.000	0.531	0.669	2.210	7	14	1.500	3.500	–	2.000	6500	9.260	XNHQ09
335.25-08.00-0911N	02993939	Arbor hole	8.000	0.531	0.669	2.420	7	14	2.000	3.000	0.750	0.641	6500	5.730	XNHQ09
R335.25-10.00-XL0911N	02993923	Arbor	10.000	0.531	0.669	2.400	8	16	2.500	5.120	–	2.000	5800	13.450	XNHQ09
335.25-10.00-XL0911N	02993943	Arbor hole	10.000	0.531	0.669	3.420	8	16	2.000	3.000	0.750	0.641	5800	9.040	XNHQ09
R335.25-12.00-XL0911N	02993927	Arbor	12.000	0.531	0.669	3.400	10	20	2.500	5.120	–	2.000	5200	17.860	XNHQ09
335.25-12.00-XL0911N	02993947	Arbor hole	12.000	0.531	0.669	4.460	10	20	2.000	3.000	0.750	0.641	5200	13.450	XNHQ09
R335.25-04.00-1113N	02993850	Arbor	4.000	0.669	0.827	1.014	3	6	1.000	1.880	–	2.000	7200	2.870	XNHQ12
R335.25-05.00-1113N	02993854	Arbor	5.000	0.669	0.827	1.329	4	8	1.250	2.250	–	2.000	6500	2.870	XNHQ12
335.25-05.00-1113N	02993881	Arbor hole	5.000	0.669	0.827	1.289	4	8	1.500	2.250	1.000	0.835	6500	2.650	XNHQ12
R335.25-06.00-1113N	02993858	Arbor	6.000	0.669	0.827	1.579	5	10	1.500	2.750	–	2.000	5700	5.510	XNHQ12
335.25-06.00-1113N	02993885	Arbor hole	6.000	0.669	0.827	1.795	5	10	1.500	2.250	1.000	0.835	5700	4.630	XNHQ12
R335.25-08.00-1113N	02993862	Arbor	8.000	0.669	0.827	2.210	6	12	1.500	3.500	–	2.000	5100	10.800	XNHQ12
335.25-08.00-1113N	02993889	Arbor hole	8.000	0.669	0.827	2.420	6	12	2.000	3.000	1.000	0.835	5100	9.920	XNHQ12
R335.25-10.00-XL1113N	02993866	Arbor	10.000	0.669	0.827	2.400	8	16	2.500	5.120	–	2.000	4600	15.210	XNHQ12
335.25-10.00-XL1113N	02993893	Arbor hole	10.000	0.669	0.827	3.420	8	16	2.000	3.000	1.000	0.835	4600	13.890	XNHQ12
R335.25-12.00-XL1113N	02993870	Arbor	12.000	0.669	0.827	3.400	10	20	2.500	5.120	–	2.000	4100	20.720	XNHQ12
335.25-12.00-XL1113N	02993897	Arbor hole	12.000	0.669	0.827	4.420	10	20	2.000	3.000	1.000	0.835	4100	16.980	XNHQ12

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Cutter 335.25 - Insert XNHQ/LNHQ – inch

Width 0.83-1.26” - Full side and face - Adjustable design



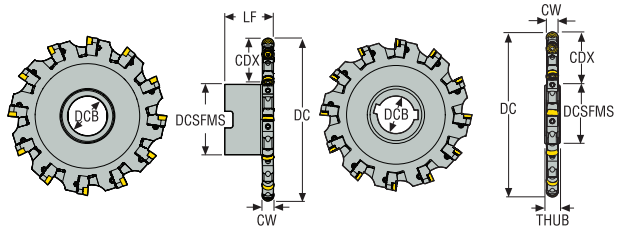
- For insert selection and cutting data recommendations, see page(s) 460-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch	inch			inch	inch	inch	inch		lbs		
R335.25-05.00-1316N	02814619	Arbor	5.000	0.827	1.024	1.327	4	8	1.250	2.250	–	2.000	4900	3.970	XNHQ14	LNHQ14
335.25-05.00-1316N	02814639	Arbor hole	5.000	0.827	1.024	1.291	4	8	1.500	2.250	1.250	1.038	4900	3.090	XNHQ14	LNHQ14
R335.25-06.00-1316N	02814623	Arbor	6.000	0.827	1.024	1.579	5	10	1.500	2.750	–	2.000	4500	5.950	XNHQ14	LNHQ14
335.25-06.00-1316N	02814643	Arbor hole	6.000	0.827	1.024	1.791	5	10	1.500	2.250	1.250	1.038	4500	4.630	XNHQ14	LNHQ14
R335.25-08.00-1316N	02814627	Arbor	8.000	0.827	1.024	2.209	6	12	1.500	3.500	–	2.000	3900	10.800	XNHQ14	LNHQ14
335.25-08.00-1316N	02814647	Arbor hole	8.000	0.827	1.024	2.413	6	12	2.000	3.000	1.250	1.038	3900	9.040	XNHQ14	LNHQ14
R335.25-10.00-XL1316N	02814631	Arbor	10.000	0.827	1.024	2.402	7	14	2.500	5.118	–	2.000	3500	16.530	XNHQ14	LNHQ14
335.25-10.00-XL1316N	02814651	Arbor hole	10.000	0.827	1.024	3.413	7	14	2.000	3.000	1.250	1.038	3500	13.890	XNHQ14	LNHQ14
R335.25-12.00-XL1316N	02814635	Arbor	12.000	0.827	1.024	3.402	9	18	2.500	5.118	–	2.000	3200	23.150	XNHQ14	LNHQ14
335.25-12.00-XL1316N	02814655	Arbor hole	12.000	0.827	1.024	4.413	9	18	2.000	3.000	1.250	1.038	3200	20.500	XNHQ14	LNHQ14
R335.25-06.00-1620N	02827713	Arbor	6.000	1.024	1.260	1.579	5	10	1.500	2.750	–	2.000	4700	6.830	XNHQ17	LNHQ17
335.25-06.00-1620N	02827735	Arbor hole	6.000	1.024	1.260	1.791	5	10	1.500	2.250	1.250	1.137	4700	5.730	XNHQ17	LNHQ17
R335.25-08.00-1620N	02827717	Arbor	8.000	1.024	1.260	2.209	6	12	1.500	3.500	–	2.000	4100	12.570	XNHQ17	LNHQ17
335.25-08.00-1620N	02827740	Arbor hole	8.000	1.024	1.260	2.413	6	12	2.000	3.000	1.250	1.137	4100	11.020	XNHQ17	LNHQ17
R335.25-10.00-XL1620N	02827721	Arbor	10.000	1.024	1.260	2.402	7	14	2.500	5.118	–	2.000	3600	18.960	XNHQ17	LNHQ17
335.25-10.00-XL1620N	02827744	Arbor hole	10.000	1.024	1.260	3.413	7	14	2.000	3.000	1.250	1.137	3600	16.980	XNHQ17	LNHQ17
R335.25-12.00-XL1620N	02827725	Arbor	12.000	1.024	1.260	3.402	9	18	2.500	5.118	–	2.000	3300	27.120	XNHQ17	LNHQ17
335.25-12.00-XL1620N	02827748	Arbor hole	12.000	1.024	1.260	4.413	9	18	2.000	3.000	1.250	1.137	3300	25.350	XNHQ17	LNHQ17

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Width 16-21 mm - full side - radius profile - Adjustable design

Cutter 335.25 - Insert RP..1605/RP..2006 – Metric



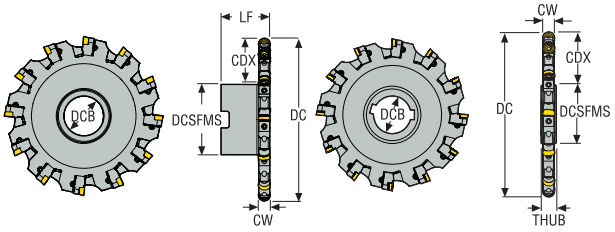
- For insert selection and cutting data recommendations, see page(s) 479-484
- For complete insert programme, see page(s) 820
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm	mm			mm	mm	mm	mm		kg	
R335.25-100.1317.27-3N-R8	02993815	Arbor	105,0	16,03	17,0	28,0	3	6	27,0	48,0	–	51,265	9200	1,0	RP..1605
R335.25-125.1317.32-4N-R8	02993818	Arbor	130,0	16,03	17,0	35,5	4	8	32,0	58,0	–	51,265	8200	1,4	RP..1605
335.25-125.1317.40-4N-R8	02993833	Arbor hole	130,0	16,03	17,0	36,0	4	8	40,0	55,0	17,0	16,52	8200	1,0	RP..1605
R335.25-160.1317.40-6N-R8	02993821	Arbor	165,0	16,03	17,0	47,0	6	12	40,0	70,0	–	51,265	7200	2,3	RP..1605
335.25-160.1317.40-6N-R8	02993836	Arbor hole	165,0	16,03	17,0	53,5	6	12	40,0	55,0	17,0	16,52	7200	1,5	RP..1605
R335.25-200.1317.40-7N-R8	02993824	Arbor	205,0	16,03	17,0	57,0	7	14	40,0	90,0	–	51,265	6500	4,0	RP..1605
335.25-200.1317.50-7N-R8	02993839	Arbor hole	205,0	16,03	17,0	66,5	7	14	50,0	69,0	17,0	16,52	6500	2,4	RP..1605
R335.25-250.1317XL.60-8N-R8	02993827	Arbor	255,0	16,03	17,0	62,0	8	16	60,0	130,0	–	51,265	5800	10,3	RP..1605
335.25-250.1317XL.50-8N-R8	02993842	Arbor hole	255,0	16,03	17,0	91,5	8	16	50,0	69,0	17,0	16,52	5800	5,2	RP..1605
R335.25-315.1317XL.60-10N-R8	02993830	Arbor	320,0	16,03	17,0	94,5	10	20	60,0	130,0	–	51,265	5200	8,6	RP..1605
335.25-315.1317XL.50-10N-R8	02993845	Arbor hole	320,0	16,03	17,0	124,0	10	20	50,0	69,0	17,0	16,52	5200	6,5	RP..1605
R335.25-250.1721XL.60-8N-R10	02993754	Arbor	255,0	20,03	21,0	62,0	8	16	60,0	130,0	–	51,515	4600	6,6	RP..2006
335.25-250.1721XL.50-8N-R10	02993775	Arbor hole	255,0	20,03	21,0	91,5	8	16	50,0	69,0	21,0	20,52	4600	4,9	RP..2006
R335.25-315.1721XL.60-10N-R10	02993757	Arbor	320,0	20,03	21,0	94,5	10	20	60,0	130,0	–	51,515	4100	9,9	RP..2006
335.25-315.1721XL.50-10N-R10	02993778	Arbor hole	320,0	20,03	21,0	124,1	10	20	50,0	69,0	21,0	20,52	4100	10,0	RP..2006

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Cutter 335.25 - Insert RP..1605/RP..2006 – inch

Width 0.631-0.827” - full side - radius profile - Adjustable design



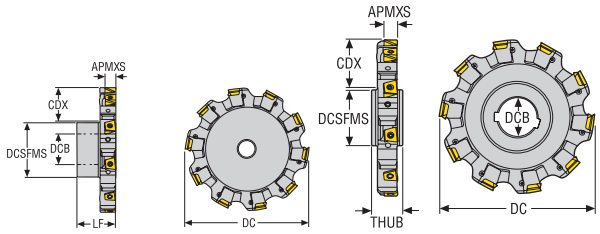
- For insert selection and cutting data recommendations, see page(s) 479-484
- For complete insert programme, see page(s) 820
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CWN	CWX	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch	inch			inch	inch	inch	inch		lbs	
335.25-05.00-0911N-R8	02993969	Arbor hole	5.197	0.631	0.669	1.415	4	8	1.500	2.250	0.750	0.691	8200	2.200	RP..1605
335.25-06.00-0911N-R8	02993972	Arbor hole	6.197	0.631	0.669	1.914	5	10	1.500	2.250	0.750	0.691	7200	3.090	RP..1605
335.25-08.00-0911N-R8	02993975	Arbor hole	8.197	0.631	0.669	2.539	7	14	2.000	3.000	0.750	0.691	6500	5.730	RP..1605
335.25-10.00-XL0911N-R8	02993978	Arbor hole	10.197	0.631	0.669	3.539	8	16	2.000	3.000	0.750	0.691	5800	9.260	RP..1605
335.25-12.00-XL0911N-R8	02993981	Arbor hole	12.197	0.631	0.669	4.579	10	20	2.000	3.000	0.750	0.691	5200	31.310	RP..1605
R335.25-12.00-XL0911N-R8	02993966	Arbor	12.197	0.631	0.669	3.519	10	20	2.500	5.120	–	2.050	5200	31.530	RP..1605
R335.25-06.00-0911N-R8	02993957	Arbor	6.197	0.631	0.669	1.704	5	10	1.500	2.750	–	2.050	7200	6.390	RP..1605
R335.25-04.00-0911N-R8	02993951	Arbor	4.197	0.631	0.669	1.139	3	6	1.000	1.880	–	2.050	9200	2.200	RP..1605
R335.25-05.00-0911N-R8	02993954	Arbor	5.197	0.631	0.669	1.454	4	8	1.250	2.250	–	2.050	8200	3.310	RP..1605
R335.25-08.00-0911N-R8	02993960	Arbor	8.197	0.631	0.669	2.329	7	14	1.500	3.500	–	2.050	6500	8.160	RP..1605
R335.25-10.00-XL0911N-R8	02993963	Arbor	10.197	0.631	0.669	2.519	8	16	2.500	5.120	–	2.050	5800	13.670	RP..1605
335.25-10.00-XL1113N-R10	02993901	Arbor hole	10.197	0.789	0.827	3.539	8	16	2.000	3.000	1.000	0.894	4600	11.460	RP..2006
335.25-12.00-XL1113N-R10	02993904	Arbor hole	12.197	0.789	0.827	4.539	10	20	2.000	3.000	1.000	0.894	4100	17.200	RP..2006
R335.25-10.00-XL1113N-R10	02993874	Arbor	10.197	0.789	0.827	2.519	8	16	2.500	5.120	–	2.060	4600	15.210	RP..2006
R335.25-12.00-XL1113N-R10	02993878	Arbor	12.197	0.789	0.827	3.519	10	20	2.500	5.120	–	2.060	4100	20.720	RP..2006

All listed adjustable cutters are set to the minimum cutter width CWN (factory setting).
Adjustable cutter may be ordered with the cutting width set to any value within its range (CWN - CWX), see technical data for more info at page 447

Max depth of cut 9-11,1 mm - Half side - Right hand with cassette

Cutter 335.25 - Insert XNHQ – Metric

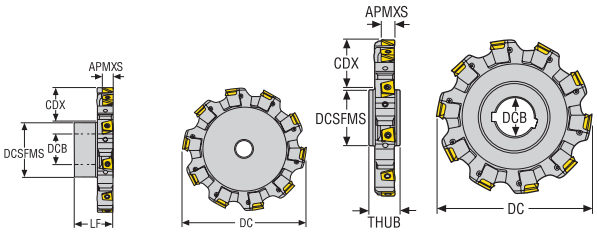


- For insert selection and cutting data recommendations, see page(s) 456-459
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.25-100.1317.27-6R	02993783	Arbor	100,0	8,5	24,8	6	27,0	48,0	–	50,0	9200	1,2	XNHQ09..
R335.25-125.1317.32-8R	02993786	Arbor	125,0	8,5	32,3	8	32,0	58,0	–	50,0	8200	1,4	XNHQ09..
335.25-125.1317.40-8R	02993801	Arbor hole	125,0	8,5	32,9	8	40,0	55,0	17,0	15,25	8200	0,9	XNHQ09..
R335.25-160.1317.40-12R	02993789	Arbor	160,0	8,5	43,8	12	40,0	70,0	–	50,0	7200	2,8	XNHQ09..
335.25-160.1317.40-12R	02993804	Arbor hole	160,0	8,5	50,5	12	40,0	55,0	17,0	15,25	7200	1,5	XNHQ09..
R335.25-200.1317.40-14R	02993792	Arbor	200,0	8,5	54,0	14	40,0	90,0	–	50,0	6500	3,6	XNHQ09..
335.25-200.1317.50-14R	02993807	Arbor hole	200,0	8,5	63,5	14	50,0	69,0	17,0	15,25	6500	3,1	XNHQ09..
R335.25-250.1317XL.60-16R	02993795	Arbor	250,0	8,5	59,0	16	60,0	130,0	–	50,0	5800	6,0	XNHQ09..
335.25-250.1317XL.50-16R	02993810	Arbor hole	250,0	8,5	88,5	16	50,0	69,0	17,0	15,25	5800	3,8	XNHQ09..
R335.25-315.1317XL.60-20R	02993798	Arbor	315,0	8,5	91,5	20	60,0	130,0	–	50,0	5200	8,5	XNHQ09..
335.25-315.1317XL.50-20R	02993813	Arbor hole	315,0	8,5	121,0	20	50,0	69,0	17,0	15,25	5200	6,4	XNHQ09..
R335.25-100.1721.27-6R	02993737	Arbor	100,0	11,0	24,8	6	27,0	48,0	–	50,0	7200	1,1	XNHQ12..
R335.25-125.1721.32-8R	02993740	Arbor	125,0	11,0	32,3	8	32,0	58,0	–	50,0	6500	1,6	XNHQ12..
335.25-125.1721.40-8R	02993761	Arbor hole	125,0	11,0	32,9	8	40,0	55,0	21,0	19,0	6500	1,0	XNHQ12..
R335.25-160.1721.40-10R	02993743	Arbor	160,0	11,0	43,8	10	40,0	70,0	–	50,0	5700	3,2	XNHQ12..
335.25-160.1721.40-10R	02993764	Arbor hole	160,0	11,0	50,5	10	40,0	55,0	21,0	19,0	5700	1,9	XNHQ12..
R335.25-200.1721.40-12R	02993746	Arbor	200,0	11,0	54,0	12	40,0	90,0	–	50,0	5100	4,1	XNHQ12..
335.25-200.1721.50-12R	02993767	Arbor hole	200,0	11,0	63,5	12	50,0	69,0	21,0	19,0	5100	3,1	XNHQ12..
R335.25-250.1721XL.60-16R	02993749	Arbor	250,0	11,0	59,0	16	60,0	130,0	–	50,0	4600	11,5	XNHQ12..
335.25-250.1721XL.50-16R	02993770	Arbor hole	250,0	11,0	88,5	16	50,0	69,0	21,0	19,0	4600	8,2	XNHQ12..
R335.25-315.1721XL.60-20R	02993752	Arbor	315,0	11,0	91,5	20	60,0	130,0	–	50,0	4100	16,4	XNHQ12..
335.25-315.1721XL.50-20R	02993773	Arbor hole	315,0	11,0	121,0	20	50,0	69,0	21,0	19,0	4100	8,1	XNHQ12..

Cutter 335.25 - Insert XNHQ/LNHQ – Metric

Max depth of cut 13-16 mm - Half side - Right hand with cassette

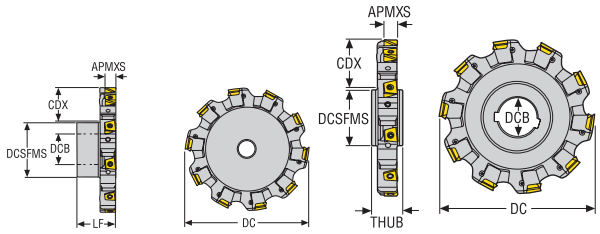


- For insert selection and cutting data recommendations, see page(s) 460-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm		mm	mm	mm	mm		kg		
R335.25-125.2126.32-8R	02814580	Arbor	125,0	13,0	32,3	8	32,0	58,0	–	50,0	4900	1,7	XNHQ1407...	LNHQ1407...
335.25-125.2126.40-8R	02814601	Arbor hole	125,0	13,0	32,7	8	40,0	55,0	32,0	26,5	4900	1,3	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-10R	02814584	Arbor	160,0	13,0	43,8	10	40,0	70,0	–	50,0	4400	2,9	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-10R	02814605	Arbor hole	160,0	13,0	50,3	10	40,0	55,0	32,0	26,5	4400	2,3	XNHQ1407...	LNHQ1407...
R335.25-200.2126.40-12R	02814588	Arbor	200,0	13,0	54,0	12	40,0	90,0	–	50,0	3900	4,6	XNHQ1407...	LNHQ1407...
335.25-200.2126.50-12R	02814609	Arbor hole	200,0	13,0	63,3	12	50,0	69,0	32,0	26,5	3900	3,9	XNHQ1407...	LNHQ1407...
R335.25-250.2126XL.60-14R	02814592	Arbor	250,0	13,0	59,0	14	60,0	130,0	–	50,0	3500	7,3	XNHQ1407...	LNHQ1407...
335.25-250.2126XL.50-14R	02814613	Arbor hole	250,0	13,0	88,3	14	50,0	69,0	32,0	26,5	3500	6,0	XNHQ1407...	LNHQ1407...
R335.25-315.2126XL.60-18R	02814597	Arbor	315,0	13,0	91,5	18	60,0	130,0	–	50,0	3100	11,3	XNHQ1407...	LNHQ1407...
335.25-315.2126XL.60-18R	02814617	Arbor hole	315,0	13,0	113,3	18	60,0	84,0	32,0	26,5	3100	10,0	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-10R	02827413	Arbor	160,0	16,0	43,8	10	40,0	70,0	–	50,0	4600	3,4	XNHQ1707...	LNHQ1707...
335.25-160.2632.40-10R	02829067	Arbor hole	160,0	16,0	50,3	10	40,0	55,0	32,0	29,0	4600	2,9	XNHQ1707...	LNHQ1707...
R335.25-200.2632.40-12R	02827417	Arbor	200,0	16,0	54,0	12	40,0	90,0	–	50,0	4100	5,4	XNHQ1707...	LNHQ1707...
335.25-200.2632.50-12R	02827443	Arbor hole	200,0	16,0	63,3	12	50,0	69,0	32,0	29,0	4100	5,2	XNHQ1707...	LNHQ1707...
R335.25-250.2632XL.60-14R	02827421	Arbor	250,0	16,0	59,0	14	60,0	130,0	–	50,0	3700	8,4	XNHQ1707...	LNHQ1707...
335.25-250.2632XL.50-14R	02827447	Arbor hole	250,0	16,0	88,3	14	50,0	69,0	32,0	29,0	3700	7,4	XNHQ1707...	LNHQ1707...
R335.25-315.2632XL.60-18R	02827425	Arbor	315,0	16,0	91,5	18	60,0	130,0	–	50,0	3300	13,4	XNHQ1707...	LNHQ1707...
335.25-315.2632XL.60-18R	02827451	Arbor hole	315,0	16,0	113,3	18	60,0	84,0	32,0	29,0	3300	12,3	XNHQ1707...	LNHQ1707...

Max depth of cut 0.354 - 0.437” - Half side - Right hand with cassette

Cutter 335.25 - Insert XNHQ – inch

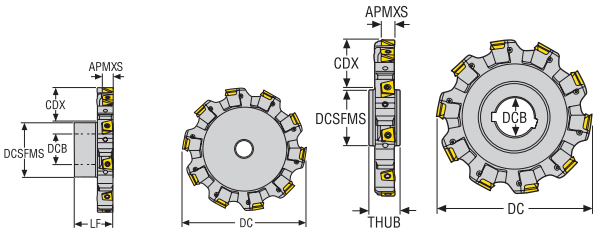


- For insert selection and cutting data recommendations, see page(s) 456-459
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
R335.25-04.00-0911R	02993909	Arbor	4.000	0.335	1.014	6	1.000	1.880	–	2.000	9200	2.200	XNHQ09
R335.25-05.00-0911R	02993913	Arbor	5.000	0.335	1.329	8	1.250	2.250	–	2.000	8200	3.310	XNHQ09
335.25-05.00-0911R	02993933	Arbor hole	5.000	0.335	1.289	8	1.500	2.250	0.750	0.641	8200	2.200	XNHQ09
R335.25-06.00-0911R	02993917	Arbor	6.000	0.335	1.579	10	1.500	2.750	–	2.000	7200	6.390	XNHQ09
335.25-06.00-0911R	02993937	Arbor hole	6.000	0.335	1.795	10	1.500	2.250	0.750	0.641	7200	3.090	XNHQ09
R335.25-08.00-0911R	02993921	Arbor	8.000	0.335	2.210	14	1.500	3.500	–	2.000	6500	8.160	XNHQ09
335.25-08.00-0911R	02993941	Arbor hole	8.000	0.335	2.420	14	2.000	3.000	0.750	0.641	6500	5.730	XNHQ09
R335.25-10.00-XL0911R	02993925	Arbor	10.000	0.335	2.400	16	2.500	5.120	–	2.000	5800	13.450	XNHQ09
335.25-10.00-XL0911R	02993945	Arbor hole	10.000	0.335	3.420	16	2.000	3.000	0.750	0.641	5800	9.040	XNHQ09
R335.25-12.00-XL0911R	02993929	Arbor	12.000	0.335	3.400	20	2.500	5.120	–	2.000	5200	17.860	XNHQ09
335.25-12.00-XL0911R	02993949	Arbor hole	12.000	0.335	4.460	20	2.000	3.000	0.750	0.641	5200	13.450	XNHQ09
R335.25-04.00-1113R	02993852	Arbor	4.000	0.433	1.014	6	1.000	1.880	–	2.000	7200	2.430	XNHQ12
R335.25-05.00-1113R	02993856	Arbor	5.000	0.433	1.329	8	1.250	2.250	–	2.000	6500	3.750	XNHQ12
335.25-05.00-1113R	02993883	Arbor hole	5.000	0.433	1.289	8	1.500	2.250	1.000	0.835	6500	2.650	XNHQ12
R335.25-06.00-1113R	02993860	Arbor	6.000	0.433	1.579	10	1.500	2.750	–	2.000	5700	5.510	XNHQ12
335.25-06.00-1113R	02993887	Arbor hole	6.000	0.433	1.795	10	1.500	2.250	1.000	0.835	5700	3.970	XNHQ12
R335.25-08.00-1113R	02993864	Arbor	8.000	0.433	2.210	12	1.500	3.500	–	2.000	5100	9.700	XNHQ12
335.25-08.00-1113R	02993891	Arbor hole	8.000	0.433	2.420	12	2.000	3.000	1.000	0.835	5100	10.140	XNHQ12
R335.25-10.00-XL1113R	02993868	Arbor	10.000	0.433	2.400	16	2.500	5.120	–	2.000	4600	15.210	XNHQ12
335.25-10.00-XL1113R	02993895	Arbor hole	10.000	0.433	3.420	16	2.000	3.000	1.000	0.835	4600	11.460	XNHQ12
R335.25-12.00-XL1113R	02993872	Arbor	12.000	0.433	3.400	20	2.500	5.120	–	2.000	4100	20.720	XNHQ12
335.25-12.00-XL1113R	02993899	Arbor hole	12.000	0.433	4.420	20	2.000	3.000	1.000	0.835	4100	16.980	XNHQ12

Cutter 335.25 - Insert XNHQ/LNHQ – inch

Max depth of cut 0.512 - 0.630” - Half side - Right hand with cassette

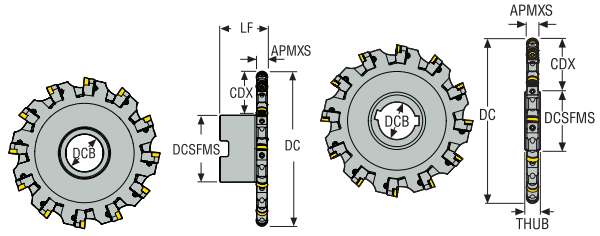


- For insert selection and cutting data recommendations, see page(s) 460-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch		inch	inch	inch	inch		lbs		
R335.25-05.00-1316R	02814621	Arbor	5.000	0.512	1.327	8	1.250	2.250	–	2.000	4900	3.970	XNHQ14	LNHQ14
335.25-05.00-1316R	02814641	Arbor hole	5.000	0.512	1.291	8	1.500	2.250	1.250	1.038	4900	3.090	XNHQ14	LNHQ14
R335.25-06.00-1316R	02814625	Arbor	6.000	0.512	1.579	10	1.500	2.750	–	2.000	4500	5.950	XNHQ14	LNHQ14
335.25-06.00-1316R	02814645	Arbor hole	6.000	0.512	1.791	10	1.500	2.250	1.250	1.038	4500	4.850	XNHQ14	LNHQ14
R335.25-08.00-1316R	02814629	Arbor	8.000	0.512	2.209	12	1.500	3.500	–	2.000	3900	12.130	XNHQ14	LNHQ14
335.25-08.00-1316R	02814649	Arbor hole	8.000	0.512	2.413	12	2.000	3.000	1.250	1.038	3900	9.040	XNHQ14	LNHQ14
R335.25-10.00-XL1316R	02814633	Arbor	10.000	0.512	2.402	14	2.500	5.118	–	2.000	3500	16.530	XNHQ14	LNHQ14
335.25-10.00-XL1316R	02814653	Arbor hole	10.000	0.512	3.413	14	2.000	3.000	1.250	1.038	3500	13.890	XNHQ14	LNHQ14
R335.25-12.00-XL1316R	02814637	Arbor	12.000	0.512	3.402	18	2.500	5.118	–	2.000	3200	23.150	XNHQ14	LNHQ14
335.25-12.00-XL1316R	02814657	Arbor hole	12.000	0.512	4.413	18	2.000	3.000	1.250	1.038	3200	20.720	XNHQ14	LNHQ14
R335.25-06.00-1620R	02827715	Arbor	6.000	0.630	1.579	10	1.500	2.750	–	2.000	4700	6.830	XNHQ17	LNHQ17
335.25-06.00-1620R	02827738	Arbor hole	6.000	0.630	1.791	10	1.500	2.250	1.250	1.137	4700	5.730	XNHQ17	LNHQ17
R335.25-08.00-1620R	02827719	Arbor	8.000	0.630	2.209	12	1.500	3.500	–	2.000	4100	12.570	XNHQ17	LNHQ17
335.25-08.00-1620R	02827742	Arbor hole	8.000	0.630	2.413	12	2.000	3.000	1.250	1.137	4100	11.020	XNHQ17	LNHQ17
R335.25-10.00-XL1620R	02827723	Arbor	10.000	0.630	2.402	14	2.500	5.118	–	2.000	3600	18.740	XNHQ17	LNHQ17
335.25-10.00-XL1620R	02827746	Arbor hole	10.000	0.630	3.413	14	2.000	3.000	1.250	1.137	3600	16.980	XNHQ17	LNHQ17
R335.25-12.00-XL1620R	02827727	Arbor	12.000	0.630	3.402	18	2.500	5.118	–	2.000	3300	27.340	XNHQ17	LNHQ17
335.25-12.00-XL1620R	02827750	Arbor hole	12.000	0.630	4.413	18	2.000	3.000	1.250	1.137	3300	25.350	XNHQ17	LNHQ17

Half side - Right hand - Radius profile with cassette

Cutter 335.25 - Insert RP..1605/RP..2006 – Metric

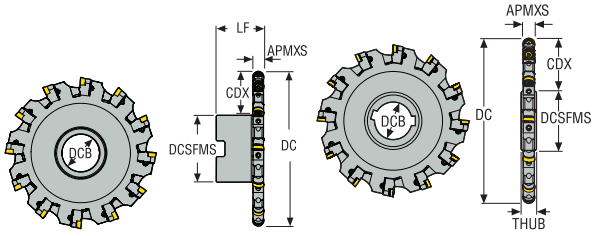


- For insert selection and cutting data recommendations, see page(s) 479-484
- For complete insert programme, see page(s) 820
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
R335.25-100.1317.27-6R-R8	02993816	Arbor	105,0	8,0	28,0	6	6	27,0	48,0	–	51,265	9200	1,0	RP..1605
R335.25-125.1317.32-8R-R8	02993819	Arbor	130,0	8,0	35,5	8	8	32,0	58,0	–	51,265	8200	1,4	RP..1605
335.25-125.1317.40-8R-R8	02993834	Arbor hole	130,0	8,0	36,1	8	8	40,0	55,0	17,0	16,52	8200	0,9	RP..1605
R335.25-160.1317.40-12R-R8	02993822	Arbor	165,0	8,0	47,0	12	12	40,0	70,0	–	51,265	7200	2,3	RP..1605
335.25-160.1317.40-12R-R8	02993837	Arbor hole	165,0	8,0	53,6	12	12	40,0	55,0	17,0	16,52	7200	1,5	RP..1605
R335.25-200.1317.40-14R-R8	02993825	Arbor	205,0	8,0	57,0	14	14	40,0	90,0	–	51,265	6500	3,5	RP..1605
335.25-200.1317.50-14R-R8	02993840	Arbor hole	205,0	8,0	66,6	14	14	50,0	69,0	17,0	16,52	6500	2,4	RP..1605
R335.25-250.1317XL.60-16R-R8	02993828	Arbor	255,0	8,0	62,0	16	16	60,0	130,0	–	51,265	5800	6,0	RP..1605
335.25-250.1317XL.50-16R-R8	02993843	Arbor hole	255,0	8,0	91,6	16	16	50,0	69,0	17,0	16,52	5800	4,0	RP..1605
R335.25-315.1317XL.60-20R-R8	02993831	Arbor	320,0	8,0	94,5	20	20	60,0	130,0	–	51,265	5200	8,6	RP..1605
335.25-315.1317XL.50-20R-R8	02993846	Arbor hole	320,0	8,0	124,1	20	20	50,0	69,0	17,0	16,52	5200	6,6	RP..1605
R335.25-250.1721XL.60-16R-R10	02993755	Arbor	255,0	10,0	62,0	16	16	60,0	130,0	–	51,515	4600	6,7	RP..2006
335.25-250.1721XL.50-16R-R10	02993776	Arbor hole	255,0	10,0	91,6	16	16	50,0	69,0	21,0	20,52	4600	5,0	RP..2006
R335.25-315.1721XL.60-20R-R10	02993758	Arbor	320,0	10,0	94,5	20	20	60,0	130,0	–	51,515	4100	10,0	RP..2006
335.25-315.1721XL.50-20R-R10	02993779	Arbor hole	320,0	10,0	124,1	20	20	50,0	69,0	21,0	20,52	4100	8,2	RP..2006

Cutter 335.25 - Insert RP..1605/RP..2006 – inch

Half side - Right hand - Radius profile with cassette

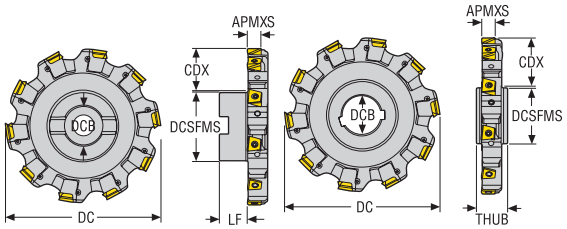


- For insert selection and cutting data recommendations, see page(s) 479-484
- For complete insert programme, see page(s) 820
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
R335.25-04.00-0911R-R8	02993952	Arbor	4.197	0.315	1.138	6	6	1.000	1.880	–	2.050	9200	2.200	RP..1605
R335.25-05.00-0911R-R8	02993955	Arbor	5.197	0.315	1.453	8	8	1.250	2.250	–	2.050	8200	3.310	RP..1605
335.25-05.00-0911R-R8	02993970	Arbor hole	5.197	0.315	1.414	8	8	1.500	2.250	0.750	0.691	8200	2.200	RP..1605
R335.25-06.00-0911R-R8	02993958	Arbor	6.197	0.315	1.703	10	10	1.500	2.750	–	2.050	7200	6.170	RP..1605
335.25-06.00-0911R-R8	02993973	Arbor hole	6.197	0.315	1.914	10	10	1.500	2.250	0.750	0.691	7200	3.090	RP..1605
R335.25-08.00-0911R-R8	02993961	Arbor	8.197	0.315	2.329	14	14	1.500	3.500	–	2.050	6500	8.160	RP..1605
335.25-08.00-0911R-R8	02993976	Arbor hole	8.197	0.315	2.539	14	14	2.000	3.000	0.750	0.691	6500	5.730	RP..1605
R335.25-10.00-XL0911R-R8	02993964	Arbor	10.197	0.315	2.519	16	16	2.500	5.120	–	2.050	5800	13.670	RP..1605
335.25-10.00-XL0911R-R8	02993979	Arbor hole	10.197	0.315	3.539	16	16	2.000	3.000	0.750	0.691	5800	9.260	RP..1605
R335.25-12.00-XL0911R-R8	02993967	Arbor	12.197	0.315	3.519	20	20	2.500	5.120	–	2.050	5200	18.080	RP..1605
335.25-12.00-XL0911R-R8	02993982	Arbor hole	12.197	0.315	4.579	20	20	2.000	3.000	0.750	0.691	5200	13.450	RP..1605
R335.25-10.00-XL1113R-R10	02993875	Arbor	10.197	0.394	2.519	16	16	2.500	5.120	–	2.060	4600	15.210	RP..2006
335.25-10.00-XL1113R-R10	02993902	Arbor hole	10.197	0.394	3.539	16	16	2.000	3.000	1.000	0.894	4600	11.460	RP..2006
R335.25-12.00-XL1113R-R10	02993879	Arbor	12.197	0.394	3.519	20	20	2.500	5.120	–	2.060	4100	20.720	RP..2006
335.25-12.00-XL1113R-R10	02993905	Arbor hole	12.197	0.394	4.539	20	20	2.000	3.000	1.000	0.894	4100	17.200	RP..2006

Max depth of cut 9-11,1 mm – Half side – Left hand with cassette

Cutter 335.25 - Insert XNHQ – Metric

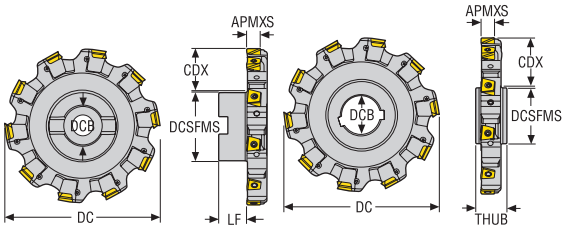


- For insert selection and cutting data recommendations, see page(s) 456-459
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm		mm	mm	mm	mm		kg	
R335.25-100.1317.27-6L	02993784	Arbor	100,0	8,5	24,8	6	27,0	48,0	–	50,0	9200	1,3	XNHQ09..
R335.25-125.1317.32-8L	02993787	Arbor	125,0	8,5	32,3	8	32,0	58,0	–	50,0	8200	1,4	XNHQ09..
335.25-125.1317.40-8L	02993802	Arbor hole	125,0	8,5	32,9	8	40,0	55,0	17,0	1,75	8200	0,9	XNHQ09..
R335.25-160.1317.40-12L	02993790	Arbor	160,0	8,5	43,8	12	40,0	70,0	–	50,0	7200	2,3	XNHQ09..
335.25-160.1317.40-12L	02993805	Arbor hole	160,0	8,5	50,5	12	40,0	55,0	17,0	1,75	7200	1,5	XNHQ09..
R335.25-200.1317.40-14L	02993793	Arbor	200,0	8,5	54,0	14	40,0	90,0	–	50,0	6500	3,5	XNHQ09..
335.25-200.1317.50-14L	02993808	Arbor hole	200,0	8,5	63,5	14	50,0	69,0	17,0	1,75	6500	3,1	XNHQ09..
R335.25-250.1317XL.60-16L	02993796	Arbor	250,0	8,5	59,0	16	60,0	130,0	–	50,0	5800	5,9	XNHQ09..
335.25-250.1317XL.50-16L	02993811	Arbor hole	250,0	8,5	88,5	16	50,0	69,0	17,0	1,75	5800	5,1	XNHQ09..
R335.25-315.1317XL.60-20L	02993799	Arbor	315,0	8,5	91,5	20	60,0	130,0	–	50,0	5200	8,5	XNHQ09..
335.25-315.1317XL.50-20L	02993814	Arbor hole	315,0	8,5	121,0	20	50,0	69,0	17,0	1,75	5200	6,5	XNHQ09..
R335.25-100.1721.27-6L	02993738	Arbor	100,0	11,0	24,8	6	27,0	48,0	–	50,0	7200	1,1	XNHQ12..
R335.25-125.1721.32-8L	02993741	Arbor	125,0	11,0	32,3	8	32,0	58,0	–	50,0	6500	1,9	XNHQ12..
335.25-125.1721.40-8L	02993762	Arbor hole	125,0	11,0	32,9	8	40,0	55,0	21,0	2,0	6500	1,4	XNHQ12..
R335.25-160.1721.40-10L	02993744	Arbor	160,0	11,0	43,8	10	40,0	70,0	–	50,0	5700	2,8	XNHQ12..
335.25-160.1721.40-10L	02993765	Arbor hole	160,0	11,0	50,5	10	40,0	55,0	21,0	2,0	5700	1,9	XNHQ12..
R335.25-200.1721.40-12L	02993747	Arbor	200,0	11,0	54,0	12	40,0	90,0	–	50,0	5100	4,5	XNHQ12..
335.25-200.1721.50-12L	02993768	Arbor hole	200,0	11,0	63,5	12	50,0	69,0	21,0	2,0	5100	4,5	XNHQ12..
R335.25-250.1721XL.60-16L	02993750	Arbor	250,0	11,0	59,0	16	60,0	130,0	–	50,0	4600	6,7	XNHQ12..
335.25-250.1721XL.50-16L	02993771	Arbor hole	250,0	11,0	88,5	16	50,0	69,0	21,0	2,0	4600	4,9	XNHQ12..
R335.25-315.1721XL.60-20L	02993753	Arbor	315,0	11,0	91,5	20	60,0	130,0	–	50,0	4100	10,0	XNHQ12..
335.25-315.1721XL.50-20L	02993774	Arbor hole	315,0	11,0	121,0	20	50,0	69,0	21,0	2,0	4100	8,1	XNHQ12..

Cutter 335.25 - Insert XNHQ/LNHQ – Metric

Max depth of cut 13-16 mm – Half side – Left hand with cassette

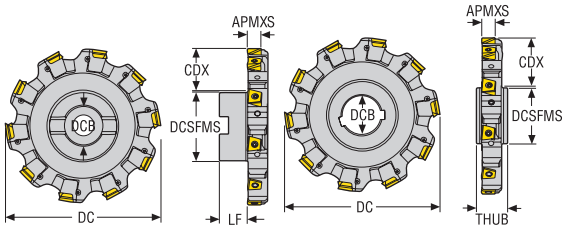


- For insert selection and cutting data recommendations, see page(s) 460-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			mm	mm	mm		mm	mm	mm	mm		kg		
R335.25-125.2126.32-8L	02814581	Arbor	125,0	13,0	32,3	8	32,0	58,0	–	29,0	4900	1,7	XNHQ1407...	LNHQ1407...
335.25-125.2126.40-8L	02814602	Arbor hole	125,0	13,0	32,7	8	40,0	55,0	32,0	5,5	4900	1,3	XNHQ1407...	LNHQ1407...
R335.25-160.2126.40-10L	02814585	Arbor	160,0	13,0	43,8	10	40,0	70,0	–	29,0	4400	2,9	XNHQ1407...	LNHQ1407...
335.25-160.2126.40-10L	02814606	Arbor hole	160,0	13,0	50,3	10	40,0	55,0	32,0	5,5	4400	2,3	XNHQ1407...	LNHQ1407...
R335.25-200.2126.40-12L	02814589	Arbor	200,0	13,0	54,0	12	40,0	90,0	–	29,0	3900	4,7	XNHQ1407...	LNHQ1407...
335.25-200.2126.50-12L	02814610	Arbor hole	200,0	13,0	63,3	12	50,0	69,0	32,0	5,5	3900	3,9	XNHQ1407...	LNHQ1407...
R335.25-250.2126XL.60-14L	02814593	Arbor	250,0	13,0	59,0	14	60,0	130,0	–	29,0	3500	7,3	XNHQ1407...	LNHQ1407...
335.25-250.2126XL.50-14L	02814614	Arbor hole	250,0	13,0	88,3	14	50,0	69,0	32,0	5,5	3500	6,0	XNHQ1407...	LNHQ1407...
R335.25-315.2126XL.60-18L	02814598	Arbor	315,0	13,0	91,5	18	60,0	130,0	–	29,0	3100	11,3	XNHQ1407...	LNHQ1407...
335.25-315.2126XL.60-18L	02814618	Arbor hole	315,0	13,0	113,3	18	60,0	84,0	32,0	5,5	3100	10,0	XNHQ1407...	LNHQ1407...
R335.25-160.2632.40-10L	02827414	Arbor	160,0	16,0	43,8	10	40,0	70,0	–	24,0	4600	3,4	XNHQ1707...	LNHQ1707...
335.25-160.2632.40-10L	02829068	Arbor hole	160,0	16,0	50,3	10	40,0	55,0	32,0	3,0	4600	2,9	XNHQ1707...	LNHQ1707...
R335.25-200.2632.40-12L	02827418	Arbor	200,0	16,0	54,0	12	40,0	90,0	–	24,0	4100	5,4	XNHQ1707...	LNHQ1707...
335.25-200.2632.50-12L	02827444	Arbor hole	200,0	16,0	63,3	12	50,0	69,0	32,0	3,0	4100	4,8	XNHQ1707...	LNHQ1707...
R335.25-250.2632XL.60-14L	02827422	Arbor	250,0	16,0	59,0	14	60,0	130,0	–	24,0	3700	8,4	XNHQ1707...	LNHQ1707...
335.25-250.2632XL.50-14L	02827448	Arbor hole	250,0	16,0	88,3	14	50,0	69,0	32,0	3,0	3700	8,5	XNHQ1707...	LNHQ1707...
R335.25-315.2632XL.60-18L	02827426	Arbor	315,0	16,0	91,5	18	60,0	130,0	–	24,0	3300	13,4	XNHQ1707...	LNHQ1707...
335.25-315.2632XL.60-18L	02827452	Arbor hole	315,0	16,0	113,3	18	60,0	84,0	32,0	3,0	3300	12,3	XNHQ1707...	LNHQ1707...

Max depth of cut 0.354-0.437” – Half side – Left hand with cassette

Cutter 335.25 - Insert XNHQ – inch

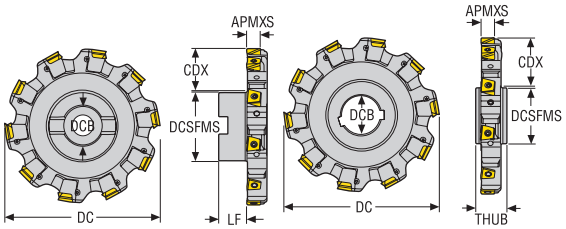


- For insert selection and cutting data recommendations, see page(s) 456-459
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch		inch	inch	inch	inch		lbs	
R335.25-04.00-0911L	02993910	Arbor	4.000	0.335	1.014	6	1.000	1.880	–	2.000	9200	2.200	XNHQ09
R335.25-05.00-0911L	02993914	Arbor	5.000	0.335	1.329	8	1.250	2.250	–	2.000	8200	3.310	XNHQ09
335.25-05.00-0911L	02993934	Arbor hole	5.000	0.335	1.289	8	1.500	2.250	0.750	0.109	8200	2.200	XNHQ09
R335.25-06.00-0911L	02993918	Arbor	6.000	0.335	1.579	10	1.500	2.750	–	2.000	7200	6.170	XNHQ09
335.25-06.00-0911L	02993938	Arbor hole	6.000	0.335	1.795	10	1.500	2.250	0.750	0.109	7200	3.090	XNHQ09
R335.25-08.00-0911L	02993922	Arbor	8.000	0.335	2.210	14	1.500	3.500	–	2.000	6500	8.160	XNHQ09
335.25-08.00-0911L	02993942	Arbor hole	8.000	0.335	2.420	14	2.000	3.000	0.750	0.109	6500	5.730	XNHQ09
R335.25-10.00-XL0911L	02993926	Arbor	10.000	0.335	2.400	16	2.500	5.120	–	2.000	5800	13.450	XNHQ09
335.25-10.00-XL0911L	02993946	Arbor hole	10.000	0.335	3.420	16	2.000	3.000	0.750	0.109	5800	9.040	XNHQ09
R335.25-12.00-XL0911L	02993930	Arbor	12.000	0.335	3.400	20	2.500	5.120	–	2.000	5200	17.860	XNHQ09
335.25-12.00-XL0911L	02993950	Arbor hole	12.000	0.335	4.460	20	2.000	3.000	0.750	0.109	5200	13.450	XNHQ09
R335.25-04.00-1113L	02993853	Arbor	4.000	0.433	1.014	6	1.000	1.880	–	2.000	7200	2.430	XNHQ12
R335.25-05.00-1113L	02993857	Arbor	5.000	0.433	1.329	8	1.250	2.250	–	2.000	6500	3.750	XNHQ12
335.25-05.00-1113L	02993884	Arbor hole	5.000	0.433	1.289	8	1.500	2.250	1.000	0.165	6500	2.650	XNHQ12
R335.25-06.00-1113L	02993861	Arbor	6.000	0.433	1.579	10	1.500	2.750	–	2.000	5700	6.830	XNHQ12
335.25-06.00-1113L	02993888	Arbor hole	6.000	0.433	1.795	10	1.500	2.250	1.000	0.165	5700	3.970	XNHQ12
R335.25-08.00-1113L	02993865	Arbor	8.000	0.433	2.210	12	1.500	3.500	–	2.000	5100	9.700	XNHQ12
335.25-08.00-1113L	02993892	Arbor hole	8.000	0.433	2.420	12	2.000	3.000	1.000	0.165	5100	7.500	XNHQ12
R335.25-10.00-XL1113L	02993869	Arbor	10.000	0.433	2.400	16	2.500	5.120	–	2.000	4600	15.210	XNHQ12
335.25-10.00-XL1113L	02993896	Arbor hole	10.000	0.433	3.420	16	2.000	3.000	1.000	0.165	4600	13.890	XNHQ12
R335.25-12.00-XL1113L	02993873	Arbor	12.000	0.433	3.400	20	2.500	5.120	–	2.000	4100	20.720	XNHQ12
335.25-12.00-XL1113L	02993900	Arbor hole	12.000	0.433	4.420	20	2.000	3.000	1.000	0.165	4100	16.980	XNHQ12

Cutter 335.25 - Insert XNHQ/LNHQ – inch

Max depth of cut 0.512-0.630” – Half side – Left hand with cassette

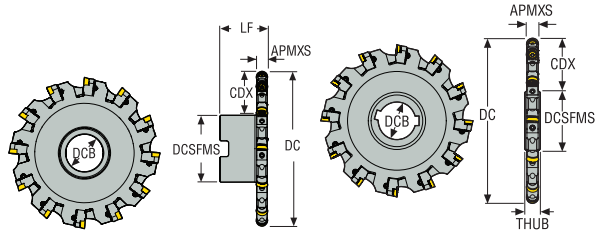


- For insert selection and cutting data recommendations, see page(s) 460-463
- For complete insert programme, see page(s) 841, 842
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert: First choice	Insert: Alternative choice
			inch	inch	inch		inch	inch	inch	inch		lbs		
R335.25-05.00-1316L	02814622	Arbor	5.000	0.512	1.327	8	1.250	2.250	–	1.173	4900	3.970	XNHQ14	LNHQ14
335.25-05.00-1316L	02814642	Arbor hole	5.000	0.512	1.291	8	1.500	2.250	1.250	0.212	4900	3.090	XNHQ14	LNHQ14
R335.25-06.00-1316L	02814626	Arbor	6.000	0.512	1.579	10	1.500	2.750	–	1.173	4500	5.950	XNHQ14	LNHQ14
335.25-06.00-1316L	02814646	Arbor hole	6.000	0.512	1.791	10	1.500	2.250	1.250	0.212	4500	4.850	XNHQ14	LNHQ14
R335.25-08.00-1316L	02814630	Arbor	8.000	0.512	2.209	12	1.500	3.500	–	1.173	3900	10.800	XNHQ14	LNHQ14
335.25-08.00-1316L	02814650	Arbor hole	8.000	0.512	2.413	12	2.000	3.000	1.250	0.212	3900	9.040	XNHQ14	LNHQ14
R335.25-10.00-XL1316L	02814634	Arbor	10.000	0.512	2.402	14	2.500	5.120	–	1.173	3500	16.530	XNHQ14	LNHQ14
335.25-10.00-XL1316L	02814654	Arbor hole	10.000	0.512	3.413	14	2.000	3.000	1.250	0.212	3500	13.890	XNHQ14	LNHQ14
R335.25-12.00-XL1316L	02814638	Arbor	12.000	0.512	3.402	18	2.500	5.120	–	1.173	3200	23.150	XNHQ14	LNHQ14
335.25-12.00-XL1316L	02814658	Arbor hole	12.000	0.512	4.413	18	2.000	3.000	1.250	0.212	3200	20.720	XNHQ14	LNHQ14
R335.25-06.00-1620L	02827716	Arbor	6.000	0.630	1.579	10	1.500	2.750	–	0.976	4700	6.830	XNHQ17	LNHQ17
335.25-06.00-1620L	02827739	Arbor hole	6.000	0.630	1.791	10	1.500	2.250	1.250	0.113	4700	5.730	XNHQ17	LNHQ17
R335.25-08.00-1620L	02827720	Arbor	8.000	0.630	2.209	12	1.500	3.500	–	0.976	4100	12.570	XNHQ17	LNHQ17
335.25-08.00-1620L	02827743	Arbor hole	8.000	0.630	2.413	12	2.000	3.000	1.250	0.113	4100	11.020	XNHQ17	LNHQ17
R335.25-10.00-XL1620L	02827724	Arbor	10.000	0.630	2.402	14	2.500	5.120	–	0.976	3600	18.740	XNHQ17	LNHQ17
335.25-10.00-XL1620L	02827747	Arbor hole	10.000	0.630	3.413	14	2.000	3.000	1.250	0.113	3600	19.400	XNHQ17	LNHQ17
R335.25-12.00-XL1620L	02827728	Arbor	12.000	0.630	3.402	18	2.500	5.120	–	0.976	3300	27.340	XNHQ17	LNHQ17
335.25-12.00-XL1620L	02827751	Arbor hole	12.000	0.630	4.413	18	2.000	3.000	1.250	0.113	3300	25.350	XNHQ17	LNHQ17

Half side - Left hand - Radius profile with cassette

Cutter 335.25 - Insert RP..1605/RP..2006 – Metric

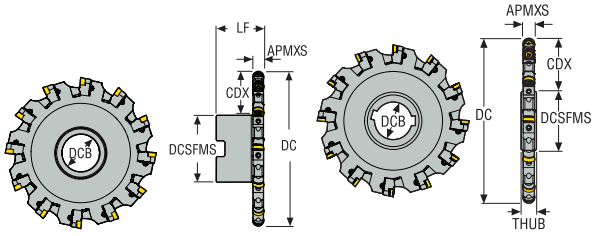


- For insert selection and cutting data recommendations, see page(s) 479-484
- For complete insert programme, see page(s) 820
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			mm	mm	mm			mm	mm	mm	mm		kg	
R335.25-100.1317.27-6L-R8	02993817	Arbor	105,0	8,0	28,0	6	6	27,0	48,0	–	51,265	9200	1,2	RP..1605
R335.25-125.1317.32-8L-R8	02993820	Arbor	130,0	8,0	35,5	8	8	32,0	58,0	–	51,265	8200	1,8	RP..1605
335.25-125.1317.40-8L-R8	02993835	Arbor hole	130,0	8,0	36,1	8	8	40,0	55,0	17,0	0,48	8200	0,9	RP..1605
R335.25-160.1317.40-12L-R8	02993823	Arbor	165,0	8,0	47,0	12	12	40,0	70,0	–	51,265	7200	2,3	RP..1605
335.25-160.1317.40-12L-R8	02993838	Arbor hole	165,0	8,0	53,6	12	12	40,0	55,0	17,0	0,48	7200	1,5	RP..1605
R335.25-200.1317.40-14L-R8	02993826	Arbor	205,0	8,0	57,0	14	14	40,0	90,0	–	51,265	6500	3,5	RP..1605
335.25-200.1317.50-14L-R8	02993841	Arbor hole	205,0	8,0	66,6	14	14	50,0	69,0	17,0	0,48	6500	3,8	RP..1605
R335.25-250.1317XL.60-16L-R8	02993829	Arbor	255,0	8,0	62,0	16	16	60,0	130,0	–	51,265	5800	6,1	RP..1605
335.25-250.1317XL.50-16L-R8	02993844	Arbor hole	255,0	8,0	91,6	16	16	50,0	69,0	17,0	0,48	5800	5,3	RP..1605
R335.25-315.1317XL.60-20L-R8	02993832	Arbor	320,0	8,0	94,5	20	20	60,0	130,0	–	51,265	5200	8,6	RP..1605
335.25-315.1317XL.50-20L-R8	02993847	Arbor hole	320,0	8,0	124,1	20	20	50,0	69,0	17,0	0,48	5200	6,5	RP..1605
R335.25-250.1721XL.60-16L-R10	02993756	Arbor	255,0	10,0	62,0	16	16	60,0	130,0	–	51,515	4600	6,7	RP..2006
335.25-250.1721XL.50-16L-R10	02993777	Arbor hole	255,0	10,0	91,6	16	16	50,0	69,0	21,0	0,48	4600	6,4	RP..2006
R335.25-315.1721XL.60-20L-R10	02993759	Arbor	320,0	10,0	94,5	20	20	60,0	130,0	–	51,515	4100	9,9	RP..2006
335.25-315.1721XL.50-20L-R10	02993780	Arbor hole	320,0	10,0	124,1	20	20	50,0	69,0	21,0	0,48	4100	8,2	RP..2006

Cutter 335.25 - Insert RP..1605/RP..2006 – inch

Half side - Left hand - Radius profile with cassette



- For insert selection and cutting data recommendations, see page(s) 479-484
- For complete insert programme, see page(s) 820
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	APMXS	CDX	ZEFP	ZNP	DCB	DCSFMS	THUB	LF	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
R335.25-04.00-0911L-R8	02993953	Arbor	4.197	0.315	1.138	6	6	1.000	1.880	–	2.050	9200	2.200	RP..1605
R335.25-05.00-0911L-R8	02993956	Arbor	5.197	0.315	1.453	8	8	1.250	2.250	–	2.050	8200	3.310	RP..1605
335.25-05.00-0911L-R8	02993971	Arbor hole	5.197	0.315	1.414	8	8	1.500	2.250	0.750	0.059	8200	2.200	RP..1605
R335.25-06.00-0911L-R8	02993959	Arbor	6.197	0.315	1.703	10	10	1.500	2.750	–	2.050	7200	4.850	RP..1605
335.25-06.00-0911L-R8	02993974	Arbor hole	6.197	0.315	1.914	10	10	1.500	2.250	0.750	0.059	7200	3.090	RP..1605
R335.25-08.00-0911L-R8	02993962	Arbor	8.197	0.315	2.329	14	14	1.500	3.500	–	2.050	6500	8.160	RP..1605
335.25-08.00-0911L-R8	02993977	Arbor hole	8.197	0.315	2.539	14	14	2.000	3.000	0.750	0.059	6500	18.080	RP..1605
R335.25-10.00-XL0911L-R8	02993965	Arbor	10.197	0.315	2.519	16	16	2.500	5.120	–	2.050	5800	13.670	RP..1605
335.25-10.00-XL0911L-R8	02993980	Arbor hole	10.197	0.315	3.539	16	16	2.000	3.000	0.750	0.059	5800	9.260	RP..1605
R335.25-12.00-XL0911L-R8	02993968	Arbor	12.197	0.315	3.519	20	20	2.500	5.120	–	2.050	5200	18.080	RP..1605
335.25-12.00-XL0911L-R8	02993983	Arbor hole	12.197	0.315	4.579	20	20	2.000	3.000	0.750	0.059	5200	13.670	RP..1605
R335.25-10.00-XL1113L-R10	02993877	Arbor	10.197	0.394	2.519	16	16	2.500	5.120	–	2.060	4600	15.210	RP..2006
335.25-10.00-XL1113L-R10	02993903	Arbor hole	10.197	0.394	3.539	16	16	2.000	3.000	1.000	0.106	4600	11.460	RP..2006
R335.25-12.00-XL1113L-R10	02993880	Arbor	12.197	0.394	3.519	20	20	2.500	5.120	–	2.060	4100	20.720	RP..2006
335.25-12.00-XL1113L-R10	02993906	Arbor hole	12.197	0.394	4.539	20	20	2.000	3.000	1.000	0.106	4100	17.200	RP..2006



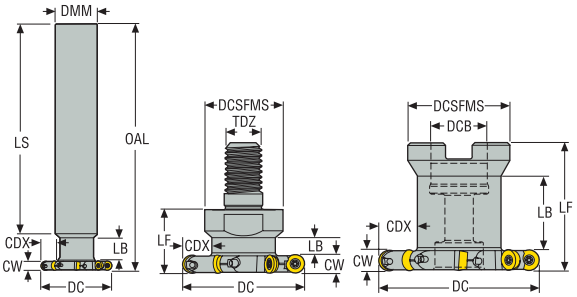
335.29

Free-cutting disc milling cutter system equipped with round inserts dedicated for slotting with full radius or 3D profiling operation

- Width of cut 5-12 mm (.236 - .394 inch)
- Cutter range diameter 25-80 mm (1.5 - 3.0 inch)
- Available with Cylindrical, Arbor, and Combimaster connection, with through coolant capability
- Economical solution with 4 cutting edges per insert

Cutter 335.29 - Round insert – Metric

Width 5/6/7/8/10/12 mm - full side - radius profile - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 464-478
- For complete insert programme, see page(s) 817, 819
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

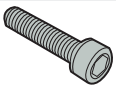
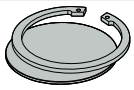
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	DMM	TDZ	DCB	DCSFMS	OAL	LF	LS	LB	RPMX	Weight	Insert
			mm	mm	mm		mm		mm	mm	mm	mm	mm	mm		kg	
R335.29-1225.0-05.4N-R25A	02628056	Cylindrical	25,0	5,0	6,9	4	12,0	–	–	–	110,0	–	94,0	10,0	44800	0,2	RD..0501
R335.29-1632.0-05.5N-R25A	02628063	Cylindrical	32,0	5,0	8,4	5	16,0	–	–	–	130,0	–	114,0	10,0	39600	0,3	RD..0501
R335.29-2040.0-05.6N-R25A	02628067	Cylindrical	40,0	5,0	10,4	6	20,0	–	–	–	140,0	–	124,0	10,0	35400	0,4	RD..0501
R335.29-2550.0-05.8N-R25A	02628071	Cylindrical	50,0	5,0	12,9	8	25,0	–	–	–	150,0	–	134,0	10,0	31700	0,6	RD..0501
R335.29-1225.0-06.4N-R3A	02628045	Cylindrical	25,0	6,0	6,9	4	12,0	–	–	–	110,0	–	93,0	10,0	20600	0,2	RD..06T1
R335.29-1632.0-06.5N-R3A	02628061	Cylindrical	32,0	6,0	8,4	5	16,0	–	–	–	130,0	–	113,0	10,0	18700	0,3	RD..06T1
R335.29-2040.0-06.6N-R3A	02628066	Cylindrical	40,0	6,0	10,4	6	20,0	–	–	–	140,0	–	123,0	10,0	16300	0,4	RD..06T1
R335.29-1240.RE-06.6N-R3A	02661227	Combimaster	40,0	6,0	10,0	6	–	M12	–	23,0	–	28,0	–	10,0	17600	0,2	RD..06T1
R335.29-2550.0-06.8N-R3A	02628069	Cylindrical	50,0	6,0	12,9	8	25,0	–	–	–	150,0	–	133,0	10,0	17300	0,6	RD..06T1
R335.29-1650.RE-06.8N-R3A	02661228	Combimaster	50,0	6,0	12,5	8	–	M16	–	30,0	–	28,0	–	9,0	17300	0,3	RD..06T1
R335.29-063.06.22-10N-R3A	02627922	Arbor	63,0	6,0	15,0	10	–	–	22,0	40,0	–	50,0	–	30,6	13900	0,4	RD..06T1
R335.29-1632.0-07.5N-R35A	02628060	Cylindrical	32,0	7,0	8,4	5	16,0	–	–	–	130,0	–	112,0	10,0	31600	0,2	RD..0702
R335.29-1240.RE-07.6N-R35A	02627979	Combimaster	40,0	7,0	10,0	6	–	M12	–	23,0	–	28,0	–	9,0	28200	0,2	RD..0702
R335.29-1650.RE-07.7N-R35A	02627984	Combimaster	50,0	7,0	12,5	7	–	M16	–	30,0	–	28,0	–	8,0	25300	0,2	RD..0702
R335.29-063.07.22-10N-R35A	02627950	Arbor	63,0	7,0	15,0	10	–	–	22,0	40,0	–	50,0	–	29,6	22500	0,4	RD..0702
R335.29-1632.0-08.4N-R4A	02628058	Cylindrical	32,0	8,0	8,4	4	16,0	–	–	–	130,0	–	111,0	10,0	23300	0,3	RD..08..
R335.29-2040.0-08.5N-R4A	02628064	Cylindrical	40,0	8,0	10,4	5	20,0	–	–	–	140,0	–	121,0	10,0	18800	0,4	RD..08..
R335.29-1240.RE-08.5N-R4A	02627978	Combimaster	40,0	8,0	10,0	5	–	M12	–	23,0	–	28,0	–	8,0	18800	0,2	RD..08..
R335.29-2550.0-08.6N-R4A	02628068	Cylindrical	50,0	8,0	12,9	6	25,0	–	–	–	150,0	–	131,0	10,0	17300	0,6	RD..08..
R335.29-1650.RE-08.6N-R4A	02661229	Combimaster	50,0	8,0	12,5	6	–	M16	–	30,0	–	28,0	–	7,0	17300	0,2	RD..08..
R335.29-063.08.22-8N-R4A	02661224	Arbor	63,0	8,0	15,0	8	–	–	22,0	40,0	–	50,0	–	28,6	15600	0,4	RD..08..
R335.29-080.08.27-10N-R4A	02627974	Arbor	80,0	8,0	20,0	10	–	–	27,0	48,0	–	50,0	–	26,8	13700	0,6	RD..08..
R335.29I-1650.RE-10.6N-R5A	03278721	Combimaster	50,0	10,0	12,34	3	–	M16	–	30,0	–	28,0	–	4,3	15800	0,3	RD..10T3
R335.29I-063.10.22-6N-R5A	03278719	Arbor	63,0	10,0	14,67	6	–	–	22,0	38,0	–	50,0	–	26,61	13500	0,4	RD..10T3
R335.29I-080.10.27-8N-R5A	03278720	Arbor	80,0	10,0	19,67	8	–	–	27,0	46,0	–	50,0	–	24,74	12000	0,6	RD..10T3
R335.29I-1650.RE-12.4N-R6A	02988077	Combimaster	50,0	12,0	12,5	2	–	M16	–	30,0	–	28,0	–	4,3	11200	0,2	RP..1204
R335.29I-063.12.22-6N-R6A	02988078	Arbor	63,0	12,0	15,0	6	–	–	22,0	40,0	–	50,0	–	24,6	10200	0,4	RP..1204
R335.29I-080.12.27-8N-R6A	02988079	Arbor	80,0	12,0	20,0	4	–	–	27,0	48,0	–	50,0	–	22,7	10000	0,6	RP..1204

R335.29I Disc Milling cutters offer indexing possibility - Indexing screw SX2035-T05P included in the delivery

Note: All cutters are equipped with central coolant channels, Arbor type are delivered with a lid kit to get central coolant capability

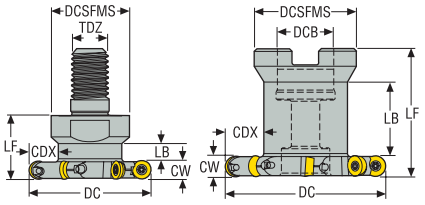
Spare Parts, included in delivery

Accessories

For cutter	Arbor screw	Coolant kit	Insert key	Insert screw	Key	Screw	Insert clamping torque	Torque key
								
R335.29 -R25A	–	–	H4B-T06P	C02053-T06P	–	–	0.5NM	T00-06P05
R335.29 .REXXX-R3A / .0-XXX-R3A	–	–	H4B-T07P	C02205-T07P	–	–	0.9NM	T00-07P09
R335.29 R3A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T07P	C02205-T07P	–	–	0.9NM	T00-07P09
R335.29 .REXXX-R35A / .0-XXX-R35A	–	–	H4B-T07P	C02545-T07P	–	–	0.9NM	T00-07P09
R335.29 R35A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T07P	C02545-T07P	–	–	0.9NM	T00-07P09
R335.29 .REXXX-R4A / .0-XXX-R4A	–	–	H4B-T08P	C02506-T08P	–	–	1.2NM	T00-08P12
R335.29 R4A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T08P	C02506-T08P	–	–	1.2NM	T00-08P12
R335.29 R4A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T08P	C02506-T08P	–	–	1.2NM	T00-08P12
R335.29 .REXXX-R5A / .0-XXX-R5A	–	–	H4B-T09P	C03007-T09P	–	–	2.0NM	T00-09P20
R335.29 R5A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T09P	C03007-T09P	–	–	2.0NM	T00-09P20
R335.29 R5A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T09P	C03007-T09P	–	–	2.0NM	T00-09P20
R335.29 .REXXX-R5A / .0-XXX-R5A	–	–	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P	3.0NM	T00-15P30
R335.29 R6A DCB=22	MC6S10X40	LUBRICATION_SET_19	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P	3.0NM	T00-15P30
R335.29 R6A DCB=27	MC6S12X35	LUBRICATION_SET_29	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P	3.0NM	T00-15P30

Cutter 335.29 - Round insert – inch

Width 0.236/0.315/0.394” - full side - radius profile - Fixed pocket



- For insert selection and cutting data recommendations, see page(s) 466-467, 470-475
- For complete insert programme, see page(s) 817
- For spare parts and technical information, see page 447-453
- For ISO attribute explanation, see page 16

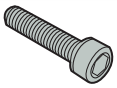
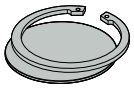
Designation	Item number	Type of mounting	DC	CW	CDX	ZEFP	TDZ	DCB	DCSFMS	LF	LB	RPMX	Weight	Insert
			inch	inch	inch			inch	inch	inch	inch		lbs	
R335.29-1.50-12RE-6N-R3	02477694	Combimaster	1.500	0.236	0.297	6	M12	–	0.906	1.102	–	33700	0.440	RD..06T1
R335.29-2.00-16RE-8N-R3	02477702	Combimaster	2.000	0.236	0.409	8	M16	–	1.181	1.102	–	30200	0.660	RD..06T1
R335.29-2.00-16RE-6N-R4	02477709	Combimaster	2.000	0.315	0.409	6	M16	–	1.181	1.102	–	20200	0.660	RD..08
R335.29I-02.50-6N-R5A	03278722	Arbor	2.500	0.394	0.587	6	–	0.750	1.501	1.998	1.075	13500	1.100	RD..10T3
R335.29I-03.00-8N-R5A	03278723	Arbor	3.000	0.394	0.700	8	–	1.000	1.803	2.000	1.052	12000	1.320	RD..10T3

R335.29I Disc Milling cutters offer indexing possibility

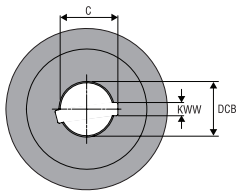
Note: All cutters are equipped with central coolant channels, Arbor type are delivered with a lid kit to get central coolant capability

Spare Parts, included in delivery

Accessories

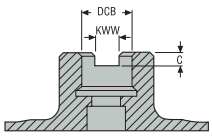
For cutter	Arbor screw	Coolant kit	Insert key	Insert screw	Insert clamping torque	Torque key
						
R335.29 RE- R3	–	–	H4B-T07P	C02205-T07P	8.0IN.LBS	T00-07P09
R335.29 RE- R4	–	–	H4B-T08P	C02506-T08P	10.6IN.LBS	T00-08P12
R335.29I -R5A DCB=0.750	UC6S3/8UNFX11/2	LUBRICATION_SET_19	H4B-T09P	C03007-T09P	17.7IN.LBS	T00-09P20
R335.29I -R5A DCB=1.000	UC6S1/2UNFX1-1/2	LUBRICATION_SET_29	H4B-T09P	C03007-T09P	17.7IN.LBS	T00-09P20

335.18 and 335.25 – Keyway for Arbor hole type and Arbor cutter



Dimensions in mm		
DCB	KWW	C
22	6	24,15
27	7	29,9
40	10	43,6
50	12	53,6
60	14	64,3

Dimensions in inch		
DCB	KWW	C
1.00	*0.250*	*1.110*
1.25	*0.312*	*1.393*
1.50	*0.375*	*1.673*
2.00	*0.500*	*2.198*



Dimensions in mm		
DCB	KWW	C
16	8,4	5,6
22	10,4	6,3
27	12,4	7
32	14,4	8
40	16,4	9

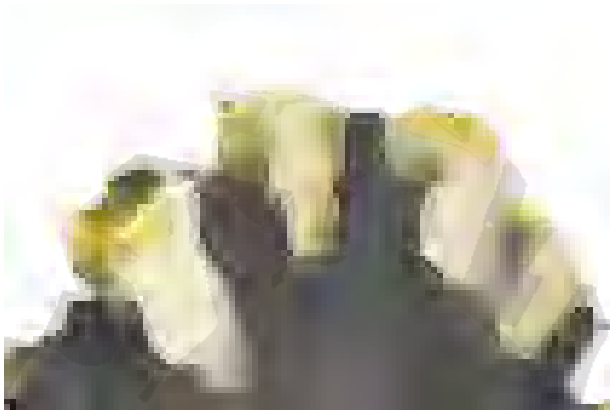
Dimensions in inch		
DCB	KWW	C
0.75	*0.32*	*0.19*
1.00	*0.38*	*0.22*
1.25	*0.51*	*0.28*
1.50	*0.63*	*0.38*

Retaining screw Arbor type cutter: R335.18 / R335.25 (supplied with the cutter in the delivery) - Metric/Inch

For cutter dia – metric	Cutter 335.18 adj. "0810", "1012", "1215" series – metric	Cutter 335.25 - adjustable – metric	For cutter dia – Inch	Cutter 335.25 - adjustable – Inch
63	MC6S 10x40	-	*2.50*	-
80	MC6S 12x40	-	*3.00*	*MLC6S10X45*
100	MC6S 12x40	MC6S12X40	*4.00*	*UC6S1/2UNFX1-1/2*
125	-	MC6S16X40	*5.00*	*ULC6S5/8UNFX11/2*
160	-	MLC6S20X40	*6.00*	*ULC6S3/4UNFX1-1/2*

Note: For disc cutter not mentioned in the tables, please use cross head retaining screw, supplied with the Seco Tooling System shell mill holder

To order a standard adjustable disc milling cutter set at a specific width:



To obtain an adjustable disc mill set to your required dimension add "/ADJ" at the end of the reference and specify your required width which will be set with a tolerance of +/- 0,03 mm (+/- .001"). Without specification the standard disc mill is set to the minimum cutting width.

Ordering example: R335.25-200.1317.40-7N/ADJ and specify on your order your width to any value within its range, for example specify a cutting width of 15.50mm in your order. The disc mill will be set to 15.50 +/- 0,03 mm (0.610" +/- .001").

The delivery time is approx. 3 days for a set adjustable disc mill.

(R)335.18 – LNK inserts



LNK.05
For width 8-10, .312"-.375"



LNK.06
For width 10-12, .625"



LNK.08
For width 12-15, 500"-.750"

LNK.06 and LNK.08 have the same size, but LNK.06 have a reduced cutting length (6mm, .250") to decrease cutting forces for width= 10-12 mm, .394"-.472". LNK.08 have a cutting length = 7,5 mm, .295" for width 12-15 mm, .500"-.750".

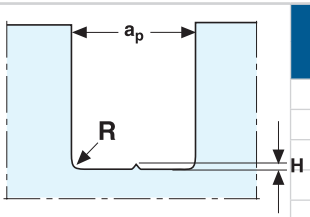
Radius possibilities/Number of cutting edges

	Insert	R	Fixed pocket version: CW =						Adjustable version: CW =				R	Fixed pocket version: CW inch =				Adjustable version: CW inch =			
			8	10	12	14	17	20	8	10	12	15		0.312/ 0.375	0.500	0.625	0.750	0.313	0.394	0.472	0.591
4 cutting edges																					
	LNK.050404	0,4	x	x					x	x			.016	x				x	x		
	LNK.050408	0,8	x	x					x	x			.031	x				x	x		
	LNK.050416	1,6	x	x					x	x			.063	x				x	x		
	LNK.050420	2,0	x	x					x	x			.079	x				x	x		
	LNK.060504	0,4		x	x		x			x	x		.016			x			x	x	
	LNK.060508	0,8		x	x		x			x	x		.031			x			x	x	
	LNK.060516	1,6		x	x		x			x	x		.063			x			x	x	
	LNK.080504	0,4		o	o	x	o	x		o	o	x	.016		x	o	x		o	o	x
	LNK.080508	0,8		o	o	x	o	x		o	o	x	.031		x	o	x		o	o	x
	LNK.080516	1,6		o	o	x	o	x		o	o	x	.063		x	o	x		o	o	x
	LNK.080520	2,0		x	x	x	x	x		x	x	x	.079		x	x	x		x	x	x
	LNK.080524	2,4		x	x	x	x	x		x	x	x	.094		x	x	x		x	x	x
2 cutting edges																					
	LNK.050424	2,4	x	x					x	x			.094	x				x	x		
	LNK.060531	3,1		x	x		x			x	x		.122			x			x	x	
	LNK.080531	3,1			o	x	o	x			o	x	.122		x	o	x			o	x
1 cutting edge (L and R insert)																					
	LNK.050431...C*	3,1	x						x				.122	x				x	x		
	LNK.050431*	3,1		x						x			.157			x			x	x	
	LNK.060540	4,0		x	x		x			x	x		.157		x	o	x			o	x
	LNK.080540	4,0			o	x	o	x			o	x									

*LNK.0504031...C is the first choice for CW = 8 to 9mm and LNK.0504031 is the first choice for CW= 9 to 10mm

x = First choice o = Alternative choice

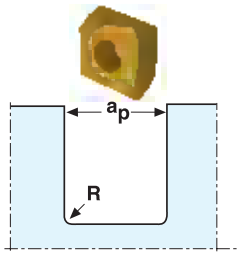
Width and profile generated with LNK.06/08 radii R1,6/R2,0 and R2,4



a_p (mm)	H (mm)		a_p (in)	H (in)	
	Radius 1,6	Radii 2 and 2,4		Radius .063	Radii .079 and .095
13,4	–	0	*.518*	–	0
14	–	0,03	*.551*	–	*.001*
14,2	0	0,07	*.559*	*0*	*.003*
14,5	0,01	0,13	*.570*	*.0004*	*.005*
15	0,1	0,3	*.591*	*.004*	*.012*

(R)335.25 – LNHQ/XNHQ inserts

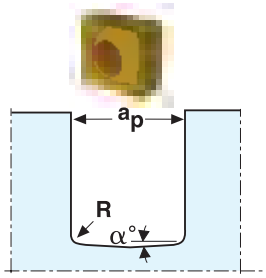
Width and profile generated by XNHQ insert with fixed pocket cutter for a_p = 15/20/25mm, a_p = 0.75", 1.00"



Insert corner radius	a_p = 15mm	a_p = 20mm	a_p = 25mm
0,4	15	20	25
0,8	15	20	25
1,2	15	20	25
1,6	15	20	25
2	15	20	25
2,4	15	20	25
3,1	14,86	20	25
4	14,6	19,78	25
5	–	19,46	24,73
6	–	–	24,46

Insert corner radius	a_p = 0.75"	a_p = 1.00"
0.016	0.75	1.00
0.032	0.75	1.00
0.047	0.75	1.00
0.063	0.75	1.00
0.079	0.75	1.00
0.094	0.75	1.00
0.122	0.75	1.00
0.157	0.741	1.00
0.197	0.729	0.989
0.236	–	0.979

Width and profile generated by LNHQ* insert with fixed pocket cutter for a_p = 25mm, a_p = 1.00"

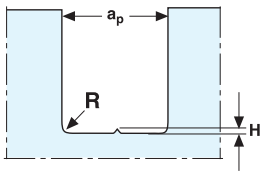


Insert corner radius mm	a_p mm generated	angle α°
0,8	25,17	2
3,1	25,02	2
4	24,92	2
5	24,78	2
6	24,64	2

Insert corner radius inch	a_p inch generated	angle α°
0.0315	1.007	2
0.122	1.001	2
0.157	0.997	2
0.197	0.992	2
0.236	0.986	2

*LNHQ is an insert intended for roughing in difficult conditions (this will not generate a flat bottom).

Width and profile generated with XNHQ 14 and 17 insert, radii 5 and 6 mm, radii 0.197" and 0.236" with adjustable cutter

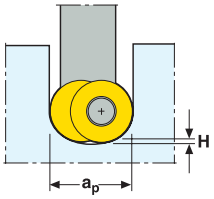


Width cutter	a_p mm	H (mm)	
		Radius 5	Radius 6
21-26	25,5	0	0
21-26	25,8	0	0,01
21-26	26,0	0,01	0,03
26-32	31,7	0	0
26-32	32,0	0	0,01

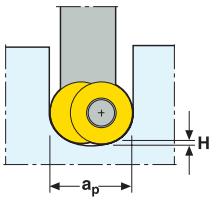
Width cutter	a_p inch	H (inch)	
		Radius 0.197"	Radius 0.236"
0.83-1.02	1.004	0	0
0.83-1.02	1.016	0	.0004
0.83-1.02	1.024	.0004	.0011
1.02-1.26	1.248	0	0
1.02-1.26	1.260	0	.0004

Profile machined with adjustable 335.18/335.25 cutter

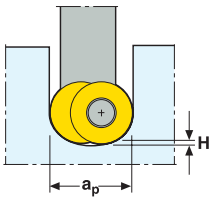
335.18/335.25 cutter equipped with round inserts mm/inch



	Round 8		Round 8		Round 10		Round 10	
	a_p mm	Profile height H mm	a_p inch	Profile height H inch	a_p mm	Profile height H mm	a_p inch	Profile height H inch
a_p min	8,03	0	.316	0	10,03	0	.406	0
a_p max	8,50	0	.335	0	10,50	0	.413	0
	9,00	0,03	.354	.001	11,00	0,025	.433	.001
	9,50	0,07	.374	.003	11,50	0,060	.453	.002
	10,00	0,13	.394	.005	12,00	0,100	.472	.004
	Recom. min setting width is 8,03 mm		Recom. min setting width is .316 inch		Recom. min setting width is 10,03 mm		Recom. min setting width is .406 inch	



	Round 12		Round 12		Round 16		Round 16	
	a_p mm	Profile height H mm	a_p mm	Profile height H mm	a_p mm	Profile height H mm	a_p inch	Profile height H inch
a_p min	12,03	0	.474	0	16,03	0	.631	0
a_p max	12,50	0,01	.492	.0004	16,50	0	.650	0
	13,00	0,02	.512	.001	17,00	0,02	.669	.001
	14,00	0,08	.551	.002			.709	.002
	15,00	0,19	.591	.007			.728	.004
	Recom. min setting width is 12,03 mm		Recom. min setting width is .474 inch		Recom. min setting width is 16,03 mm		Recom. min setting width is .631 inch	



	Round 20		Round 20	
	a_p mm	Profile height H mm	a_p mm	Profile height H mm
a_p min	20,03	0	0,789	0,0000
a_p max	20,5	0,01	0,807	0,0004
	21	0,02	0,827	0,0008
	Recom. min setting width is 20,03 mm		Recom. min setting width is 0,789 inch	

Spare parts

(R)335.18 -LNK and round insert - Adjustable design - Metric

(R)335.18-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.18-...	Cassettes L335.18-...
										
0810	LN.K05...	C02508-T08P/1,2	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810-05	...0810-05
0810XL	LN.K05...	C02508-T08P/1,2	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810XL-05	...0810XL-05
0810	RD..08..	C02506-T08P/1,2	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08-R4	N335.18-08-R4
0810XL	RD..08..	C02506-T08P/1,2	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08XL-R4	N335.18-08XL-R4
1012	LNK.06..	C73007-T09P/2,0	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012-06	...1012-06
1012XL	LNK.06..	C73007-T09P/2,0	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012XL-06	...1012XL-06
1012	RD..10T3	C03007-T09P/2,0	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10-R5I	...10-R5I
1012XL	RD..10T3	C03007-T09P/2,0	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10XL-R5I	...10XL-R5I
1215	LNK08..	C73007-T09P/2,0	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215-08	...1215-08
1215XL	LNK08..	C73007-T09P/2,0	H4B-T09P	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215XL-08	...1215XL-08
1215	RP..12..	C03508-T15P/3,0	H6B-T15PL	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12-R6	...12-R6
1215XL	RP..12..	C03508-T15P/3,0	H6B-T15PL	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12XL-R6	...12XL-R6

Torque and fixed keys, see page 872

(R)335.18 -LNK and round insert - Adjustable design - Inch

(R)335.18-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.18-...	Cassettes L335.18-...
										
0506	LN.K05...	C02508-T08P 10.6	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810-05	...0810-05
XL0506	LN.K05...	C02508-T08P 10.6	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	...0810XL-05	...0810XL-05
0506	RD..08..	C02508-T08P 10.6	H4B-T08P	335.18-607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08-R4	N335.18-08-R4
XL0506	RD..08..	C02508-T08P 10.6	H4B-T08P	335.18-XL607	LD5018F-T15P	H6B-T15PL	SH6004-T08P	H4B-T08P	N335.18-08XL-R4	N335.18-08XL-R4
0708	LNK.06..	C73007-T09P 17.7	H4B-T08P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012-06	...1012-06
XL0708	LNK.06..	C73007-T09P 17.7	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1012XL-06	...1012XL-06
0708	RD..10T3	C73007-T09P 17.7	H4B-T09P	335.18-609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10-R5	...10-R5
XL0708	RD..10T3	C73007-T09P 17.7	H4B-T09P	335.18-XL609	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...10XL-R5	...10XL-R5
0809	LNK08..	C73007-T09P 17.7	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215-08	...1215-08
XL0809	LNK08..	C73007-T09P 17.7	H4B-T09P	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...1215XL-08	...1215XL-08
0809	RP..12..	C03508-T15P 26.6	H4B-T09P	335.18-611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12-R6	...12-R6
XL0809	RP..12..	C03508-T15P 26.6	H6B-T15PL	335.18-XL611	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...12XL-R6	...12XL-R6

Torque and fixed keys, see page 872

Spare parts

For adjustable cutter (R)335.25 equipped with XHNQ/LNHQ inserts - Metric

(R)335.25-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
1317	XNHQ09	C03509-T10P/3	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317-09*	1317-09*
1317XL	XNHQ09	C03509-T10P/3	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317XL-09	1317XL-09
1721	XNHQ12	C03511-T10P/3	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721-12**	1721-12**
1721XL	XNHQ12	C03511-T10P/3	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721XL-12	1721XL-12
2126	XNHQ14 / LNHQ14	C04013-T15P/5	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126-14***	2126-14***
2126XL	XNHQ14 / LNHQ14	C04013-T15P/5	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126XL-14	2126XL-14
2632	XNHQ17 / LNHQ17	C05013-T20P/5	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632-17****	2632-17****
2632XL	XNHQ17 / LNHQ17	C05013-T20P/5	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632XL-17	2632XL-17

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 14 to 17 mm, generating nominal “DC” diameter
**Cassette compatible with adjustable disc milling cutter x335.18-xxx-1924 series to generate width of cut from 18.5 to 21 mm, generating nominal “DC” diameter
***Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 24,3 to 26 mm, generating nominal “DC” diameter
**** Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 26 to 30,5 mm, generating nominal “DC” diameter

For adjustable cutter (R)335.25 equipped with round insert dia 16 and 20mm - Metric

(R)335.25-xxx-	Insert type	Insert screw/Nm	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
1317	RP..1605	C05010-T20P / 5	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16-R8I-D5*	...16-R8I-D5*
1317XL	RP..1605	C05010-T20P / 5	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16XL-R8I-D5	...16XL-R8I-D5
1721XL	RP..2006	C05013-T20P / 5	H6B-T20P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...20XL-R10-D5	...20XL-R10-D5

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 16 to 18,5 mm, generating nominal “DC” diameter +5mm

Spare parts

Spare parts for adjustable cutter (R)335.25 equipped with XHNQ/LNHQ inserts - Inch

(R)335.25-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
0911	XNHQ09	C03509-T10P/26.5	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317-09*	1317-09*
XL0911	XNHQ09	C03509-T10P/26.5	H4B-T10P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1317XL-09	1317XL-09
1113	XNHQ12	C03511-T10P/26.5	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721-12**	1721-12**
XL1113	XNHQ12	C03511-T10P/26.5	H4B-T10P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	1721XL-12	1721XL-12
1316	XNHQ14 / LNHQ14	C04013-T15P/44	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126-14***	2126-14***
XL1316	XNHQ14 / LNHQ14	C04013-T15P/44	H4B-T15P	335.25-620	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2126XL-14	2126XL-14
1620	XNHQ17 / LNHQ17	C05013-T20P/44	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632-17****	2632-17****
XL1620	XNHQ17 / LNHQ17	C05013-T20P/44	H6B-T20P	335.25-625	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	2632XL-17	2632XL-17

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 14 to 17 mm, generating nominal “DC” diameter
**Cassette compatible with adjustable disc milling cutter x335.18-xxx-1924 series to generate width of cut from 18.5 to 21 mm, generating nominal “DC” diameter
***Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 24,3 to 26 mm, generating nominal “DC” diameter
**** Cassette compatible with adjustable disc milling cutter x335.18-xxx-2530 series to generate width of cut from 26 to 30,5 mm, generating nominal “DC” diameter

Spare parts for adjustable cutter (R)335.25 equipped with round insert dia 16 and 20mm - Inch

(R)335.25-xxx-	Insert type	Insert screw/in. lbs	Insert key	Wedge	Wedge screw	Key for wedge screw	Adjusting screw	Key for adjusting screw	Cassettes R335.25-...	Cassettes L335.25-...
										
0911	RP..1605	C05010-T20P/44.3	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16-R8I-D5*	...16-R8I-D5*
XL0911	RP..1605	C05010-T20P/44.3	H6B-T20P	335.25-612	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...16XL-R8I-D5	...16XL-R8I-D5
XL1113	RP..2006	C05010-T20P/44.3	H6B-T20P	335.25-616	LD6018F-T20P	H6B-T20PL	SH6005-T09P	H4B-T09P	...20XL-R10-D5	...20XL-R10-D5

*Cassette compatible with adjustable disc milling cutter x335.18-xxx-1418 series to generate width of cut from 16 to 18,5 mm, generating nominal “DC” diameter +5mm

335.18-LNK – Insert selection – mm/*Inch*

SMG				f_z		
				30%	20%	10%
P1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
P3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
P4	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
P5	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P6	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P7	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P8	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
P11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
P12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
M1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
M2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
M3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
M4	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
M5	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
K1	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
K2	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K3	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K4	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K5	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
K6	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K7	LNKT05...-M06 MP3000	LNKT06...-M06 MK2050	*LNKT08...-M06 MK2050*	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
N1	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N2	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N3	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N11	LNKT05...-E05 H25	LNKT06...-E05 H25	*LNKT08...-E05 H25*	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
S1	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S2	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S3	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,075 *0.0030*	0,085 *0.0034*	0,11 *0.0044*
S11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S13	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
H5	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
H8	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*
H11	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
H12	LNKT05...-M06 F40M	LNKT06...-M06 F40M	*LNKT08...-M06 F40M*	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*
H21	LNKT05...-M06 MP3000	LNKT06...-M06 MP3000	*LNKT08...-M06 MP3000*	0,060 *0.0024*	0,070 *0.0028*	0,090 *0.0036*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18-LNK – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			F40M			H25			MK1500			MP2501			MP3501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	245 *800*	260 *850*	285 *940*	235 *770*	250 *820*	275 *900*	185 *610*	200 *660*	220 *720*	— —	— —	— —	— —	— —	— —	325 *1075*	335 *1100*	360 *1175*	290 *950*	305 *1000*	325 *1075*
P2	235 *770*	250 *820*	275 *900*	225 *740*	240 *790*	265 *870*	180 *590*	195 *640*	215 *710*	— —	— —	— —	— —	— —	— —	315 *1025*	330 *1075*	350 *1150*	285 *940*	295 *970*	315 *1025*
P3	205 *670*	215 *710*	240 *790*	195 *640*	210 *690*	235 *770*	155 *510*	165 *540*	185 *610*	— —	— —	— —	— —	— —	— —	270 *890*	285 *940*	305 *1000*	245 *800*	255 *840*	275 *900*
P4	180 *590*	195 *640*	215 *710*	170 *560*	185 *610*	205 *670*	140 *460*	150 *490*	165 *540*	— —	— —	— —	— —	— —	— —	240 *790*	250 *820*	270 *890*	215 *710*	225 *740*	240 *790*
P5	175 *570*	185 *610*	205 *670*	170 *560*	180 *590*	200 *660*	135 *445*	145 *475*	160 *520*	— —	— —	— —	— —	— —	— —	230 *750*	240 *790*	260 *850*	210 *690*	215 *710*	235 *770*
P6	195 *640*	210 *690*	230 *750*	190 *620*	200 *660*	225 *740*	150 *490*	160 *520*	180 *590*	— —	— —	— —	— —	— —	— —	260 *850*	270 *890*	290 *950*	235 *770*	245 *800*	260 *850*
P7	185 *610*	195 *640*	220 *720*	180 *590*	190 *620*	210 *690*	140 *460*	150 *490*	170 *560*	— —	— —	— —	— —	— —	— —	245 *800*	255 *840*	275 *900*	220 *720*	230 *750*	250 *820*
P8	170 *560*	180 *590*	205 *670*	165 *540*	175 *570*	195 *640*	130 *425*	140 *460*	155 *510*	— —	— —	— —	— —	— —	— —	225 *740*	240 *790*	255 *840*	205 *670*	215 *710*	230 *750*
P11	180 *590*	190 *620*	210 *690*	175 *570*	185 *610*	205 *670*	140 *460*	145 *475*	165 *540*	— —	— —	— —	— —	— —	— —	240 *790*	250 *820*	265 *870*	215 *710*	225 *740*	240 *790*
P12	115 *375*	125 *410*	135 *445*	110 *360*	120 *395*	130 *425*	90 *295*	95 *310*	105 *345*	— —	— —	— —	— —	— —	— —	150 *490*	155 *510*	165 *540*	135 *445*	140 *460*	150 *490*
M1	— —	— —	— —	170 *560*	180 *590*	200 *660*	145 *475*	155 *510*	170 *560*	— —	— —	— —	— —	— —	— —	175 *570*	185 *610*	205 *670*	160 *520*	170 *560*	190 *620*
M2	— —	— —	— —	140 *460*	150 *490*	165 *540*	120 *395*	130 *425*	145 *475*	— —	— —	— —	— —	— —	— —	145 *475*	150 *490*	170 *560*	135 *445*	140 *460*	155 *510*
M3	— —	— —	— —	110 *360*	120 *395*	130 *425*	95 *310*	105 *345*	115 *375*	— —	— —	— —	— —	— —	— —	115 *375*	125 *410*	135 *445*	105 *345*	115 *375*	125 *410*
M4	— —	— —	— —	85 *280*	95 *310*	105 *345*	75 *245*	80 *260*	90 *295*	— —	— —	— —	— —	— —	— —	90 *295*	95 *310*	105 *345*	80 *260*	90 *295*	95 *310*
M5	— —	— —	— —	70 *230*	80 *260*	85 *280*	60 *195*	65 *215*	75 *245*	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	85 *280*	70 *230*	75 *245*	80 *260*
K1	255 *840*	270 *890*	300 *980*	150 *490*	160 *520*	175 *570*	145 *475*	155 *510*	170 *560*	— —	— —	— —	270 *890*	285 *940*	315 *1025*	315 *1025*	330 *1075*	355 *1175*	285 *940*	300 *980*	320 *1050*
K2	225 *740*	240 *790*	265 *870*	135 *445*	140 *460*	160 *520*	130 *425*	135 *445*	150 *490*	— —	— —	— —	240 *790*	255 *840*	280 *920*	280 *920*	290 *950*	315 *1025*	250 *820*	260 *850*	285 *940*
K3	190 *620*	205 *670*	225 *740*	115 *375*	120 *395*	135 *445*	110 *360*	115 *375*	130 *425*	— —	— —	— —	200 *660*	215 *710*	240 *790*	235 *770*	245 *800*	265 *870*	215 *710*	220 *720*	240 *790*
K4	185 *610*	195 *640*	215 *710*	110 *360*	115 *375*	130 *425*	105 *345*	110 *360*	120 *395*	— —	— —	— —	195 *640*	205 *670*	230 *750*	225 *740*	235 *770*	255 *840*	205 *670*	210 *690*	230 *750*
K5	110 *360*	120 *395*	130 *425*	65 *215*	70 *230*	75 *245*	65 *215*	65 *215*	75 *245*	— —	— —	— —	120 *395*	125 *410*	135 *445*	135 *445*	140 *460*	150 *490*	125 *410*	130 *425*	135 *445*
K6	160 *520*	170 *560*	190 *620*	95 *310*	100 *330*	115 *375*	90 *295*	95 *310*	105 *345*	— —	— —	— —	170 *560*	180 *590*	200 *660*	200 *660*	205 *670*	225 *740*	180 *590*	185 *610*	200 *660*
K7	140 *460*	150 *490*	165 *540*	85 *280*	90 *295*	100 *330*	80 *260*	85 *280*	95 *310*	— —	— —	— —	150 *490*	160 *520*	175 *570*	175 *570*	180 *590*	195 *640*	160 *520*	165 *540*	175 *570*
N1	— —	— —	— —	1325 *4350*	1425 *4675*	1575 *5175*	1050 *3450*	1125 *3700*	1250 *4100*	1100 *3600*	1175 *3850*	1275 *4175*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	530 *1750*	570 *1875*	630 *2075*	425 *1400*	460 *1500*	510 *1675*	440 *1450*	470 *1550*	520 *1700*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	355 *1175*	380 *1250*	425 *1400*	285 *940*	305 *1000*	340 *1125*	295 *970*	315 *1025*	345 *1125*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	405 *1325*	435 *1425*	485 *1600*	325 *1075*	350 *1150*	385 *1275*	335 *1100*	360 *1175*	395 *1300*	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	40 *130*	43 *140*	48 *155*	35 *115*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —	— —	— —	— —	27 *90*	29 *95*	32 *105*
S2	— —	— —	— —	33 *110*	35 *115*	39 *130*	28 *90*	30 *100*	33 *110*	— —	— —	— —	— —	— —	— —	— —	— —	— —	22 *70*	23 *75*	26 *85*
S3	— —	— —	— —	28 *90*	30 *100*	34 *110*	25 *80*	26 *85*	29 *95*	— —	— —	— —	— —	— —	— —	— —	— —	— —	27 *90*	29 *95*	32 *105*
S11	— —	— —	— —	55 *180*	60 *195*	65 *215*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*
S12	— —	— —	— —	48 *155*	50 *165*	55 *180*	41 *135*	44 *145*	48 *155*	— —	— —	— —	— —	— —	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*
S13	— —	— —	— —	28 *90*	30 *100*	33 *110*	24 *80*	26 *85*	28 *90*	— —	— —	— —	— —	— —	— —	— —	— —	— —	22 *70*	23 *75*	26 *85*
H5	— —	— —	— —	31 *100*	33 *110*	36 *120*	30 *100*	31 *100*	35 *115*	— —	— —	— —	— —	— —	— —	— —	— —	— —	34 *110*	36 *120*	40 *130*
H8	— —	— —	— —	33 *110*	35 *115*	39 *130*	31 *100*	33 *110*	37 *120*	— —	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*
H11	— —	— —	— —	40 *130*	42 *140*	46 *150*	38 *125*	40 *130*	44 *145*	— —	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	46 *150*	50 *165*
H12	— —	— —	— —	38 *125*	40 *130*	45 *150*	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —	— —	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*
H21	— —	— —	— —	33 *110*	35 *115*	39 *130*	31 *100*	33 *110*	37 *120*	— —	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	38 *125*	42 *140*

335.25-XN09 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	XNHQ090508TN4-M08 F40M	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
P2	XNHQ090508TN4-M08 F40M	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
P3	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
P4	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
P5	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
P6	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,19 *0.0075*
P7	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,19 *0.0075*
P8	XNHQ090508TN4-M08 MP2501	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
P11	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,19 *0.0075*
P12	XNHQ090508TN4-M08 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
M1	XNHQ090508TN4-M08 F40M	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
M2	XNHQ090508TN4-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M3	XNHQ090508TN4-M08 F40M	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
M4	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
M5	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
K1	XNHQ090508TN4-M08 MK2050	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
K2	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K3	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K4	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K5	XNHQ090508TN4-M08 MK2050	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
K6	XNHQ090508TN4-M08 MK2050	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K7	XNHQ090508TN4-M08 MK2050	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
N1	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
N2	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
N3	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
N11	XNHQ090508EN4-E07 F40M	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
S1	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S2	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
S3	XNHQ090508TN4-M08 F40M	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
S11	XNHQ090508TN4-M08 F40M	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
S12	XNHQ090508TN4-M08 F40M	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
S13	XNHQ090508TN4-M08 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
H5	XNHQ090508TN4-M08 MP2501	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
H8	XNHQ090508TN4-M08 MP2501	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
H11	XNHQ090508TN4-M08 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
H12	XNHQ090508TN4-M08 F40M	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
H21	XNHQ090508TN4-M08 MP2501	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			F40M			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	240 *790*	255 *840*	280 *920*	185 *610*	195 *640*	215 *710*	320 *1050*	335 *1100*	360 *1175*
P2	230 *750*	250 *820*	275 *900*	180 *590*	190 *620*	210 *690*	310 *1025*	325 *1075*	350 *1150*
P3	205 *670*	220 *720*	240 *790*	155 *510*	170 *560*	185 *610*	270 *890*	285 *940*	305 *1000*
P4	180 *590*	190 *620*	210 *690*	140 *460*	150 *490*	165 *540*	240 *790*	250 *820*	270 *890*
P5	170 *560*	185 *610*	205 *670*	130 *425*	140 *460*	155 *510*	230 *750*	240 *790*	260 *850*
P6	195 *640*	205 *670*	230 *750*	150 *490*	160 *520*	180 *590*	255 *840*	270 *890*	290 *950*
P7	180 *590*	195 *640*	220 *720*	140 *460*	150 *490*	170 *560*	240 *790*	255 *840*	275 *900*
P8	170 *560*	185 *610*	205 *670*	130 *425*	140 *460*	155 *510*	230 *750*	240 *790*	260 *850*
P11	175 *570*	190 *620*	210 *690*	135 *445*	145 *475*	165 *540*	235 *770*	245 *800*	270 *890*
P12	115 *375*	125 *410*	135 *445*	90 *295*	95 *310*	105 *345*	150 *490*	155 *510*	165 *540*
M1	— —	— —	— —	145 *475*	155 *510*	170 *560*	170 *560*	180 *590*	200 *660*
M2	— —	— —	— —	120 *395*	125 *410*	140 *460*	140 *460*	150 *490*	165 *540*
M3	— —	— —	— —	95 *310*	100 *330*	115 *375*	115 *375*	120 *395*	135 *445*
M4	— —	— —	— —	75 *245*	80 *260*	90 *295*	90 *295*	95 *310*	105 *345*
M5	— —	— —	— —	60 *195*	65 *215*	75 *245*	75 *245*	80 *260*	85 *280*
K1	250 *820*	270 *890*	295 *970*	140 *460*	150 *490*	165 *540*	315 *1025*	330 *1075*	355 *1175*
K2	220 *720*	235 *770*	260 *850*	125 *410*	135 *445*	150 *490*	275 *900*	290 *950*	310 *1025*
K3	190 *620*	200 *660*	220 *720*	105 *345*	115 *375*	125 *410*	235 *770*	245 *800*	265 *870*
K4	180 *590*	190 *620*	210 *690*	100 *330*	110 *360*	120 *395*	225 *740*	235 *770*	250 *820*
K5	110 *360*	120 *395*	130 *425*	60 *195*	65 *215*	75 *245*	135 *445*	145 *475*	155 *510*
K6	160 *520*	170 *560*	185 *610*	90 *295*	95 *310*	105 *345*	195 *640*	205 *670*	220 *720*
K7	140 *460*	150 *490*	165 *540*	80 *260*	85 *280*	95 *310*	175 *570*	185 *610*	195 *640*
N1	— —	— —	— —	1050 *3450*	1125 *3700*	1225 *4025*	— —	— —	— —
N2	— —	— —	— —	420 *1375*	455 *1500*	500 *1650*	— —	— —	— —
N3	— —	— —	— —	280 *920*	305 *1000*	330 *1075*	— —	— —	— —
N11	— —	— —	— —	320 *1050*	345 *1125*	380 *1250*	— —	— —	— —
S1	— —	— —	— —	35 *115*	37 *120*	41 *135*	— —	— —	— —
S2	— —	— —	— —	28 *90*	30 *100*	33 *110*	— —	— —	— —
S3	— —	— —	— —	24 *80*	26 *85*	29 *95*	— —	— —	— —
S11	— —	— —	— —	49 *160*	50 *165*	55 *180*	— —	— —	— —
S12	— —	— —	— —	41 *135*	43 *140*	48 *155*	— —	— —	— —
S13	— —	— —	— —	24 *80*	26 *85*	28 *90*	— —	— —	— —
H5	— —	— —	— —	30 *100*	31 *100*	35 *115*	— —	— —	— —
H8	— —	— —	— —	31 *100*	33 *110*	37 *120*	— —	— —	— —
H11	— —	— —	— —	38 *125*	40 *130*	44 *145*	— —	— —	— —
H12	— —	— —	— —	36 *120*	39 *130*	43 *140*	— —	— —	— —
H21	— —	— —	— —	31 *100*	33 *110*	37 *120*	— —	— —	— —

335.25-XN12 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	XNHQ120608TN4-M10 F40M	0,17 *0.0065*	0,19 *0.0075*	0,26 *0.010*
P2	XNHQ120608TN4-M10 F40M	0,17 *0.0065*	0,20 *0.0080*	0,26 *0.010*
P3	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,19 *0.0075*	0,25 *0.010*
P4	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
P5	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
P6	XNHQ120608TN4-M10 F40M	0,15 *0.0060*	0,18 *0.0070*	0,24 *0.0095*
P7	XNHQ120608TN4-M10 F40M	0,15 *0.0060*	0,18 *0.0070*	0,24 *0.0095*
P8	XNHQ120608TN4-M10 MP2501	0,16 *0.0065*	0,19 *0.0075*	0,25 *0.010*
P11	XNHQ120608TN4-M10 F40M	0,15 *0.0060*	0,18 *0.0070*	0,24 *0.0095*
P12	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
M1	XNHQ120608TN4-M10 F40M	0,17 *0.0065*	0,20 *0.0080*	0,26 *0.010*
M2	XNHQ120608TN4-M10 F40M	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
M3	XNHQ120608TN4-M10 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
M4	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
M5	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
K1	XNHQ120608TN4-M10 MK2050	0,17 *0.0065*	0,20 *0.0080*	0,26 *0.010*
K2	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
K3	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
K4	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
K5	XNHQ120608TN4-M10 MK2050	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
K6	XNHQ120608TN4-M10 MK2050	0,16 *0.0065*	0,18 *0.0070*	0,24 *0.0095*
K7	XNHQ120608TN4-M10 MK2050	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N1	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
N2	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
N3	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
N11	XNHQ120608EN4-E09 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
S1	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
S2	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
S3	XNHQ120608TN4-M10 F40M	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
S11	XNHQ120608TN4-M10 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
S12	XNHQ120608TN4-M10 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
S13	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,13 *0.0050*	0,17 *0.0065*
H5	XNHQ120608TN4-M10 MP2501	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
H8	XNHQ120608TN4-M10 MP2501	0,080 *0.0032*	0,095 *0.0038*	0,12 *0.0048*
H11	XNHQ120608TN4-M10 F40M	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
H12	XNHQ120608TN4-M10 F40M	0,080 *0.0032*	0,095 *0.0038*	0,12 *0.0048*
H21	XNHQ120608TN4-M10 MP2501	0,080 *0.0032*	0,095 *0.0038*	0,12 *0.0048*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			F40M			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	230 *750*	250 *820*	275 *900*	175 *570*	190 *620*	210 *690*	310 *1025*	330 *1075*	350 *1150*
P2	225 *740*	240 *790*	265 *870*	170 *560*	185 *610*	205 *670*	300 *980*	315 *1025*	345 *1125*
P3	195 *640*	210 *690*	230 *750*	150 *490*	160 *520*	180 *590*	265 *870*	275 *900*	300 *980*
P4	175 *570*	185 *610*	205 *670*	135 *445*	145 *475*	160 *520*	230 *750*	245 *800*	265 *870*
P5	165 *540*	175 *570*	195 *640*	125 *410*	135 *445*	150 *490*	220 *720*	235 *770*	255 *840*
P6	190 *620*	200 *660*	220 *720*	145 *475*	155 *510*	170 *560*	255 *840*	265 *870*	285 *940*
P7	180 *590*	190 *620*	210 *690*	135 *445*	145 *475*	160 *520*	240 *790*	250 *820*	270 *890*
P8	165 *540*	175 *570*	195 *640*	125 *410*	135 *445*	150 *490*	220 *720*	230 *750*	250 *820*
P11	175 *570*	185 *610*	200 *660*	135 *445*	140 *460*	155 *510*	230 *750*	240 *790*	260 *850*
P12	110 *360*	120 *395*	135 *445*	85 *280*	90 *295*	100 *330*	145 *475*	155 *510*	165 *540*
M1	— —	— —	— —	140 *460*	150 *490*	165 *540*	165 *540*	175 *570*	195 *640*
M2	— —	— —	— —	115 *375*	125 *410*	135 *445*	135 *445*	145 *475*	160 *520*
M3	— —	— —	— —	95 *310*	100 *330*	110 *360*	110 *360*	120 *395*	130 *425*
M4	— —	— —	— —	70 *230*	75 *245*	85 *280*	85 *280*	90 *295*	100 *330*
M5	— —	— —	— —	60 *195*	65 *215*	70 *230*	70 *230*	75 *245*	85 *280*
K1	240 *790*	255 *840*	285 *940*	135 *445*	145 *475*	160 *520*	305 *1000*	320 *1050*	345 *1125*
K2	215 *710*	230 *750*	255 *840*	120 *395*	130 *425*	145 *475*	270 *890*	285 *940*	305 *1000*
K3	180 *590*	195 *640*	215 *710*	100 *330*	110 *360*	120 *395*	225 *740*	240 *790*	260 *850*
K4	170 *560*	185 *610*	205 *670*	95 *310*	105 *345*	115 *375*	215 *710*	230 *750*	245 *800*
K5	105 *345*	115 *375*	125 *410*	60 *195*	65 *215*	70 *230*	135 *445*	140 *460*	150 *490*
K6	150 *490*	165 *540*	180 *590*	85 *280*	90 *295*	100 *330*	190 *620*	200 *660*	220 *720*
K7	135 *445*	145 *475*	160 *520*	75 *245*	80 *260*	90 *295*	170 *560*	180 *590*	190 *620*
N1	— —	— —	— —	1000 *3275*	1075 *3525*	1175 *3850*	— —	— —	— —
N2	— —	— —	— —	405 *1325*	435 *1425*	480 *1575*	— —	— —	— —
N3	— —	— —	— —	270 *890*	290 *950*	320 *1050*	— —	— —	— —
N11	— —	— —	— —	305 *1000*	330 *1075*	365 *1200*	— —	— —	— —
S1	— —	— —	— —	34 *110*	36 *120*	40 *130*	— —	— —	— —
S2	— —	— —	— —	27 *90*	29 *95*	32 *105*	— —	— —	— —
S3	— —	— —	— —	24 *80*	25 *80*	28 *90*	— —	— —	— —
S11	— —	— —	— —	48 *155*	50 *165*	55 *180*	— —	— —	— —
S12	— —	— —	— —	40 *130*	43 *140*	47 *155*	— —	— —	— —
S13	— —	— —	— —	23 *75*	24 *80*	27 *90*	— —	— —	— —
H5	— —	— —	— —	28 *90*	31 *100*	34 *110*	— —	— —	— —
H8	— —	— —	— —	31 *100*	32 *105*	36 *120*	— —	— —	— —
H11	— —	— —	— —	36 *120*	39 *130*	43 *140*	— —	— —	— —
H12	— —	— —	— —	36 *120*	38 *125*	42 *140*	— —	— —	— —
H21	— —	— —	— —	31 *100*	32 *105*	36 *120*	— —	— —	— —

335.25-XN14/XN17 – Insert selection – mm/*Inch*

SMG			f_z		
			30%	20%	10%
P1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
P2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
P3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P4	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P5	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
P6	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P7	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P8	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
M1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
M2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
M3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
M4	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M5	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K1	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
K2	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K3	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K4	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K5	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
K6	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K7	XNHQ140708TN4-M11 MK2050	XNHQ170708TN4-M13 MK2050	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
N1	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N2	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N3	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N11	XNHQ140708EN4-E10 H25	XNHQ170708EN4-E12 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
S1	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S2	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S3	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
S11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S13	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
H5	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H8	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H11	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H12	XNHQ140708TN4-M11 F40M	XNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H21	XNHQ140708TN4-M11 MP2501	XNHQ170708TN4-M13 MP2501	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-XN14/XN17 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			F40M			H25			MP2501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	225 *740*	245 *800*	265 *870*	170 *560*	185 *610*	205 *670*	— —	— —	— —	300 *980*	320 *1050*	345 *1125*
P2	220 *720*	230 *750*	255 *840*	165 *540*	175 *570*	195 *640*	— —	— —	— —	290 *950*	305 *1000*	330 *1075*
P3	190 *620*	205 *670*	225 *740*	145 *475*	155 *510*	170 *560*	— —	— —	— —	255 *840*	270 *890*	290 *950*
P4	165 *540*	180 *590*	200 *660*	130 *425*	140 *460*	155 *510*	— —	— —	— —	225 *740*	235 *770*	260 *850*
P5	165 *540*	170 *560*	190 *620*	125 *410*	130 *425*	150 *490*	— —	— —	— —	220 *720*	225 *740*	250 *820*
P6	180 *590*	195 *640*	215 *710*	140 *460*	150 *490*	165 *540*	— —	— —	— —	245 *800*	260 *850*	280 *920*
P7	170 *560*	185 *610*	205 *670*	130 *425*	145 *475*	155 *510*	— —	— —	— —	230 *750*	245 *800*	265 *870*
P8	160 *520*	170 *560*	190 *620*	125 *410*	130 *425*	145 *475*	— —	— —	— —	215 *710*	225 *740*	245 *800*
P11	165 *540*	180 *590*	200 *660*	130 *425*	140 *460*	150 *490*	— —	— —	— —	225 *740*	240 *790*	255 *840*
P12	110 *360*	120 *395*	130 *425*	85 *280*	90 *295*	100 *330*	— —	— —	— —	145 *475*	155 *510*	165 *540*
M1	— —	— —	— —	135 *445*	145 *475*	160 *520*	— —	— —	— —	160 *520*	170 *560*	185 *610*
M2	— —	— —	— —	115 *375*	120 *395*	135 *445*	— —	— —	— —	135 *445*	140 *460*	155 *510*
M3	— —	— —	— —	90 *295*	95 *310*	110 *360*	— —	— —	— —	105 *345*	115 *375*	130 *425*
M4	— —	— —	— —	70 *230*	75 *245*	85 *280*	— —	— —	— —	85 *280*	90 *295*	100 *330*
M5	— —	— —	— —	60 *195*	65 *215*	70 *230*	— —	— —	— —	70 *230*	75 *245*	80 *260*
K1	235 *770*	250 *820*	275 *900*	135 *445*	140 *460*	155 *510*	— —	— —	— —	295 *970*	305 *1000*	335 *1100*
K2	210 *690*	220 *720*	250 *820*	120 *395*	125 *410*	140 *460*	— —	— —	— —	265 *870*	275 *900*	300 *980*
K3	180 *590*	185 *610*	210 *690*	100 *330*	105 *345*	120 *395*	— —	— —	— —	225 *740*	230 *750*	255 *840*
K4	170 *560*	180 *590*	200 *660*	95 *310*	100 *330*	115 *375*	— —	— —	— —	215 *710*	220 *720*	240 *790*
K5	105 *345*	110 *360*	125 *410*	60 *195*	65 *215*	70 *230*	— —	— —	— —	130 *425*	135 *445*	150 *490*
K6	150 *490*	155 *510*	175 *570*	85 *280*	90 *295*	100 *330*	— —	— —	— —	190 *620*	195 *640*	215 *710*
K7	130 *425*	140 *460*	160 *520*	75 *245*	80 *260*	90 *295*	— —	— —	— —	165 *540*	175 *570*	190 *620*
N1	— —	— —	— —	970 *3175*	1025 *3375*	1150 *3775*	980 *3225*	1050 *3450*	1175 *3850*	— —	— —	— —
N2	— —	— —	— —	390 *1275*	420 *1375*	465 *1525*	395 *1300*	420 *1375*	470 *1550*	— —	— —	— —
N3	— —	— —	— —	260 *850*	280 *920*	310 *1025*	265 *870*	280 *920*	315 *1025*	— —	— —	— —
N11	— —	— —	— —	295 *970*	320 *1050*	355 *1175*	300 *980*	320 *1050*	360 *1175*	— —	— —	— —
S1	— —	— —	— —	33 *110*	35 *115*	39 *130*	— —	— —	— —	— —	— —	— —
S2	— —	— —	— —	27 *90*	28 *90*	31 *100*	— —	— —	— —	— —	— —	— —
S3	— —	— —	— —	23 *75*	25 *80*	28 *90*	— —	— —	— —	— —	— —	— —
S11	— —	— —	— —	46 *150*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —
S12	— —	— —	— —	38 *125*	41 *135*	46 *150*	— —	— —	— —	— —	— —	— —
S13	— —	— —	— —	22 *70*	24 *80*	27 *90*	— —	— —	— —	— —	— —	— —
H5	— —	— —	— —	28 *90*	30 *100*	33 *110*	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	30 *100*	32 *105*	35 *115*	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	35 *115*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	35 *115*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —
H21	— —	— —	— —	30 *100*	32 *105*	35 *115*	— —	— —	— —	— —	— —	— —

335.25-LN14/LN17 – Insert selection – mm/*Inch*

SMG			f_z		
			30%	20%	10%
P1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
P2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
P3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P4	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P5	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
P6	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P7	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P8	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
M1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
M2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
M3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
M4	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M5	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K1	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
K2	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K3	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K4	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K5	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
K6	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,18 *0.0070*	0,22 *0.0085*	0,28 *0.011*
K7	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,17 *0.0065*	0,19 *0.0075*	0,25 *0.010*
S1	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S2	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S3	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,12 *0.0048*	0,14 *0.0055*	0,18 *0.0070*
S11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,15 *0.0060*	0,17 *0.0065*	0,22 *0.0085*
S13	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
H5	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H8	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H11	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,13 *0.0050*	0,14 *0.0055*	0,19 *0.0075*
H12	LNHQ140708TN4-M11 F40M	LNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H21	LNHQ140708TN4-M11 MP2501	LNHQ170708TN4-M13 F40M	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25-LN14/LN17 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			MP2501		
	30%	20%	10%	30%	20%	10%
P1	170 *560*	185 *610*	205 *670*	300 *980*	320 *1050*	345 *1125*
P2	165 *540*	175 *570*	195 *640*	290 *950*	305 *1000*	330 *1075*
P3	145 *475*	155 *510*	170 *560*	255 *840*	270 *890*	290 *950*
P4	130 *425*	140 *460*	155 *510*	225 *740*	235 *770*	260 *850*
P5	125 *410*	130 *425*	150 *490*	220 *720*	225 *740*	250 *820*
P6	140 *460*	150 *490*	165 *540*	245 *800*	260 *850*	280 *920*
P7	130 *425*	145 *475*	155 *510*	230 *750*	245 *800*	265 *870*
P8	125 *410*	130 *425*	145 *475*	215 *710*	225 *740*	245 *800*
P11	130 *425*	140 *460*	150 *490*	225 *740*	240 *790*	255 *840*
P12	85 *280*	90 *295*	100 *330*	145 *475*	155 *510*	165 *540*
M1	135 *445*	145 *475*	160 *520*	160 *520*	170 *560*	185 *610*
M2	115 *375*	120 *395*	135 *445*	135 *445*	140 *460*	155 *510*
M3	90 *295*	95 *310*	110 *360*	105 *345*	115 *375*	130 *425*
M4	70 *230*	75 *245*	85 *280*	85 *280*	90 *295*	100 *330*
M5	60 *195*	65 *215*	70 *230*	70 *230*	75 *245*	80 *260*
K1	135 *445*	140 *460*	155 *510*	295 *970*	305 *1000*	335 *1100*
K2	120 *395*	125 *410*	140 *460*	265 *870*	275 *900*	300 *980*
K3	100 *330*	105 *345*	120 *395*	225 *740*	230 *750*	255 *840*
K4	95 *310*	100 *330*	115 *375*	215 *710*	220 *720*	240 *790*
K5	60 *195*	65 *215*	70 *230*	130 *425*	135 *445*	150 *490*
K6	85 *280*	90 *295*	100 *330*	190 *620*	195 *640*	215 *710*
K7	75 *245*	80 *260*	90 *295*	165 *540*	175 *570*	190 *620*
N1	970 *3175*	1025 *3375*	1150 *3775*	— —	— —	— —
N2	390 *1275*	420 *1375*	465 *1525*	— —	— —	— —
N3	260 *850*	280 *920*	310 *1025*	— —	— —	— —
N11	295 *970*	320 *1050*	355 *1175*	— —	— —	— —
S1	33 *110*	35 *115*	39 *130*	— —	— —	— —
S2	27 *90*	28 *90*	31 *100*	— —	— —	— —
S3	23 *75*	25 *80*	28 *90*	— —	— —	— —
S11	46 *150*	49 *160*	55 *180*	— —	— —	— —
S12	38 *125*	41 *135*	46 *150*	— —	— —	— —
S13	22 *70*	24 *80*	27 *90*	— —	— —	— —
H5	28 *90*	30 *100*	33 *110*	— —	— —	— —
H8	30 *100*	32 *105*	35 *115*	— —	— —	— —
H11	35 *115*	38 *125*	42 *140*	— —	— —	— —
H12	35 *115*	37 *120*	41 *135*	— —	— —	— —
H21	30 *100*	32 *105*	35 *115*	— —	— —	— —

335.29 Round 5 – Insert selection – mm/*Inch*

SMG		f_z		
		25%	10%	5%
P1	RDHW0501M0-MD01 F40M	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
P2	RDHW0501M0-MD01 F40M	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
P3	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
P4	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
P5	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
P6	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,070 *0.0028*	0,10 *0.0040*
P7	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,070 *0.0028*	0,10 *0.0040*
P8	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
P11	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,070 *0.0028*	0,10 *0.0040*
P12	RDHW0501M0-MD01 F40M	0,034 *0.0013*	0,050 *0.0020*	0,070 *0.0028*
M1	RDHW0501M0-MD01 F40M	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
M2	RDHW0501M0-MD01 F40M	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
M3	RDHW0501M0-MD01 F40M	0,040 *0.0016*	0,060 *0.0024*	0,080 *0.0032*
M4	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 *0.0020*	0,070 *0.0028*
M5	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 *0.0020*	0,070 *0.0028*
K1	RDHW0501M0-MD01 MP3000	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
K2	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
K3	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
K4	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
K5	RDHW0501M0-MD01 MP3000	0,046 *0.0018*	0,065 *0.0026*	0,090 *0.0036*
K6	RDHW0501M0-MD01 MP3000	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
K7	RDHW0501M0-MD01 MP3000	0,046 *0.0018*	0,065 *0.0026*	0,090 *0.0036*
N1	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 *0.0040*	0,14 *0.0055*
N2	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 *0.0040*	0,14 *0.0055*
N3	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 *0.0040*	0,14 *0.0055*
N11	RDHW0501M0-MD01 MP3000	0,070 *0.0028*	0,10 *0.0040*	0,14 *0.0055*
S1	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 *0.0020*	0,070 *0.0028*
S2	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 *0.0020*	0,070 *0.0028*
S3	RDHW0501M0-MD01 F40M	0,032 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
S11	RDHW0501M0-MD01 F40M	0,040 *0.0016*	0,060 *0.0024*	0,080 *0.0032*
S12	RDHW0501M0-MD01 F40M	0,040 *0.0016*	0,060 *0.0024*	0,080 *0.0032*
S13	RDHW0501M0-MD01 F40M	0,036 *0.0014*	0,050 *0.0020*	0,070 *0.0028*
H5	RDHW0501M0-MD01 MP3000	0,034 *0.0013*	0,050 *0.0020*	0,070 *0.0028*
H8	RDHW0501M0-MD01 MP3000	0,026 *0.0010*	0,038 *0.0015*	0,050 *0.0020*
H11	RDHW0501M0-MD01 MP3000	0,034 *0.0013*	0,050 *0.0020*	0,070 *0.0028*
H12	RDHW0501M0-MD01 MP3000	0,026 *0.0010*	0,038 *0.0015*	0,050 *0.0020*
H21	RDHW0501M0-MD01 MP3000	0,026 *0.0010*	0,038 *0.0015*	0,050 *0.0020*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.29 Round 5 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP3000			F40M		
	25%	10%	5%	25%	10%	5%
P1	325 *1075*	365 *1200*	400 *1300*	260 *850*	295 *970*	320 *1050*
P2	315 *1025*	360 *1175*	390 *1275*	250 *820*	285 *940*	310 *1025*
P3	275 *900*	310 *1025*	340 *1125*	220 *720*	250 *820*	270 *890*
P4	240 *790*	275 *900*	300 *980*	195 *640*	220 *720*	240 *790*
P5	230 *750*	260 *850*	285 *940*	185 *610*	210 *690*	225 *740*
P6	260 *850*	295 *970*	320 *1050*	205 *670*	235 *770*	255 *840*
P7	245 *800*	280 *920*	300 *980*	195 *640*	225 *740*	240 *790*
P8	230 *750*	260 *850*	285 *940*	185 *610*	210 *690*	225 *740*
P11	235 *770*	270 *890*	295 *970*	190 *620*	215 *710*	235 *770*
P12	145 *475*	165 *540*	180 *590*	120 *395*	135 *445*	145 *475*
M1	235 *770*	270 *890*	290 *950*	200 *660*	230 *750*	250 *820*
M2	195 *640*	220 *720*	240 *790*	165 *540*	190 *620*	205 *670*
M3	150 *490*	170 *560*	185 *610*	130 *425*	150 *490*	160 *520*
M4	115 *375*	130 *425*	140 *460*	100 *330*	115 *375*	120 *395*
M5	95 *310*	110 *360*	120 *395*	80 *260*	95 *310*	100 *330*
K1	210 *690*	240 *790*	260 *850*	200 *660*	225 *740*	245 *800*
K2	185 *610*	210 *690*	225 *740*	175 *570*	200 *660*	215 *710*
K3	155 *510*	175 *570*	190 *620*	150 *490*	170 *560*	185 *610*
K4	150 *490*	170 *560*	185 *610*	140 *460*	160 *520*	175 *570*
K5	90 *295*	100 *330*	110 *360*	85 *280*	95 *310*	105 *345*
K6	130 *425*	150 *490*	160 *520*	125 *410*	140 *460*	155 *510*
K7	115 *375*	130 *425*	140 *460*	110 *360*	125 *410*	135 *445*
N1	1900 *6225*	2175 *7125*	2350 *7700*	1525 *5000*	1725 *5650*	1875 *6150*
N2	760 *2500*	870 *2850*	950 *3125*	610 *2000*	700 *2300*	760 *2500*
N3	510 *1675*	580 *1900*	630 *2075*	410 *1350*	465 *1525*	500 *1650*
N11	580 *1900*	670 *2200*	720 *2350*	465 *1525*	530 *1750*	580 *1900*
S1	55 *180*	60 *195*	65 *215*	46 *150*	55 *180*	55 *180*
S2	43 *140*	49 *160*	55 *180*	37 *120*	42 *140*	46 *150*
S3	38 *125*	43 *140*	46 *150*	32 *105*	37 *120*	40 *130*
S11	75 *245*	85 *280*	95 *310*	65 *215*	75 *245*	80 *260*
S12	65 *215*	75 *245*	80 *260*	55 *180*	65 *215*	70 *230*
S13	37 *120*	42 *140*	45 *150*	32 *105*	36 *120*	39 *130*
H5	41 *135*	47 *155*	50 *165*	39 *130*	44 *145*	48 *155*
H8	42 *140*	48 *155*	50 *165*	40 *130*	45 *150*	49 *160*
H11	50 *165*	60 *195*	65 *215*	50 *165*	55 *180*	60 *195*
H12	49 *160*	55 *180*	60 *195*	47 *155*	55 *180*	55 *180*
H21	42 *140*	48 *155*	50 *165*	40 *130*	45 *150*	49 *160*

335.29 Round 6 – Insert selection – mm/*Inch*

SMG		f_z		
		20%	10%	5%
P1	RDHW06T1M0-MD02 F40M	0,060 *0.0024*	0,080 *0.0032*	0,11 *0.0044*
P2	RDHW06T1M0-MD02 F40M	0,060 *0.0024*	0,080 *0.0032*	0,11 *0.0044*
P3	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
P4	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
P5	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
P6	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,070 *0.0028*	0,10 *0.0040*
P7	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,070 *0.0028*	0,10 *0.0040*
P8	RDHW06T1M0-MD02 MP3000	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
P11	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,070 *0.0028*	0,10 *0.0040*
P12	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
M1	RDHW06T1M0-MD02 F40M	0,060 *0.0024*	0,080 *0.0032*	0,11 *0.0044*
M2	RDHW06T1M0-MD02 F40M	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
M3	RDHW06T1M0-MD02 F40M	0,044 *0.0017*	0,060 *0.0024*	0,080 *0.0032*
M4	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
M5	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
K1	RDHW06T1M0-MD02 MK2050	0,060 *0.0024*	0,080 *0.0032*	0,11 *0.0044*
K2	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
K3	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
K4	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
K5	RDHW06T1M0-MD02 MK2050	0,050 *0.0020*	0,065 *0.0026*	0,090 *0.0036*
K6	RDHW06T1M0-MD02 MK2050	0,055 *0.0022*	0,075 *0.0030*	0,10 *0.0040*
K7	RDHW06T1M0-MD02 MK2050	0,050 *0.0020*	0,065 *0.0026*	0,090 *0.0036*
N1	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
N2	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
N3	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
N11	RDHT06T1M0-E02 H25	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
S1	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
S2	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
S3	RDHW06T1M0-MD02 F40M	0,036 *0.0014*	0,048 *0.0019*	0,065 *0.0026*
S11	RDHW06T1M0-MD02 F40M	0,044 *0.0017*	0,060 *0.0024*	0,080 *0.0032*
S12	RDHW06T1M0-MD02 F40M	0,044 *0.0017*	0,060 *0.0024*	0,080 *0.0032*
S13	RDHW06T1M0-MD02 F40M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
H5	RDHW06T1M0-MD02 F15M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
H8	RDHW06T1M0-MD02 F15M	0,028 *0.0011*	0,038 *0.0015*	0,050 *0.0020*
H11	RDHW06T1M0-MD02 F15M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
H12	RDHW06T1M0-MD02 F15M	0,028 *0.0011*	0,038 *0.0015*	0,050 *0.0020*
H21	RDHW06T1M0-MD02 F15M	0,028 *0.0011*	0,038 *0.0015*	0,050 *0.0020*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.29 Round 6 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M			MK2050			F30M			MP3000			F40M			H25		
	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%	20%	10%	5%
P1	305 *1000*	340 *1125*	365 *1200*	330 *1075*	365 *1200*	395 *1300*	270 *890*	295 *970*	320 *1050*	320 *1050*	350 *1150*	380 *1250*	255 *840*	280 *920*	305 *1000*	— —	— —	— —
P2	300 *980*	330 *1075*	355 *1175*	325 *1075*	355 *1175*	385 *1275*	260 *850*	290 *950*	310 *1025*	310 *1025*	345 *1125*	370 *1225*	250 *820*	275 *900*	295 *970*	— —	— —	— —
P3	260 *850*	285 *940*	310 *1025*	280 *920*	310 *1025*	335 *1100*	230 *750*	250 *820*	270 *890*	270 *890*	300 *980*	325 *1075*	215 *710*	240 *790*	260 *850*	— —	— —	— —
P4	230 *750*	250 *820*	275 *900*	250 *820*	275 *900*	295 *970*	200 *660*	220 *720*	240 *790*	240 *790*	260 *850*	285 *940*	190 *620*	210 *690*	230 *750*	— —	— —	— —
P5	220 *720*	240 *790*	260 *850*	235 *770*	260 *850*	285 *940*	190 *620*	210 *690*	230 *750*	230 *750*	250 *820*	275 *900*	180 *590*	200 *660*	220 *720*	— —	— —	— —
P6	245 *800*	275 *900*	295 *970*	265 *870*	295 *970*	320 *1050*	215 *710*	240 *790*	255 *840*	255 *840*	285 *940*	305 *1000*	205 *670*	225 *740*	245 *800*	— —	— —	— —
P7	230 *750*	255 *840*	275 *900*	250 *820*	280 *920*	300 *980*	205 *670*	225 *740*	245 *800*	240 *790*	270 *890*	290 *950*	195 *640*	215 *710*	230 *750*	— —	— —	— —
P8	220 *720*	240 *790*	260 *850*	235 *770*	260 *850*	285 *940*	190 *620*	210 *690*	230 *750*	230 *750*	250 *820*	275 *900*	180 *590*	200 *660*	220 *720*	— —	— —	— —
P11	225 *740*	250 *820*	270 *890*	245 *800*	270 *890*	290 *950*	195 *640*	220 *720*	235 *770*	235 *770*	260 *850*	280 *920*	190 *620*	210 *690*	225 *740*	— —	— —	— —
M1	— —	— —	— —	— —	— —	— —	210 *690*	230 *750*	250 *820*	235 *770*	255 *840*	280 *920*	200 *660*	220 *720*	240 *790*	— —	— —	— —
M2	— —	— —	— —	— —	— —	— —	170 *560*	190 *620*	205 *670*	190 *620*	210 *690*	230 *750*	165 *540*	180 *590*	195 *640*	— —	— —	— —
M3	— —	— —	— —	— —	— —	— —	135 *445*	150 *490*	160 *520*	150 *490*	165 *540*	180 *590*	130 *425*	140 *460*	155 *510*	— —	— —	— —
M4	— —	— —	— —	— —	— —	— —	105 *345*	115 *375*	125 *410*	115 *375*	125 *410*	135 *445*	100 *330*	110 *360*	115 *375*	— —	— —	— —
M5	— —	— —	— —	— —	— —	— —	85 *280*	95 *310*	105 *345*	95 *310*	105 *345*	115 *375*	80 *260*	90 *295*	100 *330*	— —	— —	— —
K1	235 *770*	260 *850*	285 *940*	350 *1150*	385 *1275*	415 *1350*	205 *670*	230 *750*	245 *800*	205 *670*	230 *750*	245 *800*	195 *640*	215 *710*	235 *770*	— —	— —	— —
K2	210 *690*	230 *750*	250 *820*	305 *1000*	335 *1100*	365 *1200*	180 *590*	200 *660*	215 *710*	180 *590*	200 *660*	215 *710*	175 *570*	190 *620*	205 *670*	— —	— —	— —
K3	175 *570*	195 *640*	210 *690*	260 *850*	285 *940*	310 *1025*	155 *510*	170 *560*	185 *610*	155 *510*	170 *560*	185 *610*	145 *475*	160 *520*	175 *570*	— —	— —	— —
K4	170 *560*	185 *610*	200 *660*	250 *820*	270 *890*	295 *970*	145 *475*	160 *520*	175 *570*	145 *475*	160 *520*	175 *570*	140 *460*	155 *510*	165 *540*	— —	— —	— —
K5	100 *330*	110 *360*	120 *395*	150 *490*	165 *540*	180 *590*	90 *295*	100 *330*	105 *345*	90 *295*	100 *330*	105 *345*	85 *280*	95 *310*	100 *330*	— —	— —	— —
K6	150 *490*	160 *520*	175 *570*	220 *720*	240 *790*	260 *850*	130 *425*	140 *460*	155 *510*	130 *425*	140 *460*	155 *510*	125 *410*	135 *445*	145 *475*	— —	— —	— —
K7	130 *425*	145 *475*	155 *510*	190 *620*	210 *690*	230 *750*	115 *375*	125 *410*	135 *445*	115 *375*	125 *410*	135 *445*	110 *360*	120 *395*	130 *425*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	1575 *5175*	1750 *5750*	1875 *6150*	1875 *6150*	2075 *6800*	2250 *7375*	1500 *4925*	1650 *5425*	1800 *5900*	1725 *5650*	1900 *6225*	2050 *6725*
N2	— —	— —	— —	— —	— —	— —	640 *2100*	700 *2300*	760 *2500*	760 *2500*	840 *2750*	910 *2975*	610 *2000*	670 *2200*	730 *2400*	700 *2300*	770 *2525*	830 *2725*
N3	— —	— —	— —	— —	— —	— —	425 *1400*	470 *1550*	510 *1675*	510 *1675*	560 *1825*	600 *1975*	405 *1325*	445 *1450*	485 *1600*	465 *1525*	510 *1675*	560 *1825*
N11	— —	— —	— —	— —	— —	— —	485 *1600*	540 *1775*	580 *1900*	580 *1900*	640 *2100*	690 *2275*	465 *1525*	510 *1675*	550 *1800*	530 *1750*	580 *1900*	630 *2075*
S1	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	55 *180*	55 *180*	60 *195*	65 *215*	46 *150*	50 *165*	55 *180*	— —	— —	— —
S2	— —	— —	— —	— —	— —	— —	39 *130*	43 *140*	46 *150*	43 *140*	47 *155*	50 *165*	37 *120*	41 *135*	44 *145*	— —	— —	— —
S3	— —	— —	— —	— —	— —	— —	34 *110*	37 *120*	40 *130*	37 *120*	41 *135*	44 *145*	32 *105*	35 *115*	38 *125*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	75 *245*	85 *280*	90 *295*	65 *215*	70 *230*	80 *260*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	55 *180*	65 *215*	70 *230*	75 *245*	55 *180*	60 *195*	65 *215*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	27 *90*	30 *100*	33 *110*	36 *120*	40 *130*	43 *140*	31 *100*	35 *115*	37 *120*	— —	— —	— —
H5	46 *150*	50 *165*	55 *180*	— —	— —	— —	40 *130*	45 *150*	48 *155*	40 *130*	45 *150*	48 *155*	39 *130*	43 *140*	46 *150*	— —	— —	— —
H8	48 *155*	50 *165*	55 *180*	— —	— —	— —	42 *140*	46 *150*	50 *165*	42 *140*	46 *150*	50 *165*	40 *130*	44 *145*	47 *155*	— —	— —	— —
H11	60 *195*	65 *215*	70 *230*	— —	— —	— —	50 *165*	55 *180*	60 *195*	50 *165*	55 *180*	60 *195*	49 *160*	55 *180*	60 *195*	— —	— —	— —
H12	55 *180*	60 *195*	65 *215*	— —	— —	— —	49 *160*	55 *180*	60 *195*	49 *160*	55 *180*	60 *195*	46 *150*	50 *165*	55 *180*	— —	— —	— —
H21	48 *155*	50 *165*	55 *180*	— —	— —	— —	42 *140*	46 *150*	50 *165*	42 *140*	46 *150*	50 *165*	40 *130*	44 *145*	47 *155*	— —	— —	— —

335.29 Round 7 – Insert selection – mm/*Inch*

SMG		f_z		
		20%	10%	5%
P1	RDHW0702M0-MD03 F40M	0,080 *0.0032*	0,10 *0.0040*	0,14 *0.0055*
P2	RDHW0702M0-MD03 F40M	0,080 *0.0032*	0,11 *0.0044*	0,15 *0.0060*
P3	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,10 *0.0040*	0,14 *0.0055*
P4	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,10 *0.0040*	0,14 *0.0055*
P5	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
P6	RDHW0702M0-MD03 F40M	0,070 *0.0028*	0,095 *0.0038*	0,13 *0.0050*
P7	RDHW0702M0-MD03 F40M	0,070 *0.0028*	0,095 *0.0038*	0,13 *0.0050*
P8	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,10 *0.0040*	0,14 *0.0055*
P11	RDHW0702M0-MD03 F40M	0,070 *0.0028*	0,095 *0.0038*	0,13 *0.0050*
P12	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,065 *0.0026*	0,090 *0.0036*
M1	RDHW0702M0-MD03 F40M	0,080 *0.0032*	0,11 *0.0044*	0,15 *0.0060*
M2	RDHW0702M0-MD03 F40M	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
M3	RDHW0702M0-MD03 F40M	0,060 *0.0024*	0,080 *0.0032*	0,11 *0.0044*
M4	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
M5	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
K1	RDHW0702M0-MD03 MP3000	0,080 *0.0032*	0,11 *0.0044*	0,15 *0.0060*
K2	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
K3	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
K4	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
K5	RDHW0702M0-MD03 MP3000	0,065 *0.0026*	0,085 *0.0034*	0,12 *0.0048*
K6	RDHW0702M0-MD03 MP3000	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
K7	RDHW0702M0-MD03 MP3000	0,065 *0.0026*	0,085 *0.0034*	0,12 *0.0048*
N1	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 *0.0055*	0,19 *0.0075*
N2	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 *0.0055*	0,19 *0.0075*
N3	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 *0.0055*	0,19 *0.0075*
N11	RDHW0702M0-MD03 MP3000	0,10 *0.0040*	0,14 *0.0055*	0,19 *0.0075*
S1	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
S2	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
S3	RDHW0702M0-MD03 F40M	0,048 *0.0019*	0,065 *0.0026*	0,085 *0.0034*
S11	RDHW0702M0-MD03 F40M	0,060 *0.0024*	0,080 *0.0032*	0,11 *0.0044*
S12	RDHW0702M0-MD03 F40M	0,060 *0.0024*	0,080 *0.0032*	0,11 *0.0044*
S13	RDHW0702M0-MD03 F40M	0,050 *0.0020*	0,070 *0.0028*	0,095 *0.0038*
H5	RDHW0702M0T-MD04 F15M	0,050 *0.0020*	0,065 *0.0026*	0,090 *0.0036*
H8	RDHW0702M0T-MD04 F15M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
H11	RDHW0702M0T-MD04 F15M	0,050 *0.0020*	0,065 *0.0026*	0,090 *0.0036*
H12	RDHW0702M0T-MD04 F15M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*
H21	RDHW0702M0T-MD04 F15M	0,038 *0.0015*	0,050 *0.0020*	0,070 *0.0028*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.29 Round 7 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M			MP3000			F40M		
	20%	10%	5%	20%	10%	5%	20%	10%	5%
P1	295 *970*	325 *1075*	355 *1175*	305 *1000*	340 *1125*	370 *1225*	245 *800*	270 *890*	295 *970*
P2	285 *940*	315 *1025*	340 *1125*	295 *970*	325 *1075*	355 *1175*	235 *770*	260 *850*	285 *940*
P3	250 *820*	275 *900*	295 *970*	260 *850*	285 *940*	310 *1025*	205 *670*	230 *750*	245 *800*
P4	220 *720*	240 *790*	260 *850*	225 *740*	250 *820*	270 *890*	180 *590*	200 *660*	215 *710*
P5	210 *690*	230 *750*	250 *820*	215 *710*	240 *790*	260 *850*	175 *570*	195 *640*	210 *690*
P6	235 *770*	260 *850*	285 *940*	245 *800*	270 *890*	295 *970*	195 *640*	215 *710*	235 *770*
P7	225 *740*	245 *800*	265 *870*	235 *770*	255 *840*	280 *920*	185 *610*	205 *670*	220 *720*
P8	210 *690*	230 *750*	250 *820*	215 *710*	240 *790*	260 *850*	175 *570*	190 *620*	205 *670*
P11	215 *710*	240 *790*	260 *850*	225 *740*	250 *820*	270 *890*	180 *590*	200 *660*	215 *710*
P12	— —	— —	— —	140 *460*	155 *510*	170 *560*	110 *360*	125 *410*	135 *445*
M1	— —	— —	— —	220 *720*	245 *800*	265 *870*	190 *620*	210 *690*	230 *750*
M2	— —	— —	— —	180 *590*	200 *660*	220 *720*	155 *510*	175 *570*	190 *620*
M3	— —	— —	— —	145 *475*	160 *520*	170 *560*	125 *410*	135 *445*	150 *490*
M4	— —	— —	— —	110 *360*	120 *395*	130 *425*	95 *310*	105 *345*	115 *375*
M5	— —	— —	— —	90 *295*	100 *330*	110 *360*	80 *260*	85 *280*	95 *310*
K1	225 *740*	250 *820*	270 *890*	200 *660*	215 *710*	235 *770*	190 *620*	205 *670*	225 *740*
K2	200 *660*	220 *720*	240 *790*	175 *570*	195 *640*	210 *690*	165 *540*	185 *610*	200 *660*
K3	165 *540*	185 *610*	200 *660*	145 *475*	165 *540*	175 *570*	140 *460*	155 *510*	170 *560*
K4	160 *520*	180 *590*	195 *640*	140 *460*	155 *510*	170 *560*	135 *445*	150 *490*	160 *520*
K5	95 *310*	110 *360*	115 *375*	85 *280*	95 *310*	100 *330*	80 *260*	90 *295*	95 *310*
K6	140 *460*	155 *510*	170 *560*	125 *410*	135 *445*	150 *490*	115 *375*	130 *425*	140 *460*
K7	125 *410*	140 *460*	150 *490*	110 *360*	120 *395*	130 *425*	105 *345*	115 *375*	125 *410*
N1	— —	— —	— —	1775 *5825*	1950 *6400*	2125 *6975*	1425 *4675*	1550 *5075*	1700 *5575*
N2	— —	— —	— —	720 *2350*	790 *2600*	860 *2825*	580 *1900*	630 *2075*	690 *2275*
N3	— —	— —	— —	480 *1575*	530 *1750*	570 *1875*	385 *1275*	420 *1375*	460 *1500*
N11	— —	— —	— —	550 *1800*	600 *1975*	650 *2125*	440 *1450*	480 *1575*	520 *1700*
S1	— —	— —	— —	50 *165*	55 *180*	60 *195*	44 *145*	49 *160*	55 *180*
S2	— —	— —	— —	41 *135*	45 *150*	49 *160*	36 *120*	39 *130*	42 *140*
S3	— —	— —	— —	36 *120*	39 *130*	43 *140*	31 *100*	34 *110*	37 *120*
S11	— —	— —	— —	70 *230*	80 *260*	85 *280*	60 *195*	70 *230*	75 *245*
S12	— —	— —	— —	60 *195*	65 *215*	75 *245*	50 *165*	60 *195*	65 *215*
S13	— —	— —	— —	35 *115*	38 *125*	42 *140*	30 *100*	33 *110*	36 *120*
H5	45 *150*	49 *160*	55 *180*	39 *130*	43 *140*	47 *155*	37 *120*	41 *135*	45 *150*
H8	46 *150*	50 *165*	55 *180*	40 *130*	45 *150*	48 *155*	39 *130*	43 *140*	46 *150*
H11	55 *180*	65 *215*	70 *230*	50 *165*	55 *180*	60 *195*	47 *155*	50 *165*	55 *180*
H12	55 *180*	60 *195*	65 *215*	47 *155*	50 *165*	55 *180*	45 *150*	49 *160*	55 *180*
H21	46 *150*	50 *165*	55 *180*	40 *130*	45 *150*	48 *155*	39 *130*	43 *140*	46 *150*

335.18/29 Round 8 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
P2	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
P3	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 *0.0030*	0,095 *0.0038*
P4	RDKW0803M0T-MD05 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
P5	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
P6	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,085 *0.0034*	0,12 *0.0048*
P7	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,085 *0.0034*	0,12 *0.0048*
P8	RDKW0803M0T-MD05 MP2501	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
P11	RDKW0803M0T-MD05 F40M	0,075 *0.0030*	0,085 *0.0034*	0,12 *0.0048*
P12	RDKW0803M0T-MD05 F40M	0,050 *0.0020*	0,060 *0.0024*	0,080 *0.0032*
M1	RDHW0803M0-MD03 F40M	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
M2	RDHW0803M0-MD03 F40M	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
M3	RDHW0803M0-MD03 F40M	0,048 *0.0019*	0,055 *0.0022*	0,075 *0.0030*
M4	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 *0.0020*	0,065 *0.0026*
M5	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 *0.0020*	0,065 *0.0026*
K1	RDKW0803M0T-MD05 MK2050	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
K2	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
K3	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
K4	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
K5	RDKW0803M0T-MD05 MK2050	0,070 *0.0028*	0,080 *0.0032*	0,11 *0.0044*
K6	RDKW0803M0T-MD05 MK2050	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
K7	RDKW0803M0T-MD05 MK2050	0,070 *0.0028*	0,080 *0.0032*	0,11 *0.0044*
N1	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
N2	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
N3	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
N11	RDHT0803M0-E03 H25	0,065 *0.0026*	0,075 *0.0030*	0,10 *0.0040*
S1	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 *0.0020*	0,065 *0.0026*
S2	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 *0.0020*	0,065 *0.0026*
S3	RDHW0803M0-MD03 F40M	0,040 *0.0016*	0,046 *0.0018*	0,060 *0.0024*
S11	RDHW0803M0-MD03 F40M	0,048 *0.0019*	0,055 *0.0022*	0,075 *0.0030*
S12	RDHW0803M0-MD03 F40M	0,048 *0.0019*	0,055 *0.0022*	0,075 *0.0030*
S13	RDHW0803M0-MD03 F40M	0,042 *0.0017*	0,050 *0.0020*	0,065 *0.0026*
H5	RDKW0803M0T-MD05 F15M	0,050 *0.0020*	0,060 *0.0024*	0,080 *0.0032*
H8	RDKW0803M0T-MD05 F15M	0,040 *0.0016*	0,046 *0.0018*	0,060 *0.0024*
H11	RDKW0803M0T-MD05 F15M	0,050 *0.0020*	0,060 *0.0024*	0,080 *0.0032*
H12	RDKW0803M0T-MD05 F15M	0,040 *0.0016*	0,046 *0.0018*	0,060 *0.0024*
H21	RDKW0803M0T-MD05 F15M	0,040 *0.0016*	0,046 *0.0018*	0,060 *0.0024*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18/29 Round 8 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M			MK2050			F25M			F30M			MP3000			MS2050		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	260 *850*	275 *900*	305 *1000*	280 *920*	300 *980*	330 *1075*	240 *790*	255 *840*	280 *920*	235 *770*	250 *820*	280 *920*	280 *920*	300 *980*	335 *1100*	— —	— —	— —
P2	255 *840*	270 *890*	300 *980*	275 *900*	290 *950*	325 *1075*	230 *750*	245 *800*	275 *900*	230 *750*	245 *800*	270 *890*	275 *900*	290 *950*	320 *1050*	— —	— —	— —
P3	220 *720*	235 *770*	255 *840*	240 *790*	255 *840*	280 *920*	200 *660*	215 *710*	235 *770*	200 *660*	215 *710*	235 *770*	240 *790*	255 *840*	280 *920*	— —	— —	— —
P4	195 *640*	205 *670*	230 *750*	210 *690*	225 *740*	250 *820*	180 *590*	190 *620*	210 *690*	175 *570*	190 *620*	205 *670*	210 *690*	225 *740*	245 *800*	— —	— —	— —
P5	185 *610*	200 *660*	220 *720*	200 *660*	215 *710*	240 *790*	170 *560*	180 *590*	200 *660*	170 *560*	180 *590*	200 *660*	200 *660*	215 *710*	240 *790*	— —	— —	— —
P6	210 *690*	225 *740*	245 *800*	225 *740*	240 *790*	265 *870*	190 *620*	205 *670*	225 *740*	190 *620*	205 *670*	225 *740*	225 *740*	245 *800*	265 *870*	— —	— —	— —
P7	195 *640*	210 *690*	230 *750*	215 *710*	230 *750*	250 *820*	180 *590*	195 *640*	215 *710*	180 *590*	190 *620*	210 *690*	215 *710*	230 *750*	250 *820*	— —	— —	— —
P8	185 *610*	195 *640*	215 *710*	200 *660*	215 *710*	235 *770*	170 *560*	180 *590*	200 *660*	170 *560*	180 *590*	200 *660*	200 *660*	215 *710*	235 *770*	— —	— —	— —
P11	190 *620*	205 *670*	225 *740*	205 *670*	220 *720*	245 *800*	175 *570*	185 *610*	205 *670*	175 *570*	185 *610*	205 *670*	205 *670*	225 *740*	245 *800*	— —	— —	— —
P12	— —	— —	— —	130 *425*	140 *460*	155 *510*	110 *360*	120 *395*	130 *425*	110 *360*	115 *375*	130 *425*	130 *425*	140 *460*	155 *510*	— —	— —	— —
M1	— —	— —	— —	— —	— —	— —	— —	— —	— —	185 *610*	200 *660*	215 *710*	205 *670*	220 *720*	240 *790*	— —	— —	— —
M2	— —	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	160 *520*	180 *590*	170 *560*	180 *590*	200 *660*	— —	— —	— —
M3	— —	— —	— —	— —	— —	— —	— —	— —	— —	120 *395*	130 *425*	140 *460*	135 *445*	140 *460*	155 *510*	— —	— —	— —
M4	— —	— —	— —	— —	— —	— —	— —	— —	— —	90 *295*	100 *330*	110 *360*	100 *330*	110 *360*	120 *395*	— —	— —	— —
M5	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	85 *280*	90 *295*	100 *330*	— —	— —	— —
K1	200 *660*	215 *710*	235 *770*	295 *970*	315 *1025*	350 *1150*	185 *610*	195 *640*	215 *710*	180 *590*	195 *640*	215 *710*	180 *590*	195 *640*	215 *710*	— —	— —	— —
K2	175 *570*	190 *620*	210 *690*	260 *850*	280 *920*	305 *1000*	160 *520*	175 *570*	190 *620*	160 *520*	170 *560*	190 *620*	160 *520*	170 *560*	190 *620*	— —	— —	— —
K3	150 *490*	160 *520*	175 *570*	220 *720*	235 *770*	260 *850*	135 *445*	145 *475*	160 *520*	135 *445*	145 *475*	160 *520*	135 *445*	145 *475*	160 *520*	— —	— —	— —
K4	140 *460*	150 *490*	170 *560*	210 *690*	225 *740*	250 *820*	130 *425*	140 *460*	155 *510*	130 *425*	140 *460*	155 *510*	130 *425*	140 *460*	155 *510*	— —	— —	— —
K5	85 *280*	95 *310*	100 *330*	130 *425*	135 *445*	150 *490*	80 *260*	85 *280*	95 *310*	80 *260*	85 *280*	95 *310*	80 *260*	85 *280*	95 *310*	— —	— —	— —
K6	125 *410*	135 *445*	150 *490*	185 *610*	200 *660*	220 *720*	115 *375*	125 *410*	135 *445*	115 *375*	120 *395*	135 *445*	115 *375*	120 *395*	135 *445*	— —	— —	— —
K7	110 *360*	120 *395*	130 *425*	165 *540*	175 *570*	190 *620*	100 *330*	110 *360*	120 *395*	100 *330*	105 *345*	120 *395*	100 *330*	105 *345*	120 *395*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1375 *4500*	1475 *4850*	1625 *5325*	1625 *5325*	1750 *5750*	1925 *6325*	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	560 *1825*	600 *1975*	650 *2125*	660 *2175*	710 *2325*	780 *2550*	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	370 *1225*	395 *1300*	435 *1425*	440 *1450*	475 *1550*	520 *1700*	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	425 *1400*	455 *1500*	495 *1625*	500 *1650*	540 *1775*	590 *1925*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	46 *150*	50 *165*	48 *155*	50 *165*	55 *180*	45 *150*	48 *155*	55 *180*
S2	— —	— —	— —	— —	— —	— —	— —	— —	— —	35 *115*	37 *120*	40 *130*	38 *125*	41 *135*	45 *150*	36 *120*	39 *130*	42 *140*
S3	— —	— —	— —	— —	— —	— —	— —	— —	— —	30 *100*	32 *105*	35 *115*	33 *110*	35 *115*	39 *130*	32 *105*	34 *110*	37 *120*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	80 *260*	65 *215*	70 *230*	75 *245*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	45 *150*	50 *165*	55 *180*	60 *195*	65 *215*	55 *180*	55 *180*	65 *215*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	26 *85*	29 *95*	32 *105*	35 *115*	38 *125*	31 *100*	33 *110*	36 *120*
H5	40 *130*	43 *140*	47 *155*	— —	— —	— —	— —	— —	— —	36 *120*	39 *130*	43 *140*	36 *120*	39 *130*	43 *140*	— —	— —	— —
H8	42 *140*	44 *145*	49 *160*	— —	— —	— —	— —	— —	— —	38 *125*	40 *130*	44 *145*	38 *125*	40 *130*	44 *145*	— —	— —	— —
H11	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	46 *150*	49 *160*	55 *180*	— —	— —	— —
H12	48 *155*	50 *165*	55 *180*	— —	— —	— —	— —	— —	— —	44 *145*	46 *150*	50 *165*	44 *145*	46 *150*	50 *165*	— —	— —	— —
H21	42 *140*	44 *145*	49 *160*	— —	— —	— —	— —	— —	— —	38 *125*	40 *130*	44 *145*	38 *125*	40 *130*	44 *145*	— —	— —	— —

335.18/29 Round 8 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			H25			MP2501			MS2500			MP3501		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	225 *740*	240 *790*	270 *890*	— —	— —	— —	345 *1125*	355 *1175*	380 *1250*	315 *1025*	330 *1075*	370 *1225*	350 *1150*	360 *1175*	380 *1250*
P2	220 *720*	235 *770*	255 *840*	— —	— —	— —	335 *1100*	345 *1125*	370 *1225*	305 *1000*	325 *1075*	360 *1175*	340 *1125*	350 *1150*	370 *1225*
P3	190 *620*	205 *670*	225 *740*	— —	— —	— —	290 *950*	300 *980*	315 *1025*	265 *870*	280 *920*	310 *1025*	290 *950*	300 *980*	315 *1025*
P4	170 *560*	180 *590*	200 *660*	— —	— —	— —	255 *840*	265 *870*	280 *920*	235 *770*	245 *800*	275 *900*	255 *840*	265 *870*	275 *900*
P5	160 *520*	170 *560*	190 *620*	— —	— —	— —	240 *790*	250 *820*	265 *870*	225 *740*	240 *790*	265 *870*	245 *800*	250 *820*	265 *870*
P6	180 *590*	195 *640*	215 *710*	— —	— —	— —	270 *890*	280 *920*	300 *980*	250 *820*	270 *890*	295 *970*	275 *900*	280 *920*	295 *970*
P7	170 *560*	185 *610*	200 *660*	— —	— —	— —	255 *840*	265 *870*	280 *920*	235 *770*	255 *840*	280 *920*	260 *850*	265 *870*	275 *900*
P8	160 *520*	170 *560*	190 *620*	— —	— —	— —	240 *790*	250 *820*	265 *870*	225 *740*	235 *770*	260 *850*	245 *800*	250 *820*	265 *870*
P11	165 *540*	180 *590*	195 *640*	— —	— —	— —	250 *820*	260 *850*	275 *900*	230 *750*	245 *800*	270 *890*	250 *820*	260 *850*	270 *890*
P12	105 *345*	110 *360*	120 *395*	— —	— —	— —	145 *475*	150 *490*	155 *510*	145 *475*	155 *510*	170 *560*	135 *445*	140 *460*	145 *475*
M1	175 *570*	190 *620*	205 *670*	— —	— —	— —	200 *660*	215 *710*	235 *770*	220 *720*	230 *750*	255 *840*	235 *770*	250 *820*	275 *900*
M2	145 *475*	155 *510*	170 *560*	— —	— —	— —	165 *540*	175 *570*	195 *640*	180 *590*	190 *620*	210 *690*	190 *620*	205 *670*	225 *740*
M3	115 *375*	120 *395*	135 *445*	— —	— —	— —	130 *425*	140 *460*	155 *510*	140 *460*	150 *490*	165 *540*	150 *490*	160 *520*	175 *570*
M4	90 *295*	95 *310*	100 *330*	— —	— —	— —	100 *330*	105 *345*	120 *395*	110 *360*	115 *375*	125 *410*	115 *375*	125 *410*	135 *445*
M5	75 *245*	80 *260*	85 *280*	— —	— —	— —	85 *280*	90 *295*	100 *330*	90 *295*	95 *310*	105 *345*	95 *310*	100 *330*	115 *375*
K1	175 *570*	185 *610*	205 *670*	— —	— —	— —	335 *1100*	350 *1150*	370 *1225*	— —	— —	— —	— —	— —	— —
K2	150 *490*	160 *520*	180 *590*	— —	— —	— —	295 *970*	305 *1000*	320 *1050*	— —	— —	— —	— —	— —	— —
K3	130 *425*	135 *445*	155 *510*	— —	— —	— —	250 *820*	255 *840*	270 *890*	— —	— —	— —	— —	— —	— —
K4	125 *410*	130 *425*	145 *475*	— —	— —	— —	235 *770*	245 *800*	260 *850*	— —	— —	— —	— —	— —	— —
K5	75 *245*	80 *260*	90 *295*	— —	— —	— —	140 *460*	145 *475*	155 *510*	— —	— —	— —	— —	— —	— —
K6	110 *360*	115 *375*	130 *425*	— —	— —	— —	210 *690*	215 *710*	230 *750*	— —	— —	— —	— —	— —	— —
K7	95 *310*	100 *330*	115 *375*	— —	— —	— —	180 *590*	185 *610*	195 *640*	— —	— —	— —	— —	— —	— —
N1	1300 *4275*	1400 *4600*	1550 *5075*	1525 *5000*	1625 *5325*	1800 *5900*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	530 *1750*	570 *1875*	620 *2025*	620 *2025*	650 *2125*	720 *2350*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	355 *1175*	380 *1250*	415 *1350*	410 *1350*	435 *1425*	480 *1575*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	405 *1325*	435 *1425*	475 *1550*	470 *1550*	500 *1650*	550 *1800*	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	41 *135*	44 *145*	48 *155*	— —	— —	— —	— —	— —	— —	55 *180*	55 *180*	60 *195*	38 *125*	40 *130*	44 *145*
S2	33 *110*	35 *115*	39 *130*	— —	— —	— —	— —	— —	— —	43 *140*	45 *150*	50 *165*	30 *100*	32 *105*	36 *120*
S3	29 *95*	30 *100*	34 *110*	— —	— —	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	38 *125*	40 *130*	44 *145*
S11	60 *195*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	75 *245*	80 *260*	90 *295*
S12	49 *160*	50 *165*	55 *180*	— —	— —	— —	— —	— —	— —	65 *215*	65 *215*	75 *245*	55 *180*	55 *180*	60 *195*
S13	28 *90*	30 *100*	33 *110*	— —	— —	— —	— —	— —	— —	36 *120*	38 *125*	43 *140*	30 *100*	32 *105*	35 *115*
H5	34 *110*	37 *120*	41 *135*	— —	— —	— —	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*
H8	36 *120*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	50 *165*	55 *180*
H11	44 *145*	47 *155*	50 *165*	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*
H12	42 *140*	44 *145*	49 *160*	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	85 *280*	95 *310*	100 *330*
H21	36 *120*	38 *125*	42 *140*	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	50 *165*	55 *180*

335.18/29 Round 10 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	RDKT10T3M0T-8-M05 F40M	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
P2	RDKT10T3M0T-8-M05 F40M	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
P3	RDKT10T3M0T-8-M05 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
P4	RDKT10T3M0T-8-M05 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
P5	RDKT10T3M0T-8-M05 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
P6	RDKT10T3M0T-8-M05 F40M	0,075 *0.0030*	0,085 *0.0034*	0,12 *0.0048*
P7	RDKW10T3M0T-8-MD06 F40M	0,090 *0.0036*	0,10 *0.0040*	0,14 *0.0055*
P8	RDKW10T3M0T-8-MD06 MP2501	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
P11	RDKT10T3M0T-8-M07 F40M	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
P12	RDKT10T3M0T-8-M07 F40M	0,075 *0.0030*	0,085 *0.0034*	0,11 *0.0044*
M1	RDKT10T3M0T-8-M05 F40M	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
M2	RDKT10T3M0T-8-M05 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
M3	RDKT10T3M0T-8-M05 F40M	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
M4	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,080 *0.0032*
M5	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,080 *0.0032*
K1	RDKW10T3M0T-8-MD06 MK2050	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
K2	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 *0.0044*	0,14 *0.0055*
K3	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 *0.0044*	0,14 *0.0055*
K4	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 *0.0044*	0,14 *0.0055*
K5	RDKW10T3M0T-8-MD06 MK2050	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
K6	RDKW10T3M0T-8-MD06 MK2050	0,090 *0.0036*	0,11 *0.0044*	0,14 *0.0055*
K7	RDKW10T3M0T-8-MD06 MK2050	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
N1	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
N2	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
N3	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
N11	RDHT10T3M0-8-E04 H25	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
S1	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,080 *0.0032*
S2	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,080 *0.0032*
S3	RDKT10T3M0T-8-M05 F40M	0,050 *0.0020*	0,055 *0.0022*	0,075 *0.0030*
S11	RDKT10T3M0T-8-M05 F40M	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
S12	RDKT10T3M0T-8-M05 F40M	0,060 *0.0024*	0,070 *0.0028*	0,095 *0.0038*
S13	RDKT10T3M0T-8-M05 F40M	0,055 *0.0022*	0,060 *0.0024*	0,080 *0.0032*
H5	RDKW10T3M0T-8-MD06 F15M	0,065 *0.0026*	0,070 *0.0028*	0,095 *0.0038*
H8	RDKW10T3M0T-8-MD06 F15M	0,048 *0.0019*	0,055 *0.0022*	0,075 *0.0030*
H11	RDKW10T3M0T-8-MD06 F15M	0,065 *0.0026*	0,070 *0.0028*	0,095 *0.0038*
H12	RDKW10T3M0T-8-MD06 F15M	0,048 *0.0019*	0,055 *0.0022*	0,075 *0.0030*
H21	RDKW10T3M0T-8-MD06 F15M	0,048 *0.0019*	0,055 *0.0022*	0,075 *0.0030*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18/29 Round 10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			F15M			MK2050			MS2050			F40M			H25		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	—	—	—	255	270	295	285	305	340	220	235	265	245	260	290	—	—	—
	—	—	—	*840*	*890*	*970*	*940*	*1000*	*1125*	*720*	*770*	*870*	*800*	*850*	*950*	—	—	—
P2	—	—	—	245	260	290	280	295	325	215	230	255	240	255	280	—	—	—
	—	—	—	*800*	*850*	*950*	*920*	*970*	*1075*	*710*	*750*	*840*	*790*	*840*	*920*	—	—	—
P3	—	—	—	210	230	250	240	260	285	190	205	220	210	220	240	—	—	—
	—	—	—	*690*	*750*	*820*	*790*	*850*	*940*	*620*	*670*	*720*	*690*	*720*	*790*	—	—	—
P4	—	—	—	190	200	220	215	230	255	165	180	195	185	195	215	—	—	—
	—	—	—	*620*	*660*	*720*	*710*	*750*	*840*	*540*	*590*	*640*	*610*	*640*	*710*	—	—	—
P5	220	230	255	180	190	210	205	220	240	160	170	190	175	185	205	—	—	—
	720	*750*	*840*	*590*	*620*	*690*	*670*	*720*	*790*	*520*	*560*	*620*	*570*	*610*	*670*	—	—	—
P6	245	260	290	205	215	240	230	245	270	180	190	215	195	210	230	—	—	—
	800	*850*	*950*	*670*	*710*	*790*	*750*	*800*	*890*	*590*	*620*	*710*	*640*	*690*	*750*	—	—	—
P7	230	245	275	190	205	225	215	230	255	170	180	200	185	200	220	—	—	—
	750	*800*	*900*	*620*	*670*	*740*	*710*	*750*	*840*	*560*	*590*	*660*	*610*	*660*	*720*	—	—	—
P8	215	230	255	180	190	210	200	220	240	160	170	185	175	185	205	—	—	—
	710	*750*	*840*	*590*	*620*	*690*	*660*	*720*	*790*	*520*	*560*	*610*	*570*	*610*	*670*	—	—	—
P11	225	240	265	185	200	220	210	225	250	165	175	195	180	190	210	—	—	—
	740	*790*	*870*	*610*	*660*	*720*	*690*	*740*	*820*	*540*	*570*	*640*	*590*	*620*	*690*	—	—	—
P12	140	150	165	—	—	—	135	145	155	105	115	125	115	120	135	—	—	—
	460	*490*	*540*	—	—	—	*445*	*475*	*510*	*345*	*375*	*410*	*375*	*395*	*445*	—	—	—
M1	—	—	—	—	—	—	—	—	—	175	185	205	190	205	225	—	—	—
	—	—	—	—	—	—	—	—	—	*570*	*610*	*670*	*620*	*670*	*740*	—	—	—
M2	—	—	—	—	—	—	—	—	—	145	155	170	155	170	185	—	—	—
	—	—	—	—	—	—	—	—	—	*475*	*510*	*560*	*510*	*560*	*610*	—	—	—
M3	—	—	—	—	—	—	—	—	—	115	125	135	125	130	145	—	—	—
	—	—	—	—	—	—	—	—	—	*375*	*410*	*445*	*410*	*425*	*475*	—	—	—
M4	—	—	—	—	—	—	—	—	—	90	95	105	95	100	110	—	—	—
	—	—	—	—	—	—	—	—	—	*295*	*310*	*345*	*310*	*330*	*360*	—	—	—
M5	—	—	—	—	—	—	—	—	—	75	80	90	80	85	95	—	—	—
	—	—	—	—	—	—	—	—	—	*245*	*260*	*295*	*260*	*280*	*310*	—	—	—
K1	235	250	275	195	205	230	300	320	350	—	—	—	190	200	220	—	—	—
	770	*820*	*900*	*640*	*670*	*750*	*980*	*1050*	*1150*	—	—	—	*620*	*660*	*720*	—	—	—
K2	205	220	240	170	185	200	265	280	310	—	—	—	165	175	195	—	—	—
	670	*720*	*790*	*560*	*610*	*660*	*870*	*920*	*1025*	—	—	—	*540*	*570*	*640*	—	—	—
K3	175	185	205	145	155	170	225	240	265	—	—	—	140	150	165	—	—	—
	570	*610*	*670*	*475*	*510*	*560*	*740*	*790*	*870*	—	—	—	*460*	*490*	*540*	—	—	—
K4	165	180	195	140	145	160	215	225	250	—	—	—	135	145	160	—	—	—
	540	*590*	*640*	*460*	*475*	*520*	*710*	*740*	*820*	—	—	—	*445*	*475*	*520*	—	—	—
K5	100	110	120	85	90	100	130	140	155	—	—	—	80	85	95	—	—	—
	330	*360*	*395*	*280*	*295*	*330*	*425*	*460*	*510*	—	—	—	*260*	*280*	*310*	—	—	—
K6	145	155	175	120	130	145	190	200	220	—	—	—	120	125	140	—	—	—
	475	*510*	*570*	*395*	*425*	*475*	*620*	*660*	*720*	—	—	—	*395*	*410*	*460*	—	—	—
K7	130	140	155	110	115	125	165	180	195	—	—	—	105	110	120	—	—	—
	425	*460*	*510*	*360*	*375*	*410*	*540*	*590*	*640*	—	—	—	*345*	*360*	*395*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1425	1500	1675	1450	1550	1700
	—	—	—	—	—	—	—	—	—	—	—	—	*4675*	*4925*	*5500*	*4750*	*5075*	*5575*
N2	—	—	—	—	—	—	—	—	—	—	—	—	570	610	670	580	620	680
	—	—	—	—	—	—	—	—	—	—	—	—	*1875*	*2000*	*2200*	*1900*	*2025*	*2225*
N3	—	—	—	—	—	—	—	—	—	—	—	—	380	405	450	390	415	455
	—	—	—	—	—	—	—	—	—	—	—	—	*1250*	*1325*	*1475*	*1275*	*1350*	*1500*
N11	—	—	—	—	—	—	—	—	—	—	—	—	435	460	510	445	475	520
	—	—	—	—	—	—	—	—	—	—	—	—	*1425*	*1500*	*1675*	*1450*	*1550*	*1700*
S1	—	—	—	—	—	—	—	—	—	42	45	49	45	47	50	—	—	—
	—	—	—	—	—	—	—	—	—	*140*	*150*	*160*	*150*	*155*	*165*	—	—	—
S2	—	—	—	—	—	—	—	—	—	34	36	40	36	38	42	—	—	—
	—	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*120*	*125*	*140*	—	—	—
S3	—	—	—	—	—	—	—	—	—	30	32	35	32	33	37	—	—	—
	—	—	—	—	—	—	—	—	—	*100*	*105*	*115*	*105*	*110*	*120*	—	—	—
S11	—	—	—	—	—	—	—	—	—	60	65	70	65	65	75	—	—	—
	—	—	—	—	—	—	—	—	—	*195*	*215*	*230*	*215*	*215*	*245*	—	—	—
S12	—	—	—	—	—	—	—	—	—	49	55	60	55	55	65	—	—	—
	—	—	—	—	—	—	—	—	—	*160*	*180*	*195*	*180*	*180*	*215*	—	—	—
S13	—	—	—	—	—	—	—	—	—	29	31	34	31	32	36	—	—	—
	—	—	—	—	—	—	—	—	—	*95*	*100*	*110*	*100*	*105*	*120*	—	—	—
H5	47	50	55	39	42	46	—	—	—	—	—	—	38	40	44	—	—	—
	155	*165*	*180*	*130*	*140*	*150*	—	—	—	—	—	—	*125*	*130*	*145*	—	—	—
H8	49	55	60	41	44	48	—	—	—	—	—	—	39	42	46	—	—	—
	160	*180*	*195*	*135*	*145*	*155*	—	—	—	—	—	—	*130*	*140*	*150*	—	—	—
H11	60	65	70	50	55	60	—	—	—	—	—	—	48	50	55	—	—	—
	195	*215*	*230*	*165*	*180*	*195*	—	—	—	—	—	—	*155*	*165*	*180*	—	—	—
H12	55	60	70	47	50	55	—	—	—	—	—	—	45	48	55	—	—	—
	180	*195*	*230*	*155*	*165*	*180*	—	—	—	—	—	—	*150*	*155*	*180*	—	—	—
H21	49	55	60	41	44	48	—	—	—	—	—	—	39	42	46	—	—	—
	160	*180*	*195*	*135*	*145*	*155*	—	—	—	—	—	—	*130*	*140*	*150*	—	—	—

335.18/29 Round 10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	345 *1125*	360 *1175*	385 *1275*	365 *1200*	380 *1250*	410 *1350*	355 *1175*	375 *1225*	415 *1350*	350 *1150*	365 *1200*	385 *1275*	200 *660*	210 *690*	235 *770*
P2	335 *1100*	350 *1150*	370 *1225*	355 *1175*	370 *1225*	395 *1300*	345 *1125*	365 *1200*	405 *1325*	340 *1125*	355 *1175*	375 *1225*	195 *640*	205 *670*	230 *750*
P3	290 *950*	300 *980*	320 *1050*	305 *1000*	320 *1050*	340 *1125*	300 *980*	315 *1025*	350 *1150*	295 *970*	305 *1000*	325 *1075*	170 *560*	180 *590*	195 *640*
P4	255 *840*	265 *870*	285 *940*	270 *890*	285 *940*	300 *980*	265 *870*	280 *920*	310 *1025*	260 *850*	270 *890*	285 *940*	150 *490*	155 *510*	175 *570*
P5	245 *800*	255 *840*	270 *890*	260 *850*	270 *890*	290 *950*	250 *820*	270 *890*	295 *970*	245 *800*	255 *840*	270 *890*	140 *460*	150 *490*	165 *540*
P6	275 *900*	285 *940*	305 *1000*	290 *950*	305 *1000*	325 *1075*	280 *920*	300 *980*	335 *1100*	275 *900*	285 *940*	305 *1000*	160 *520*	170 *560*	190 *620*
P7	260 *850*	270 *890*	285 *940*	275 *900*	285 *940*	305 *1000*	265 *870*	285 *940*	315 *1025*	260 *850*	270 *890*	285 *940*	150 *490*	160 *520*	175 *570*
P8	245 *800*	255 *840*	270 *890*	260 *850*	270 *890*	285 *940*	250 *820*	265 *870*	290 *950*	245 *800*	255 *840*	270 *890*	140 *460*	150 *490*	165 *540*
P11	250 *820*	260 *850*	280 *920*	270 *890*	280 *920*	295 *970*	260 *850*	275 *900*	305 *1000*	255 *840*	265 *870*	280 *920*	145 *475*	155 *510*	170 *560*
P12	150 *490*	155 *510*	160 *520*	160 *520*	165 *540*	175 *570*	165 *540*	175 *570*	195 *640*	145 *475*	150 *490*	160 *520*	90 *295*	100 *330*	110 *360*
M1	— —	— —	— —	205 *670*	215 *710*	240 *790*	245 *800*	260 *850*	290 *950*	210 *690*	225 *740*	250 *820*	165 *540*	175 *570*	195 *640*
M2	— —	— —	— —	170 *560*	180 *590*	195 *640*	200 *660*	215 *710*	235 *770*	175 *570*	185 *610*	205 *670*	135 *445*	145 *475*	160 *520*
M3	— —	— —	— —	135 *445*	145 *475*	155 *510*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	160 *520*	105 *345*	115 *375*	125 *410*
M4	— —	— —	— —	100 *330*	110 *360*	120 *395*	125 *410*	130 *425*	145 *475*	105 *345*	110 *360*	125 *410*	85 *280*	90 *295*	95 *310*
M5	— —	— —	— —	85 *280*	90 *295*	100 *330*	100 *330*	110 *360*	120 *395*	90 *295*	95 *310*	105 *345*	70 *230*	75 *245*	80 *260*
K1	340 *1125*	355 *1175*	375 *1225*	360 *1175*	375 *1225*	400 *1300*	270 *890*	290 *950*	320 *1050*	345 *1125*	355 *1175*	380 *1250*	— —	— —	— —
K2	295 *970*	305 *1000*	325 *1075*	315 *1025*	325 *1075*	350 *1150*	240 *790*	255 *840*	280 *920*	300 *980*	310 *1025*	330 *1075*	— —	— —	— —
K3	250 *820*	260 *850*	275 *900*	265 *870*	275 *900*	295 *970*	200 *660*	215 *710*	240 *790*	250 *820*	260 *850*	275 *900*	— —	— —	— —
K4	240 *790*	250 *820*	265 *870*	255 *840*	265 *870*	280 *920*	195 *640*	205 *670*	230 *750*	240 *790*	250 *820*	265 *870*	— —	— —	— —
K5	145 *475*	150 *490*	155 *510*	150 *490*	160 *520*	170 *560*	120 *395*	125 *410*	140 *460*	145 *475*	150 *490*	155 *510*	— —	— —	— —
K6	210 *690*	220 *720*	230 *750*	225 *740*	235 *770*	250 *820*	170 *560*	180 *590*	200 *660*	210 *690*	220 *720*	235 *770*	— —	— —	— —
K7	185 *610*	190 *620*	200 *660*	195 *640*	205 *670*	215 *710*	150 *490*	160 *520*	175 *570*	185 *610*	190 *620*	200 *660*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	34 *110*	37 *120*	40 *130*	25 *80*	27 *90*	30 *100*
S2	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*	28 *90*	29 *95*	33 *110*	20 *65*	22 *70*	24 *80*
S3	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	49 *160*	35 *115*	37 *120*	40 *130*	18 *60*	19 *60*	21 *70*
S11	— —	— —	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	70 *230*	75 *245*	80 *260*	36 *120*	38 *125*	42 *140*
S12	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	48 *155*	50 *165*	55 *180*	33 *110*	35 *115*	39 *130*
S13	— —	— —	— —	— —	— —	— —	41 *135*	43 *140*	48 *155*	28 *90*	29 *95*	32 *105*	19 *60*	20 *65*	22 *70*
H5	49 *160*	50 *165*	55 *180*	— —	— —	— —	49 *160*	50 *165*	60 *195*	43 *140*	46 *150*	50 *165*	— —	— —	— —
H8	50 *165*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	45 *150*	48 *155*	55 *180*	— —	— —	— —
H11	60 *195*	65 *215*	75 *245*	— —	— —	— —	60 *195*	65 *215*	75 *245*	55 *180*	60 *195*	65 *215*	— —	— —	— —
H12	60 *195*	65 *215*	70 *230*	— —	— —	— —	60 *195*	65 *215*	70 *230*	80 *260*	85 *280*	95 *310*	— —	— —	— —
H21	50 *165*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	45 *150*	48 *155*	55 *180*	— —	— —	— —

335.18/29 Round 12 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	RPHT1204M0T-6-ME07 F40M	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
P2	RPHT1204M0T-6-ME07 F40M	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
P3	RPHT1204M0T-6-M08 F40M	0,13 *0.0050*	0,15 *0.0060*	0,19 *0.0075*
P4	RPHT1204M0T-6-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P5	RPHT1204M0T-6-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P6	RPHT1204M0T-6-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P7	RPHT1204M0T-6-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P8	RPHT1204M0T-6-M08 MP2501	0,13 *0.0050*	0,15 *0.0060*	0,19 *0.0075*
P11	RPHT1204M0T-6-M08 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
P12	RPHT1204M0T-6-M08 F40M	0,085 *0.0034*	0,095 *0.0038*	0,13 *0.0050*
M1	RPHT1204M0T-6-ME07 F40M	0,12 *0.0048*	0,13 *0.0050*	0,18 *0.0070*
M2	RPHT1204M0T-6-ME07 F40M	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
M3	RPHT1204M0T-6-M08 F40M	0,10 *0.0040*	0,11 *0.0044*	0,15 *0.0060*
M4	RPHT1204M0T-6-M08 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
M5	RPHT1204M0T-6-M08 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
K1	RPKW1204M0T-6-MD10 MK2050	0,17 *0.0065*	0,19 *0.0075*	0,26 *0.010*
K2	RPKW1204M0T-6-MD10 MK2050	0,15 *0.0060*	0,18 *0.0070*	0,24 *0.0095*
K3	RPKW1204M0T-6-MD10 MK2050	0,15 *0.0060*	0,18 *0.0070*	0,24 *0.0095*
K4	RPKW1204M0T-6-MD10 MK2050	0,15 *0.0060*	0,18 *0.0070*	0,24 *0.0095*
K5	RPKW1204M0T-6-MD10 MK2050	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
K6	RPKW1204M0T-6-MD10 MK2050	0,15 *0.0060*	0,18 *0.0070*	0,24 *0.0095*
K7	RPKW1204M0T-6-MD10 MK2050	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
N1	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
N2	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
N3	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
N11	RPHT1204M0-6-E05 H25	0,11 *0.0044*	0,12 *0.0048*	0,16 *0.0065*
S1	RPHT1204M0T-6-M08 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
S2	RPHT1204M0T-6-M08 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
S3	RPHT1204M0T-6-M08 F40M	0,080 *0.0032*	0,090 *0.0036*	0,12 *0.0048*
S11	RPHT1204M0T-6-ME07 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
S12	RPHT1204M0T-6-ME07 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
S13	RPHT1204M0T-6-M08 F40M	0,085 *0.0034*	0,10 *0.0040*	0,13 *0.0050*
H5	RPHW1204M0T-6-MD12 MH1000	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
H8	RPHW1204M0T-6-MD12 MH1000	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*
H11	RPHT1204M0T-6-M13 F40M	0,14 *0.0055*	0,15 *0.0060*	0,20 *0.0080*
H12	RPHT1204M0T-6-M13 F40M	0,10 *0.0040*	0,12 *0.0048*	0,16 *0.0065*
H21	RPHW1204M0T-6-MD12 MH1000	0,095 *0.0038*	0,11 *0.0044*	0,15 *0.0060*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.18/29 Round 12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			MK2050			MP3000			MS2050			F40M			H25		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	—	—	—	240	255	285	270	285	320	240	255	290	220	235	260	—	—	—
	—	—	—	*790*	*840*	*940*	*890*	*940*	*1050*	*790*	*840*	*950*	*720*	*770*	*850*	—	—	—
P2	—	—	—	235	250	275	265	280	310	235	250	275	210	225	250	—	—	—
	—	—	—	*770*	*820*	*900*	*870*	*920*	*1025*	*770*	*820*	*900*	*690*	*740*	*820*	—	—	—
P3	—	—	—	200	220	240	230	245	265	205	220	240	185	200	220	—	—	—
	—	—	—	*660*	*720*	*790*	*750*	*800*	*870*	*670*	*720*	*790*	*610*	*660*	*720*	—	—	—
P4	—	—	—	180	190	210	200	215	240	180	190	215	165	175	195	—	—	—
	—	—	—	*590*	*620*	*690*	*660*	*710*	*790*	*590*	*620*	*710*	*540*	*570*	*640*	—	—	—
P5	225	240	265	170	185	205	195	205	230	170	185	205	155	165	185	—	—	—
	740	*790*	*870*	*560*	*610*	*670*	*640*	*670*	*750*	*560*	*610*	*670*	*510*	*540*	*610*	—	—	—
P6	250	270	295	195	210	230	215	230	255	195	210	230	175	190	210	—	—	—
	820	*890*	*970*	*640*	*690*	*750*	*710*	*750*	*840*	*640*	*690*	*750*	*570*	*620*	*690*	—	—	—
P7	235	255	280	180	200	220	205	220	240	180	200	220	165	180	200	—	—	—
	770	*840*	*920*	*590*	*660*	*720*	*670*	*720*	*790*	*590*	*660*	*720*	*540*	*590*	*660*	—	—	—
P8	225	235	260	170	185	200	195	205	225	170	185	205	155	165	185	—	—	—
	740	*770*	*850*	*560*	*610*	*660*	*640*	*670*	*740*	*560*	*610*	*670*	*510*	*540*	*610*	—	—	—
P11	230	245	270	175	195	210	200	210	235	175	190	210	160	175	190	—	—	—
	750	*800*	*890*	*570*	*640*	*690*	*660*	*690*	*770*	*570*	*620*	*690*	*520*	*570*	*620*	—	—	—
P12	145	155	170	115	125	135	125	135	150	115	120	135	105	110	125	—	—	—
	475	*510*	*560*	*375*	*410*	*445*	*410*	*445*	*490*	*375*	*395*	*445*	*345*	*360*	*410*	—	—	—
M1	—	—	—	—	—	—	195	210	230	190	200	220	170	185	200	—	—	—
	—	—	—	—	—	—	*640*	*690*	*750*	*620*	*660*	*720*	*560*	*610*	*660*	—	—	—
M2	—	—	—	—	—	—	160	175	190	155	165	185	140	150	170	—	—	—
	—	—	—	—	—	—	*520*	*570*	*620*	*510*	*540*	*610*	*460*	*490*	*560*	—	—	—
M3	—	—	—	—	—	—	130	135	150	125	130	145	115	120	135	—	—	—
	—	—	—	—	—	—	*425*	*445*	*490*	*410*	*425*	*475*	*375*	*395*	*445*	—	—	—
M4	—	—	—	—	—	—	100	105	115	95	105	115	85	95	100	—	—	—
	—	—	—	—	—	—	*330*	*345*	*375*	*310*	*345*	*375*	*280*	*310*	*330*	—	—	—
M5	—	—	—	—	—	—	80	85	95	80	85	95	75	80	85	—	—	—
	—	—	—	—	—	—	*260*	*280*	*310*	*260*	*280*	*310*	*245*	*260*	*280*	—	—	—
K1	240	255	285	250	270	295	175	185	205	—	—	—	170	180	200	—	—	—
	790	*840*	*940*	*820*	*890*	*970*	*570*	*610*	*670*	—	—	—	*560*	*590*	*660*	—	—	—
K2	210	225	250	220	235	265	155	165	180	—	—	—	150	160	175	—	—	—
	690	*740*	*820*	*720*	*770*	*870*	*510*	*540*	*590*	—	—	—	*490*	*520*	*570*	—	—	—
K3	180	190	210	190	200	225	130	140	155	—	—	—	125	135	150	—	—	—
	590	*620*	*690*	*620*	*660*	*740*	*425*	*460*	*510*	—	—	—	*410*	*445*	*490*	—	—	—
K4	170	185	205	180	190	215	125	135	145	—	—	—	120	130	145	—	—	—
	560	*610*	*670*	*590*	*620*	*710*	*410*	*445*	*475*	—	—	—	*395*	*425*	*475*	—	—	—
K5	105	110	125	110	120	130	75	80	90	—	—	—	75	80	85	—	—	—
	345	*360*	*410*	*360*	*395*	*425*	*245*	*260*	*295*	—	—	—	*245*	*260*	*280*	—	—	—
K6	150	160	180	160	170	190	110	115	130	—	—	—	105	115	125	—	—	—
	490	*520*	*590*	*520*	*560*	*620*	*360*	*375*	*425*	—	—	—	*345*	*375*	*410*	—	—	—
K7	135	145	155	140	150	170	95	105	115	—	—	—	95	100	110	—	—	—
	445	*475*	*510*	*460*	*490*	*560*	*310*	*345*	*375*	—	—	—	*310*	*330*	*360*	—	—	—
N1	—	—	—	—	—	—	1575	1650	1850	—	—	—	1250	1350	1475	1375	1450	1625
	—	—	—	—	—	—	*5175*	*5425*	*6075*	—	—	—	*4100*	*4425*	*4850*	*4500*	*4750*	*5325*
N2	—	—	—	—	—	—	630	670	740	—	—	—	500	540	600	560	590	650
	—	—	—	—	—	—	*2075*	*2200*	*2425*	—	—	—	*1650*	*1775*	*1975*	*1825*	*1925*	*2125*
N3	—	—	—	—	—	—	420	445	495	—	—	—	335	365	395	370	395	435
	—	—	—	—	—	—	*1375*	*1450*	*1625*	—	—	—	*1100*	*1200*	*1300*	*1225*	*1300*	*1425*
N11	—	—	—	—	—	—	480	510	570	—	—	—	385	415	455	425	450	500
	—	—	—	—	—	—	*1575*	*1675*	*1875*	—	—	—	*1275*	*1350*	*1500*	*1400*	*1475*	*1650*
S1	—	—	—	—	—	—	46	49	55	45	48	55	41	44	48	—	—	—
	—	—	—	—	—	—	*150*	*160*	*180*	*150*	*155*	*180*	*135*	*145*	*155*	—	—	—
S2	—	—	—	—	—	—	37	39	43	36	39	42	33	35	38	—	—	—
	—	—	—	—	—	—	*120*	*130*	*140*	*120*	*130*	*140*	*110*	*115*	*125*	—	—	—
S3	—	—	—	—	—	—	32	34	38	32	34	37	29	31	34	—	—	—
	—	—	—	—	—	—	*105*	*110*	*125*	*105*	*110*	*120*	*95*	*100*	*110*	—	—	—
S11	—	—	—	—	—	—	65	70	75	65	65	75	55	60	65	—	—	—
	—	—	—	—	—	—	*215*	*230*	*245*	*215*	*215*	*245*	*180*	*195*	*215*	—	—	—
S12	—	—	—	—	—	—	55	60	65	55	55	60	48	50	55	—	—	—
	—	—	—	—	—	—	*180*	*195*	*215*	*180*	*180*	*195*	*155*	*165*	*180*	—	—	—
S13	—	—	—	—	—	—	31	33	37	31	33	36	28	30	33	—	—	—
	—	—	—	—	—	—	*100*	*110*	*120*	*100*	*110*	*120*	*90*	*100*	*110*	—	—	—
H5	48	50	55	—	—	—	35	37	41	—	—	—	35	37	41	—	—	—
	155	*165*	*180*	—	—	—	*115*	*120*	*135*	—	—	—	*115*	*120*	*135*	—	—	—
H8	50	55	60	—	—	—	36	39	42	—	—	—	36	39	43	—	—	—
	165	*180*	*195*	—	—	—	*120*	*130*	*140*	—	—	—	*120*	*130*	*140*	—	—	—
H11	60	65	75	—	—	—	44	48	55	—	—	—	44	47	50	—	—	—
	195	*215*	*245*	—	—	—	*145*	*155*	*180*	—	—	—	*145*	*155*	*165*	—	—	—
H12	60	60	70	—	—	—	42	45	49	—	—	—	42	45	50	—	—	—
	195	*195*	*230*	—	—	—	*140*	*150*	*160*	—	—	—	*140*	*150*	*165*	—	—	—
H21	50	55	60	—	—	—	36	39	42	—	—	—	36	39	43	—	—	—
	165	*180*	*195*	—	—	—	*120*	*130*	*140*	—	—	—	*120*	*130*	*140*	—	—	—

335.18/29 Round 12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	325 *1075*	345 *1125*	370 *1225*	370 *1225*	385 *1275*	415 *1350*	315 *1025*	335 *1100*	375 *1225*	335 *1100*	350 *1150*	375 *1225*	175 *570*	190 *620*	210 *690*
P2	320 *1050*	335 *1100*	360 *1175*	360 *1175*	375 *1225*	400 *1300*	305 *1000*	325 *1075*	360 *1175*	325 *1075*	340 *1125*	360 *1175*	170 *560*	185 *610*	200 *660*
P3	275 *900*	295 *970*	315 *1025*	315 *1025*	325 *1075*	350 *1150*	270 *890*	285 *940*	315 *1025*	280 *920*	295 *970*	315 *1025*	150 *490*	160 *520*	180 *590*
P4	245 *800*	260 *850*	275 *900*	275 *900*	285 *940*	305 *1000*	235 *770*	250 *820*	280 *920*	250 *820*	260 *850*	275 *900*	135 *445*	140 *460*	155 *510*
P5	235 *770*	245 *800*	270 *890*	265 *870*	275 *900*	295 *970*	225 *740*	240 *790*	270 *890*	235 *770*	250 *820*	265 *870*	125 *410*	135 *445*	150 *490*
P6	265 *870*	280 *920*	300 *980*	295 *970*	310 *1025*	330 *1075*	255 *840*	275 *900*	300 *980*	265 *870*	280 *920*	300 *980*	140 *460*	155 *510*	170 *560*
P7	250 *820*	265 *870*	285 *940*	280 *920*	295 *970*	310 *1025*	240 *790*	260 *850*	285 *940*	250 *820*	265 *870*	280 *920*	135 *445*	145 *475*	160 *520*
P8	235 *770*	245 *800*	265 *870*	265 *870*	275 *900*	295 *970*	225 *740*	240 *790*	265 *870*	235 *770*	250 *820*	265 *870*	125 *410*	135 *445*	150 *490*
P11	240 *790*	260 *850*	275 *900*	270 *890*	285 *940*	305 *1000*	230 *750*	250 *820*	275 *900*	245 *800*	255 *840*	275 *900*	130 *425*	140 *460*	155 *510*
P12	155 *510*	160 *520*	175 *570*	165 *540*	170 *560*	180 *590*	150 *490*	160 *520*	175 *570*	150 *490*	155 *510*	165 *540*	85 *280*	90 *295*	100 *330*
M1	— —	— —	— —	200 *660*	215 *710*	235 *770*	220 *720*	235 *770*	255 *840*	190 *620*	200 *660*	220 *720*	150 *490*	160 *520*	175 *570*
M2	— —	— —	— —	165 *540*	175 *570*	200 *660*	180 *590*	190 *620*	215 *710*	155 *510*	165 *540*	185 *610*	120 *395*	130 *425*	145 *475*
M3	— —	— —	— —	135 *445*	140 *460*	155 *510*	145 *475*	155 *510*	170 *560*	125 *410*	130 *425*	145 *475*	100 *330*	105 *345*	115 *375*
M4	— —	— —	— —	105 *345*	110 *360*	120 *395*	110 *360*	120 *395*	130 *425*	95 *310*	105 *345*	115 *375*	75 *245*	80 *260*	90 *295*
M5	— —	— —	— —	85 *280*	90 *295*	100 *330*	95 *310*	100 *330*	110 *360*	80 *260*	85 *280*	95 *310*	65 *215*	65 *215*	75 *245*
K1	320 *1050*	340 *1125*	365 *1200*	365 *1200*	380 *1250*	405 *1325*	240 *790*	260 *850*	285 *940*	330 *1075*	345 *1125*	365 *1200*	— —	— —	— —
K2	285 *940*	300 *980*	325 *1075*	320 *1050*	330 *1075*	355 *1175*	215 *710*	230 *750*	255 *840*	285 *940*	300 *980*	320 *1050*	— —	— —	— —
K3	240 *790*	250 *820*	275 *900*	270 *890*	280 *920*	300 *980*	180 *590*	195 *640*	215 *710*	245 *800*	255 *840*	270 *890*	— —	— —	— —
K4	230 *750*	240 *790*	260 *850*	255 *840*	270 *890*	290 *950*	175 *570*	185 *610*	205 *670*	230 *750*	240 *790*	260 *850*	— —	— —	— —
K5	140 *460*	145 *475*	160 *520*	155 *510*	160 *520*	175 *570*	105 *345*	115 *375*	125 *410*	140 *460*	145 *475*	155 *510*	— —	— —	— —
K6	200 *660*	210 *690*	230 *750*	225 *740*	235 *770*	255 *840*	150 *490*	160 *520*	180 *590*	205 *670*	215 *710*	230 *750*	— —	— —	— —
K7	180 *590*	190 *620*	205 *670*	200 *660*	205 *670*	220 *720*	135 *445*	145 *475*	160 *520*	180 *590*	185 *610*	200 *660*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	31 *100*	34 *110*	37 *120*	23 *75*	25 *80*	27 *90*
S2	— —	— —	— —	— —	— —	— —	44 *145*	47 *155*	50 *165*	25 *80*	27 *90*	30 *100*	19 *60*	20 *65*	22 *70*
S3	— —	— —	— —	— —	— —	— —	39 *130*	41 *135*	45 *150*	32 *105*	34 *110*	37 *120*	16 *50*	17 *55*	19 *60*
S11	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	65 *215*	65 *215*	75 *245*	32 *105*	34 *110*	38 *125*
S12	— —	— —	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	44 *145*	46 *150*	50 *165*	30 *100*	32 *105*	35 *115*
S13	— —	— —	— —	— —	— —	— —	37 *120*	40 *130*	44 *145*	25 *80*	27 *90*	30 *100*	17 *55*	19 *60*	20 *65*
H5	44 *145*	47 *155*	50 *165*	— —	— —	— —	45 *150*	48 *155*	55 *180*	40 *130*	42 *140*	47 *155*	— —	— —	— —
H8	48 *155*	50 *165*	55 *180*	— —	— —	— —	47 *155*	50 *165*	55 *180*	42 *140*	44 *145*	49 *160*	— —	— —	— —
H11	55 *180*	60 *195*	65 *215*	— —	— —	— —	55 *180*	60 *195*	65 *215*	50 *165*	55 *180*	60 *195*	— —	— —	— —
H12	55 *180*	60 *195*	65 *215*	— —	— —	— —	55 *180*	60 *195*	65 *215*	75 *245*	80 *260*	90 *295*	— —	— —	— —
H21	48 *155*	50 *165*	55 *180*	— —	— —	— —	47 *155*	50 *165*	55 *180*	42 *140*	44 *145*	49 *160*	— —	— —	— —

335.25 Round 16 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	RPHT1605M0T-8-ME11 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P2	RPHT1605M0T-8-ME11 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P3	RPHT1605M0T-8-ME11 F40M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
P4	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P5	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P6	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P7	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P8	RPKT1605M0T-8-M12 MP2501	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
P11	RPHT1605M0T-8-M12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P12	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M1	RPHT1605M0T-8-ME11 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
M2	RPHT1605M0T-8-ME11 F40M	0,17 *0.0065*	0,20 *0.0080*	0,26 *0.010*
M3	RPHT1605M0T-8-M12 F40M	0,15 *0.0060*	0,17 *0.0065*	0,24 *0.0095*
M4	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M5	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K1	RPKT1605M0T-8-M18 MK2050	0,32 *0.013*	0,36 *0.014*	0,48 *0.019*
K2	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 *0.013*	0,44 *0.017*
K3	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 *0.013*	0,44 *0.017*
K4	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 *0.013*	0,44 *0.017*
K5	RPKT1605M0T-8-M18 MK2050	0,25 *0.010*	0,30 *0.012*	0,38 *0.015*
K6	RPKT1605M0T-8-M18 MK2050	0,28 *0.011*	0,32 *0.013*	0,44 *0.017*
K7	RPKT1605M0T-8-M18 MK2050	0,25 *0.010*	0,30 *0.012*	0,38 *0.015*
N1	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N2	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N3	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
N11	RPHT1605M0T-8-ME11 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
S1	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S2	RPHT1605M0T-8-M12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S3	RPHT1605M0T-8-M12 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
S11	RPHT1605M0T-8-ME11 F40M	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
S12	RPHT1605M0T-8-ME11 F40M	0,14 *0.0055*	0,16 *0.0065*	0,22 *0.0085*
H5	RPKW1605M0T-8-MD20 F15M	0,22 *0.0085*	0,24 *0.0095*	0,32 *0.013*
H8	RPKW1605M0T-8-MD20 F15M	0,16 *0.0065*	0,19 *0.0075*	0,25 *0.010*
H11	RPKW1605M0T-8-MD20 F15M	0,22 *0.0085*	0,24 *0.0095*	0,32 *0.013*
H12	RPKW1605M0T-8-MD20 F15M	0,16 *0.0065*	0,19 *0.0075*	0,25 *0.010*
H21	RPKW1605M0T-8-MD20 F15M	0,16 *0.0065*	0,19 *0.0075*	0,25 *0.010*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25 Round 16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M			MK2050			MP3000			MS2050			F40M		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	170 *560*	180 *590*	205 *670*	215 *710*	230 *750*	255 *840*	205 *670*	220 *720*	245 *800*	215 *710*	230 *750*	260 *850*	185 *610*	195 *640*	220 *720*
P2	165 *540*	175 *570*	195 *640*	205 *670*	220 *720*	245 *800*	200 *660*	215 *710*	235 *770*	210 *690*	225 *740*	250 *820*	180 *590*	190 *620*	210 *690*
P3	145 *475*	155 *510*	170 *560*	180 *590*	195 *640*	215 *710*	175 *570*	185 *610*	205 *670*	185 *610*	200 *660*	215 *710*	155 *510*	170 *560*	185 *610*
P4	130 *425*	135 *445*	150 *490*	160 *520*	170 *560*	190 *620*	155 *510*	165 *540*	185 *610*	160 *520*	175 *570*	190 *620*	140 *460*	150 *490*	165 *540*
P5	125 *410*	130 *425*	145 *475*	155 *510*	165 *540*	185 *610*	150 *490*	160 *520*	175 *570*	155 *510*	165 *540*	185 *610*	135 *445*	140 *460*	155 *510*
P6	140 *460*	150 *490*	165 *540*	175 *570*	185 *610*	205 *670*	165 *540*	180 *590*	195 *640*	175 *570*	185 *610*	210 *690*	150 *490*	160 *520*	180 *590*
P7	130 *425*	140 *460*	155 *510*	165 *540*	175 *570*	195 *640*	160 *520*	170 *560*	185 *610*	165 *540*	175 *570*	195 *640*	140 *460*	150 *490*	170 *560*
P8	125 *410*	130 *425*	145 *475*	150 *490*	165 *540*	180 *590*	145 *475*	155 *510*	175 *570*	155 *510*	165 *540*	180 *590*	130 *425*	140 *460*	155 *510*
P11	125 *410*	135 *445*	150 *490*	160 *520*	170 *560*	190 *620*	155 *510*	165 *540*	180 *590*	160 *520*	170 *560*	190 *620*	135 *445*	145 *475*	165 *540*
P12	— —	— —	— —	105 *345*	110 *360*	125 *410*	100 *330*	110 *360*	120 *395*	105 *345*	110 *360*	125 *410*	90 *295*	95 *310*	105 *345*
M1	— —	— —	— —	— —	— —	— —	150 *490*	160 *520*	175 *570*	170 *560*	180 *590*	200 *660*	145 *475*	155 *510*	170 *560*
M2	— —	— —	— —	— —	— —	— —	125 *410*	135 *445*	145 *475*	140 *460*	150 *490*	165 *540*	120 *395*	130 *425*	140 *460*
M3	— —	— —	— —	— —	— —	— —	100 *330*	110 *360*	120 *395*	115 *375*	120 *395*	135 *445*	95 *310*	105 *345*	115 *375*
M4	— —	— —	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	90 *295*	95 *310*	105 *345*	75 *245*	80 *260*	90 *295*
M5	— —	— —	— —	— —	— —	— —	65 *215*	70 *230*	80 *260*	75 *245*	80 *260*	85 *280*	65 *215*	65 *215*	75 *245*
K1	130 *425*	140 *460*	155 *510*	220 *720*	240 *790*	265 *870*	130 *425*	140 *460*	155 *510*	— —	— —	— —	145 *475*	150 *490*	170 *560*
K2	115 *375*	125 *410*	140 *460*	200 *660*	215 *710*	235 *770*	120 *395*	125 *410*	140 *460*	— —	— —	— —	125 *410*	135 *445*	150 *490*
K3	100 *330*	105 *345*	120 *395*	170 *560*	180 *590*	200 *660*	100 *330*	110 *360*	120 *395*	— —	— —	— —	105 *345*	115 *375*	125 *410*
K4	95 *310*	100 *330*	115 *375*	160 *520*	175 *570*	190 *620*	95 *310*	105 *345*	115 *375*	— —	— —	— —	100 *330*	110 *360*	120 *395*
K5	60 *195*	65 *215*	70 *230*	100 *330*	105 *345*	115 *375*	60 *195*	60 *195*	70 *230*	— —	— —	— —	60 *195*	65 *215*	75 *245*
K6	85 *280*	90 *295*	100 *330*	140 *460*	155 *510*	170 *560*	85 *280*	90 *295*	100 *330*	— —	— —	— —	90 *295*	95 *310*	105 *345*
K7	75 *245*	80 *260*	90 *295*	125 *410*	135 *445*	150 *490*	75 *245*	80 *260*	90 *295*	— —	— —	— —	80 *260*	85 *280*	95 *310*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1050 *3450*	1125 *3700*	1250 *4100*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	425 *1400*	455 *1500*	510 *1675*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	285 *940*	305 *1000*	335 *1100*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	325 *1075*	345 *1125*	385 *1275*
S1	— —	— —	— —	— —	— —	— —	37 *120*	40 *130*	43 *140*	41 *135*	44 *145*	48 *155*	35 *115*	37 *120*	41 *135*
S2	— —	— —	— —	— —	— —	— —	29 *95*	32 *105*	35 *115*	33 *110*	35 *115*	39 *130*	28 *90*	30 *100*	33 *110*
S3	— —	— —	— —	— —	— —	— —	26 *85*	27 *90*	31 *100*	29 *95*	31 *100*	34 *110*	25 *80*	26 *85*	29 *95*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	49 *160*	55 *180*	55 *180*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*	41 *135*	44 *145*	48 *155*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	28 *90*	30 *100*	33 *110*	24 *80*	26 *85*	28 *90*
H5	28 *90*	30 *100*	33 *110*	— —	— —	— —	28 *90*	30 *100*	33 *110*	— —	— —	— —	29 *95*	31 *100*	35 *115*
H8	30 *100*	32 *105*	35 *115*	— —	— —	— —	30 *100*	32 *105*	36 *120*	— —	— —	— —	31 *100*	34 *110*	37 *120*
H11	35 *115*	38 *125*	42 *140*	— —	— —	— —	36 *120*	38 *125*	42 *140*	— —	— —	— —	38 *125*	40 *130*	44 *145*
H12	35 *115*	37 *120*	41 *135*	— —	— —	— —	35 *115*	37 *120*	42 *140*	— —	— —	— —	36 *120*	39 *130*	43 *140*
H21	30 *100*	32 *105*	35 *115*	— —	— —	— —	30 *100*	32 *105*	36 *120*	— —	— —	— —	31 *100*	34 *110*	37 *120*

335.25 Round 16 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	295 *970*	310 *1025*	335 *1100*	325 *1075*	335 *1100*	360 *1175*	285 *940*	305 *1000*	340 *1125*	305 *1000*	320 *1050*	350 *1150*	160 *520*	170 *560*	190 *620*
P2	280 *920*	300 *980*	325 *1075*	315 *1025*	330 *1075*	355 *1175*	275 *900*	295 *970*	325 *1075*	300 *980*	315 *1025*	335 *1100*	155 *510*	165 *540*	180 *590*
P3	245 *800*	260 *850*	280 *920*	270 *890*	285 *940*	310 *1025*	240 *790*	260 *850*	285 *940*	260 *850*	275 *900*	295 *970*	135 *445*	145 *475*	160 *520*
P4	220 *720*	230 *750*	250 *820*	240 *790*	255 *840*	270 *890*	210 *690*	230 *750*	250 *820*	230 *750*	240 *790*	260 *850*	120 *395*	130 *425*	140 *460*
P5	210 *690*	225 *740*	240 *790*	230 *750*	240 *790*	260 *850*	205 *670*	220 *720*	245 *800*	220 *720*	230 *750*	250 *820*	115 *375*	125 *410*	135 *445*
P6	240 *790*	250 *820*	270 *890*	260 *850*	270 *890*	295 *970*	230 *750*	245 *800*	275 *900*	250 *820*	260 *850*	280 *920*	130 *425*	140 *460*	155 *510*
P7	225 *740*	240 *790*	255 *840*	245 *800*	255 *840*	280 *920*	220 *720*	230 *750*	260 *850*	235 *770*	245 *800*	265 *870*	125 *410*	130 *425*	145 *475*
P8	210 *690*	220 *720*	235 *770*	230 *750*	240 *790*	260 *850*	200 *660*	220 *720*	240 *790*	220 *720*	230 *750*	245 *800*	115 *375*	125 *410*	135 *445*
P11	220 *720*	230 *750*	245 *800*	235 *770*	250 *820*	270 *890*	210 *690*	225 *740*	250 *820*	230 *750*	240 *790*	255 *840*	120 *395*	125 *410*	140 *460*
P12	140 *460*	150 *490*	160 *520*	150 *490*	155 *510*	165 *540*	135 *445*	145 *475*	160 *520*	140 *460*	150 *490*	160 *520*	75 *245*	80 *260*	90 *295*
M1	— —	— —	— —	170 *560*	180 *590*	200 *660*	200 *660*	210 *690*	230 *750*	170 *560*	180 *590*	200 *660*	135 *445*	140 *460*	155 *510*
M2	— —	— —	— —	140 *460*	150 *490*	165 *540*	165 *540*	175 *570*	195 *640*	140 *460*	150 *490*	165 *540*	110 *360*	120 *395*	130 *425*
M3	— —	— —	— —	115 *375*	125 *410*	135 *445*	130 *425*	140 *460*	155 *510*	115 *375*	120 *395*	135 *445*	90 *295*	95 *310*	105 *345*
M4	— —	— —	— —	90 *295*	95 *310*	105 *345*	100 *330*	110 *360*	120 *395*	90 *295*	95 *310*	105 *345*	70 *230*	75 *245*	80 *260*
M5	— —	— —	— —	75 *245*	80 *260*	85 *280*	85 *280*	90 *295*	100 *330*	75 *245*	80 *260*	85 *280*	55 *180*	60 *195*	65 *215*
K1	285 *940*	300 *980*	325 *1075*	320 *1050*	330 *1075*	355 *1175*	220 *720*	235 *770*	255 *840*	300 *980*	315 *1025*	340 *1125*	— —	— —	— —
K2	255 *840*	270 *890*	290 *950*	280 *920*	290 *950*	315 *1025*	195 *640*	205 *670*	230 *750*	270 *890*	280 *920*	300 *980*	— —	— —	— —
K3	215 *710*	230 *750*	245 *800*	235 *770*	245 *800*	265 *870*	165 *540*	175 *570*	195 *640*	225 *740*	235 *770*	255 *840*	— —	— —	— —
K4	205 *670*	220 *720*	235 *770*	225 *740*	235 *770*	255 *840*	160 *520*	165 *540*	185 *610*	215 *710*	225 *740*	245 *800*	— —	— —	— —
K5	125 *410*	135 *445*	145 *475*	135 *445*	145 *475*	155 *510*	95 *310*	100 *330*	115 *375*	130 *425*	135 *445*	145 *475*	— —	— —	— —
K6	185 *610*	195 *640*	205 *670*	200 *660*	210 *690*	225 *740*	140 *460*	150 *490*	165 *540*	190 *620*	200 *660*	215 *710*	— —	— —	— —
K7	160 *520*	170 *560*	185 *610*	175 *570*	185 *610*	195 *640*	120 *395*	130 *425*	145 *475*	165 *540*	175 *570*	190 *620*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	29 *95*	31 *100*	34 *110*	21 *70*	22 *70*	25 *80*
S2	— —	— —	— —	— —	— —	— —	40 *130*	43 *140*	47 *155*	23 *75*	25 *80*	27 *90*	17 *55*	18 *60*	20 *65*
S3	— —	— —	— —	— —	— —	— —	35 *115*	38 *125*	42 *140*	29 *95*	31 *100*	34 *110*	15 *49*	16 *50*	18 *60*
S11	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	55 *180*	60 *195*	65 *215*	29 *95*	31 *100*	34 *110*
S12	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	40 *130*	42 *140*	46 *150*	27 *90*	29 *95*	32 *105*
S13	— —	— —	— —	— —	— —	— —	34 *110*	36 *120*	40 *130*	23 *75*	25 *80*	27 *90*	16 *50*	17 *55*	19 *60*
H5	40 *130*	43 *140*	47 *155*	— —	— —	— —	41 *135*	43 *140*	48 *155*	36 *120*	38 *125*	43 *140*	— —	— —	— —
H8	42 *140*	46 *150*	50 *165*	— —	— —	— —	43 *140*	47 *155*	50 *165*	38 *125*	41 *135*	45 *150*	— —	— —	— —
H11	50 *165*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	46 *150*	49 *160*	55 *180*	— —	— —	— —
H12	49 *160*	55 *180*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	75 *245*	80 *260*	— —	— —	— —
H21	42 *140*	46 *150*	50 *165*	— —	— —	— —	43 *140*	47 *155*	50 *165*	38 *125*	41 *135*	45 *150*	— —	— —	— —

335.25 Round 20 – Insert selection – mm/*Inch*

SMG		f_z		
		30%	20%	10%
P1	RPHT2006M0T-ME12 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
P2	RPHT2006M0T-ME12 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
P3	RPHT2006M0T-ME12 F40M	0,20 *0.0080*	0,22 *0.0085*	0,30 *0.012*
P4	RPHT2006M0T-ME12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,30 *0.012*
P5	RPKT2006M0T-M15 F40M	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
P6	RPKT2006M0T-M15 F40M	0,24 *0.0095*	0,26 *0.010*	0,36 *0.014*
P7	RPKT2006M0T-M15 F40M	0,24 *0.0095*	0,26 *0.010*	0,36 *0.014*
P8	RPKT2006M0T-M15 MP2501	0,25 *0.010*	0,28 *0.011*	0,38 *0.015*
P11	RPHT2006M0T-ME12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
P12	RPHT2006M0T-ME12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M1	RPHT2006M0T-ME12 F40M	0,20 *0.0080*	0,24 *0.0095*	0,32 *0.013*
M2	RPHT2006M0T-ME12 F40M	0,19 *0.0075*	0,22 *0.0085*	0,28 *0.011*
M3	RPHT2006M0T-ME12 F40M	0,15 *0.0060*	0,17 *0.0065*	0,24 *0.0095*
M4	RPHT2006M0T-ME12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
M5	RPHT2006M0T-ME12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
K1	RPKT2006M0T-M20 MK2050	0,26 *0.010*	0,30 *0.012*	0,40 *0.016*
K2	RPKT2006M0T-M20 MK2050	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
K3	RPKT2006M0T-M20 MK2050	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
K4	RPKT2006M0T-M20 MK2050	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
K5	RPKT2006M0T-M20 MK2050	0,22 *0.0085*	0,24 *0.0095*	0,32 *0.013*
K6	RPKT2006M0T-M20 MK2050	0,24 *0.0095*	0,28 *0.011*	0,36 *0.014*
K7	RPKT2006M0T-M20 MK2050	0,22 *0.0085*	0,24 *0.0095*	0,32 *0.013*
N1	RPHT2006M0T-ME12 F40M	0,26 *0.010*	0,30 *0.012*	0,40 *0.016*
N2	RPHT2006M0T-ME12 F40M	0,26 *0.010*	0,30 *0.012*	0,40 *0.016*
N3	RPHT2006M0T-ME12 F40M	0,26 *0.010*	0,30 *0.012*	0,40 *0.016*
N11	RPHT2006M0T-ME12 F40M	0,26 *0.010*	0,30 *0.012*	0,40 *0.016*
S1	RPHT2006M0T-ME12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S2	RPHT2006M0T-ME12 F40M	0,13 *0.0050*	0,15 *0.0060*	0,20 *0.0080*
S3	RPHT2006M0T-ME12 F40M	0,12 *0.0048*	0,14 *0.0055*	0,19 *0.0075*
S11	RPHT2006M0T-ME12 F40M	0,15 *0.0060*	0,17 *0.0065*	0,24 *0.0095*
S12	RPHT2006M0T-ME12 F40M	0,15 *0.0060*	0,17 *0.0065*	0,24 *0.0095*
H5	RPKW2006M0T-MD22 F15M	0,24 *0.0095*	0,26 *0.010*	0,36 *0.014*
H8	RPKW2006M0T-MD22 F15M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
H11	RPKW2006M0T-MD22 F15M	0,24 *0.0095*	0,26 *0.010*	0,36 *0.014*
H12	RPKW2006M0T-MD22 F15M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*
H21	RPKW2006M0T-MD22 F15M	0,18 *0.0070*	0,20 *0.0080*	0,28 *0.011*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.25 Round 20 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M			MK2050			F25M			F30M			F40M		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	165 *540*	175 *570*	195 *640*	225 *740*	240 *790*	265 *870*	190 *620*	205 *670*	225 *740*	180 *590*	195 *640*	215 *710*	195 *640*	205 *670*	225 *740*
P2	160 *520*	170 *560*	190 *620*	220 *720*	235 *770*	260 *850*	185 *610*	200 *660*	220 *720*	180 *590*	190 *620*	210 *690*	190 *620*	200 *660*	220 *720*
P3	140 *460*	150 *490*	165 *540*	190 *620*	205 *670*	225 *740*	160 *520*	175 *570*	190 *620*	155 *510*	165 *540*	185 *610*	160 *520*	175 *570*	190 *620*
P4	125 *410*	135 *445*	145 *475*	170 *560*	180 *590*	200 *660*	145 *475*	155 *510*	170 *560*	135 *445*	145 *475*	160 *520*	145 *475*	155 *510*	170 *560*
P5	120 *395*	130 *425*	140 *460*	160 *520*	175 *570*	195 *640*	135 *445*	145 *475*	165 *540*	130 *425*	140 *460*	155 *510*	140 *460*	145 *475*	160 *520*
P6	135 *445*	145 *475*	160 *520*	180 *590*	200 *660*	215 *710*	155 *510*	165 *540*	185 *610*	145 *475*	155 *510*	175 *570*	155 *510*	165 *540*	185 *610*
P7	125 *410*	135 *445*	150 *490*	170 *560*	185 *610*	205 *670*	145 *475*	160 *520*	175 *570*	140 *460*	150 *490*	165 *540*	145 *475*	155 *510*	175 *570*
P8	120 *395*	125 *410*	140 *460*	160 *520*	175 *570*	190 *620*	135 *445*	145 *475*	160 *520*	130 *425*	140 *460*	155 *510*	135 *445*	145 *475*	160 *520*
P11	125 *410*	130 *425*	145 *475*	165 *540*	180 *590*	200 *660*	140 *460*	155 *510*	170 *560*	135 *445*	145 *475*	160 *520*	140 *460*	150 *490*	170 *560*
P12	— —	— —	— —	110 *360*	115 *375*	130 *425*	95 *310*	100 *330*	110 *360*	85 *280*	95 *310*	105 *345*	90 *295*	100 *330*	110 *360*
M1	— —	— —	— —	— —	— —	— —	— —	— —	— —	145 *475*	150 *490*	170 *560*	150 *490*	160 *520*	175 *570*
M2	— —	— —	— —	— —	— —	— —	— —	— —	— —	115 *375*	125 *410*	140 *460*	125 *410*	130 *425*	145 *475*
M3	— —	— —	— —	— —	— —	— —	— —	— —	— —	95 *310*	100 *330*	110 *360*	100 *330*	110 *360*	115 *375*
M4	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	85 *280*	80 *260*	85 *280*	90 *295*
M5	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	75 *245*
K1	125 *410*	135 *445*	150 *490*	235 *770*	250 *820*	280 *920*	145 *475*	155 *510*	175 *570*	140 *460*	150 *490*	165 *540*	150 *490*	155 *510*	175 *570*
K2	115 *375*	120 *395*	135 *445*	210 *690*	225 *740*	250 *820*	130 *425*	140 *460*	155 *510*	125 *410*	135 *445*	145 *475*	130 *425*	140 *460*	155 *510*
K3	95 *310*	105 *345*	115 *375*	175 *570*	190 *620*	210 *690*	110 *360*	115 *375*	130 *425*	105 *345*	115 *375*	125 *410*	110 *360*	120 *395*	130 *425*
K4	90 *295*	100 *330*	110 *360*	170 *560*	180 *590*	200 *660*	105 *345*	110 *360*	125 *410*	100 *330*	105 *345*	120 *395*	105 *345*	115 *375*	125 *410*
K5	55 *180*	60 *195*	65 *215*	105 *345*	110 *360*	125 *410*	65 *215*	70 *230*	75 *245*	60 *195*	65 *215*	70 *230*	65 *215*	70 *230*	75 *245*
K6	80 *260*	85 *280*	95 *310*	150 *490*	160 *520*	180 *590*	95 *310*	100 *330*	110 *360*	90 *295*	95 *310*	105 *345*	95 *310*	100 *330*	110 *360*
K7	70 *230*	75 *245*	85 *280*	130 *425*	140 *460*	160 *520*	80 *260*	90 *295*	100 *330*	80 *260*	85 *280*	95 *310*	85 *280*	90 *295*	100 *330*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1050 *3450*	1125 *3700*	1225 *4025*	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	420 *1375*	450 *1475*	495 *1625*	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	280 *920*	300 *980*	330 *1075*	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	320 *1050*	345 *1125*	380 *1250*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	— —	34 *110*	36 *120*	40 *130*	36 *120*	39 *130*	43 *140*
S2	— —	— —	— —	— —	— —	— —	— —	— —	— —	28 *90*	29 *95*	32 *105*	29 *95*	31 *100*	35 *115*
S3	— —	— —	— —	— —	— —	— —	— —	— —	— —	24 *80*	26 *85*	28 *90*	26 *85*	27 *90*	30 *100*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	48 *155*	50 *165*	55 *180*	50 *165*	55 *180*	60 *195*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	33 *110*	36 *120*	40 *130*	43 *140*	46 *150*	50 *165*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	19 *60*	21 *70*	23 *75*	25 *80*	26 *85*	29 *95*
H5	27 *90*	29 *95*	32 *105*	— —	— —	— —	31 *100*	33 *110*	36 *120*	29 *95*	31 *100*	34 *110*	31 *100*	33 *110*	36 *120*
H8	29 *95*	31 *100*	34 *110*	— —	— —	— —	33 *110*	35 *115*	39 *130*	31 *100*	33 *110*	36 *120*	32 *105*	35 *115*	38 *125*
H11	34 *110*	37 *120*	41 *135*	— —	— —	— —	39 *130*	42 *140*	46 *150*	37 *120*	40 *130*	44 *145*	39 *130*	41 *135*	46 *150*
H12	34 *110*	37 *120*	40 *130*	— —	— —	— —	38 *125*	41 *135*	45 *150*	36 *120*	38 *125*	42 *140*	38 *125*	41 *135*	45 *150*
H21	29 *95*	31 *100*	34 *110*	— —	— —	— —	33 *110*	35 *115*	39 *130*	31 *100*	33 *110*	36 *120*	32 *105*	35 *115*	38 *125*

335.25 Round 20 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			T25M			MS2500			T25M			MM4500		
	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%	30%	20%	10%
P1	285 *940*	300 *980*	330 *1075*	335 *1100*	350 *1150*	375 *1225*	280 *920*	295 *970*	325 *1075*	210 *690*	225 *740*	250 *820*	250 *820*	265 *870*	295 *970*	210 *690*	225 *740*	250 *820*	155 *510*	165 *540*	185 *610*
P2	275 *900*	290 *950*	310 *1025*	325 *1075*	340 *1125*	365 *1200*	270 *890*	285 *940*	315 *1025*	205 *670*	220 *720*	240 *790*	240 *790*	260 *850*	285 *940*	205 *670*	220 *720*	240 *790*	150 *490*	160 *520*	180 *590*
P3	240 *790*	255 *840*	275 *900*	280 *920*	300 *980*	320 *1050*	235 *770*	250 *820*	275 *900*	180 *590*	190 *620*	210 *690*	210 *690*	230 *750*	250 *820*	180 *590*	190 *620*	210 *690*	130 *425*	140 *460*	155 *510*
P4	215 *710*	225 *740*	245 *800*	250 *820*	260 *850*	280 *920*	210 *690*	220 *720*	245 *800*	160 *520*	170 *560*	185 *610*	190 *620*	200 *660*	220 *720*	160 *520*	170 *560*	185 *610*	115 *375*	125 *410*	135 *445*
P5	205 *670*	215 *710*	235 *770*	240 *790*	250 *820*	270 *890*	200 *660*	210 *690*	235 *770*	150 *490*	160 *520*	180 *590*	180 *590*	190 *620*	215 *710*	150 *490*	160 *520*	180 *590*	110 *360*	120 *395*	130 *425*
P6	230 *750*	245 *800*	265 *870*	270 *890*	280 *920*	305 *1000*	225 *740*	240 *790*	265 *870*	170 *560*	180 *590*	205 *670*	200 *660*	220 *720*	240 *790*	170 *560*	180 *590*	205 *670*	125 *410*	135 *445*	150 *490*
P7	215 *710*	230 *750*	250 *820*	255 *840*	265 *870*	285 *940*	210 *690*	225 *740*	250 *820*	160 *520*	170 *560*	190 *620*	190 *620*	205 *670*	225 *740*	160 *520*	170 *560*	190 *620*	120 *395*	125 *410*	140 *460*
P8	205 *670*	215 *710*	230 *750*	235 *770*	250 *820*	270 *890*	195 *640*	210 *690*	235 *770*	150 *490*	160 *520*	180 *590*	175 *570*	190 *620*	210 *690*	150 *490*	160 *520*	180 *590*	110 *360*	120 *395*	130 *425*
P11	210 *690*	225 *740*	240 *790*	245 *800*	255 *840*	280 *920*	205 *670*	220 *720*	245 *800*	155 *510*	165 *540*	185 *610*	185 *610*	200 *660*	220 *720*	155 *510*	165 *540*	185 *610*	115 *375*	125 *410*	135 *445*
P12	135 *445*	145 *475*	155 *510*	155 *510*	160 *520*	170 *560*	130 *425*	140 *460*	155 *510*	100 *330*	110 *360*	120 *395*	120 *395*	130 *425*	145 *475*	100 *330*	110 *360*	120 *395*	75 *245*	80 *260*	90 *295*
M1	— —	— —	— —	180 *590*	190 *620*	210 *690*	195 *640*	205 *670*	225 *740*	165 *540*	175 *570*	195 *640*	175 *570*	185 *610*	205 *670*	165 *540*	175 *570*	195 *640*	130 *425*	140 *460*	155 *510*
M2	— —	— —	— —	145 *475*	155 *510*	170 *560*	160 *520*	170 *560*	185 *610*	135 *445*	145 *475*	160 *520*	145 *475*	155 *510*	170 *560*	135 *445*	145 *475*	160 *520*	105 *345*	115 *375*	125 *410*
M3	— —	— —	— —	120 *395*	125 *410*	140 *460*	130 *425*	140 *460*	150 *490*	110 *360*	120 *395*	130 *425*	115 *375*	125 *410*	135 *445*	110 *360*	120 *395*	130 *425*	85 *280*	95 *310*	100 *330*
M4	— —	— —	— —	90 *295*	100 *330*	110 *360*	100 *330*	105 *345*	120 *395*	85 *280*	90 *295*	100 *330*	90 *295*	95 *310*	110 *360*	85 *280*	90 *295*	100 *330*	65 *215*	70 *230*	80 *260*
M5	— —	— —	— —	75 *245*	80 *260*	90 *295*	85 *280*	90 *295*	100 *330*	70 *230*	75 *245*	85 *280*	75 *245*	80 *260*	90 *295*	70 *230*	75 *245*	85 *280*	55 *180*	60 *195*	65 *215*
K1	280 *920*	290 *950*	315 *1025*	330 *1075*	345 *1125*	370 *1225*	215 *710*	225 *740*	250 *820*	165 *540*	175 *570*	190 *620*	190 *620*	205 *670*	230 *750*	165 *540*	175 *570*	190 *620*	— —	— —	— —
K2	245 *800*	260 *850*	285 *940*	290 *950*	305 *1000*	325 *1075*	190 *620*	200 *660*	220 *720*	145 *475*	155 *510*	170 *560*	170 *560*	180 *590*	205 *670*	145 *475*	155 *510*	170 *560*	— —	— —	— —
K3	210 *690*	220 *720*	240 *790*	245 *800*	255 *840*	275 *900*	160 *520*	170 *560*	185 *610*	120 *395*	130 *425*	145 *475*	145 *475*	155 *510*	170 *560*	120 *395*	130 *425*	145 *475*	— —	— —	— —
K4	200 *660*	210 *690*	230 *750*	235 *770*	245 *800*	260 *850*	150 *490*	160 *520*	180 *590*	115 *375*	125 *410*	135 *445*	140 *460*	145 *475*	165 *540*	115 *375*	125 *410*	135 *445*	— —	— —	— —
K5	125 *410*	130 *425*	140 *460*	140 *460*	150 *490*	160 *520*	95 *310*	100 *330*	110 *360*	70 *230*	75 *245*	85 *280*	85 *280*	90 *295*	100 *330*	70 *230*	75 *245*	85 *280*	— —	— —	— —
K6	175 *570*	185 *610*	200 *660*	205 *670*	215 *710*	230 *750*	135 *445*	145 *475*	155 *510*	100 *330*	110 *360*	120 *395*	120 *395*	130 *425*	145 *475*	100 *330*	110 *360*	120 *395*	— —	— —	— —
K7	160 *520*	165 *540*	180 *590*	180 *590*	190 *620*	205 *670*	120 *395*	125 *410*	140 *460*	90 *295*	95 *310*	110 *360*	105 *345*	115 *375*	130 *425*	90 *295*	95 *310*	110 *360*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	49 *160*	50 *165*	55 *180*	— —	— —	— —	44 *145*	47 *155*	55 *180*	— —	— —	— —	21 *70*	22 *70*	24 *80*
S2	— —	— —	— —	— —	— —	— —	39 *130*	42 *140*	46 *150*	— —	— —	— —	35 *115*	38 *125*	42 *140*	— —	— —	— —	17 *55*	18 *60*	20 *65*
S3	— —	— —	— —	— —	— —	— —	34 *110*	37 *120*	40 *130*	— —	— —	— —	32 *105*	33 *110*	37 *120*	— —	— —	— —	15 *49*	15 *49*	17 *55*
S11	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	80 *260*	— —	— —	— —	60 *195*	65 *215*	75 *245*	— —	— —	— —	29 *95*	31 *100*	34 *110*
S12	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	— —	— —	— —	50 *165*	55 *180*	60 *195*	— —	— —	— —	26 *85*	28 *90*	31 *100*
S13	— —	— —	— —	— —	— —	— —	33 *110*	35 *115*	39 *130*	— —	— —	— —	30 *100*	32 *105*	36 *120*	— —	— —	— —	15 *49*	16 *50*	18 *60*
H5	38 *125*	41 *135*	46 *150*	— —	— —	— —	40 *130*	42 *140*	47 *155*	— —	— —	— —	36 *120*	39 *130*	43 *140*	— —	— —	— —	— —	— —	— —
H8	42 *140*	44 *145*	49 *160*	— —	— —	— —	42 *140*	45 *150*	50 *165*	— —	— —	— —	39 *130*	42 *140*	46 *150*	— —	— —	— —	— —	— —	— —
H11	49 *160*	50 *165*	60 *195*	— —	— —	— —	50 *165*	55 *180*	60 *195*	— —	— —	— —	46 *150*	49 *160*	55 *180*	— —	— —	— —	— —	— —	— —
H12	49 *160*	50 *165*	55 *180*	— —	— —	— —	49 *160*	55 *180*	60 *195*	— —	— —	— —	45 *150*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —
H21	42 *140*	44 *145*	49 *160*	— —	— —	— —	42 *140*	45 *150*	50 *165*	— —	— —	— —	39 *130*	42 *140*	46 *150*	— —	— —	— —	— —	— —	— —



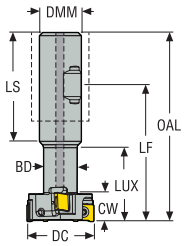
335.16

Free-cutting and reliable disc milling cutter system dedicated for T-shape slotting

- Width of cut 10.91 -21 mm (.387 - .823 inch)
- Cutter range diameter 25-50 mm (0.969 - 1.844 inch)
- Weldon connection, with through coolant capability for reliable chips evacuation
- Economical solution with 4 cutting edges per insert

R335.16 – Metric





- For insert selection and cutting data recommendations, see page(s) 488-493
- For complete insert programme, see page(s) 812, 838
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	ZNP	ZEFP	DMM	LS	LF	LUX	BD	OAL	RPMX	Weight	Insert
			mm	mm			mm	mm	mm	mm	mm	mm		kg	
R335.16-1625.3-11.2NA	02980627	Weldon	25,0	10,91	4	2	16,0	49,0	56,0	28.38	12,0	80,0	24500	0,2	SPMX07..
R335.16-2032.3-14.2NA	02980628	Weldon	32,0	13,91	4	2	20,0	52,0	65,0	35.38	16,0	90,0	17600	0,3	LNK.08..
R335.16-2540.3-18.2NA	02980629	Weldon	40,0	17,91	5	2	25,0	58,0	73,0	43.67	20,0	105,0	14600	0,4	LNK.08..
R335.16-3250.3-21.2NA	02980630	Weldon	50,0	21,0	6	2	32,0	61,0	84,0	55.17	26,0	120,0	9800	0,8	LNK.08..

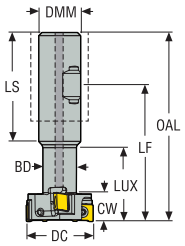
Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Insert clamping torque	Torque key
				
ø 25	H4B-T07P	C02506-T07P	1.2NM	T00-07P12
ø 32-50	H4B-T09P	C73007-T09P	2.0NM	T00-09P20

For best result it is recommended to let a stock allowance when machining the T-slot shank passage H = min 20% of the CW at the bottom of the T-slot. H= 0.2 x CW
Torque and fixed keys, see page 872

R335.16 – inch





- For insert selection and cutting data recommendations, see page(s) 488-493
- For complete insert programme, see page(s) 812, 838
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	CW	ZNP	ZEFP	DMM	LS	LF	LUX	BD	OAL	RPMX	Weight	Insert
			inch	inch			inch	inch	inch	inch	inch	inch		lbs	
R335.16-00.97-3-0.39-2NA	02980638	Weldon	0.969	0.387	4	2	0.750	2.307	2.528	1.063	0.453	3.543	24500	0.440	SPMX06..
R335.16-01.25-3-0.48-2NA	02980639	Weldon	1.249	0.477	4	2	1.000	2.539	2.796	1.256	0.656	3.937	17600	0.880	LNK.08..
R335.16-01.47-3-0.63-2NA	02980640	Weldon	1.469	0.626	5	2	1.000	2.539	3.190	1.633	0.748	4.331	14600	1.100	LNK.08..
R335.16-01.84-3-0.83-2NA	02980641	Weldon	1.844	0.823	6	2	1.250	2.697	3.978	2.264	1.000	5.118	9800	1.760	LNK.08..

Spare Parts, included in delivery

Accessories

For cutter	Insert key	Insert screw	Insert clamping torque	Torque key
				
ø 0.97	H4B-T07P	C02205-T07P	8.0IN.LBS	T00-07P09
ø 1.25-1.84	H4B-T09P	C73007-T09P	17.7IN.LBS	T00-09P20

For best result it is recommended to let a stock allowance when machining the T-slot shank passage H = min 20% of the CW at the bottom of the T-slot. H= 0.2 x CW
Torque and fixed keys, see page 872

335.16 - SP06 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	20%	10%
P1	SPMX060204-75 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
P2	SPMX060204-75 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
P3	SPMX060204-75 F40M	0,070 *0.0028*	0,085 *0.0034*	0,11 *0.0044*
P4	SPMX060204-75 F40M	0,065 *0.0026*	0,085 *0.0034*	0,11 *0.0044*
P5	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
P6	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
P7	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
P8	SPMX060204-75 F40M	0,070 *0.0028*	0,085 *0.0034*	0,11 *0.0044*
P11	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
P12	SPMX060204-75 F40M	0,044 *0.0017*	0,055 *0.0022*	0,075 *0.0030*
M1	SPMX060204-75 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
M2	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
M3	SPMX060204-75 F40M	0,050 *0.0020*	0,065 *0.0026*	0,085 *0.0034*
M4	SPMX060204-75 F40M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
M5	SPMX060204-75 F40M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
K1	SPMX060204-75 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
K2	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K3	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K4	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K5	SPMX060204-75 F40M	0,060 *0.0024*	0,075 *0.0030*	0,10 *0.0040*
K6	SPMX060204-75 F40M	0,065 *0.0026*	0,080 *0.0032*	0,11 *0.0044*
K7	SPMX060204-75 F40M	0,060 *0.0024*	0,075 *0.0030*	0,10 *0.0040*
N1	SPMX060204-75 F40M	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
N2	SPMX060204-75 F40M	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
N3	SPMX060204-75 F40M	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
N11	SPMX060204-75 F40M	0,090 *0.0036*	0,11 *0.0044*	0,15 *0.0060*
S1	SPMX060204-75 F40M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
S2	SPMX060204-75 F40M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
S3	SPMX060204-75 F40M	0,042 *0.0017*	0,055 *0.0022*	0,070 *0.0028*
S11	SPMX060204-75 F40M	0,050 *0.0020*	0,065 *0.0026*	0,085 *0.0034*
S12	SPMX060204-75 F40M	0,050 *0.0020*	0,065 *0.0026*	0,085 *0.0034*
S13	SPMX060204-75 F40M	0,046 *0.0018*	0,055 *0.0022*	0,075 *0.0030*
H5	SPMX060204-75 F40M	0,044 *0.0017*	0,055 *0.0022*	0,075 *0.0030*
H8	SPMX060204-75 F40M	0,034 *0.0013*	0,042 *0.0017*	0,055 *0.0022*
H11	SPMX060204-75 F40M	0,044 *0.0017*	0,055 *0.0022*	0,075 *0.0030*
H12	SPMX060204-75 F40M	0,034 *0.0013*	0,042 *0.0017*	0,055 *0.0022*
H21	SPMX060204-75 F40M	0,034 *0.0013*	0,042 *0.0017*	0,055 *0.0022*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.16 - SP06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			T25M		
	100%	20%	10%	100%	20%	10%
P1	190 *620*	270 *890*	295 *970*	210 *690*	295 *970*	325 *1075*
P2	185 *610*	260 *850*	290 *950*	205 *670*	290 *950*	320 *1050*
P3	160 *520*	230 *750*	255 *840*	175 *570*	250 *820*	280 *920*
P4	145 *475*	200 *660*	225 *740*	160 *520*	220 *720*	245 *800*
P5	140 *460*	195 *640*	215 *710*	150 *490*	215 *710*	235 *770*
P6	155 *510*	220 *720*	240 *790*	170 *560*	240 *790*	265 *870*
P7	145 *475*	205 *670*	225 *740*	160 *520*	225 *740*	250 *820*
P8	135 *445*	190 *620*	215 *710*	150 *490*	210 *690*	235 *770*
P11	140 *460*	200 *660*	220 *720*	155 *510*	220 *720*	240 *790*
P12	90 *295*	125 *410*	140 *460*	100 *330*	140 *460*	155 *510*
M1	150 *490*	210 *690*	235 *770*	165 *540*	230 *750*	255 *840*
M2	125 *410*	175 *570*	190 *620*	135 *445*	190 *620*	210 *690*
M3	100 *330*	140 *460*	155 *510*	110 *360*	155 *510*	170 *560*
M4	75 *245*	105 *345*	120 *395*	85 *280*	120 *395*	130 *425*
M5	65 *215*	90 *295*	100 *330*	70 *230*	100 *330*	110 *360*
K1	150 *490*	205 *670*	230 *750*	165 *540*	230 *750*	250 *820*
K2	130 *425*	185 *610*	200 *660*	145 *475*	205 *670*	225 *740*
K3	110 *360*	155 *510*	170 *560*	120 *395*	170 *560*	190 *620*
K4	105 *345*	150 *490*	165 *540*	115 *375*	165 *540*	180 *590*
K5	65 *215*	90 *295*	100 *330*	70 *230*	100 *330*	110 *360*
K6	95 *310*	130 *425*	145 *475*	100 *330*	145 *475*	160 *520*
K7	80 *260*	115 *375*	125 *410*	90 *295*	125 *410*	140 *460*
N1	1100 *3600*	1575 *5175*	1725 *5650*	— —	— —	— —
N2	445 *1450*	630 *2075*	700 *2300*	— —	— —	— —
N3	295 *970*	420 *1375*	465 *1525*	— —	— —	— —
N11	340 *1125*	480 *1575*	530 *1750*	— —	— —	— —
S1	36 *120*	50 *165*	55 *180*	— —	— —	— —
S2	29 *95*	40 *130*	44 *145*	— —	— —	— —
S3	25 *80*	35 *115*	39 *130*	— —	— —	— —
S11	50 *165*	70 *230*	80 *260*	— —	— —	— —
S12	42 *140*	60 *195*	65 *215*	— —	— —	— —
S13	24 *80*	34 *110*	38 *125*	— —	— —	— —
H5	30 *100*	42 *140*	46 *150*	— —	— —	— —
H8	32 *105*	44 *145*	49 *160*	— —	— —	— —
H11	38 *125*	55 *180*	60 *195*	— —	— —	— —
H12	37 *120*	50 *165*	55 *180*	— —	— —	— —
H21	32 *105*	44 *145*	49 *160*	— —	— —	— —

335.16 - SP07 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	20%	10%
P1	SPMX070304-75 F40M	0,085 *0.0034*	0,11 *0.0044*	0,14 *0.0055*
P2	SPMX070304-75 F40M	0,085 *0.0034*	0,11 *0.0044*	0,14 *0.0055*
P3	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,14 *0.0055*
P4	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,13 *0.0050*
P5	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,13 *0.0050*
P6	SPMX070304-75 F40M	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
P7	SPMX070304-75 F40M	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
P8	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,14 *0.0055*
P11	SPMX070304-75 F40M	0,075 *0.0030*	0,095 *0.0038*	0,13 *0.0050*
P12	SPMX070304-75 F40M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
M1	SPMX070304-75 F40M	0,085 *0.0034*	0,11 *0.0044*	0,14 *0.0055*
M2	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,13 *0.0050*
M3	SPMX070304-75 F40M	0,060 *0.0024*	0,080 *0.0032*	0,10 *0.0040*
M4	SPMX070304-75 F40M	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*
M5	SPMX070304-75 F40M	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*
K1	SPMX070304-75 F40M	0,085 *0.0034*	0,11 *0.0044*	0,14 *0.0055*
K2	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,13 *0.0050*
K3	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,13 *0.0050*
K4	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,13 *0.0050*
K5	SPMX070304-75 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
K6	SPMX070304-75 F40M	0,080 *0.0032*	0,10 *0.0040*	0,13 *0.0050*
K7	SPMX070304-75 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
N1	SPMX070304-75 F40M	0,11 *0.0044*	0,14 *0.0055*	0,18 *0.0070*
N2	SPMX070304-75 F40M	0,11 *0.0044*	0,14 *0.0055*	0,18 *0.0070*
N3	SPMX070304-75 F40M	0,11 *0.0044*	0,14 *0.0055*	0,18 *0.0070*
N11	SPMX070304-75 F40M	0,11 *0.0044*	0,14 *0.0055*	0,18 *0.0070*
S1	SPMX070304-75 F40M	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*
S2	SPMX070304-75 F40M	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*
S3	SPMX070304-75 F40M	0,050 *0.0020*	0,065 *0.0026*	0,085 *0.0034*
S11	SPMX070304-75 F40M	0,060 *0.0024*	0,080 *0.0032*	0,10 *0.0040*
S12	SPMX070304-75 F40M	0,060 *0.0024*	0,080 *0.0032*	0,10 *0.0040*
S13	SPMX070304-75 F40M	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*
H5	SPMX070304-75 F40M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
H8	SPMX070304-75 F40M	0,040 *0.0016*	0,050 *0.0020*	0,070 *0.0028*
H11	SPMX070304-75 F40M	0,055 *0.0022*	0,065 *0.0026*	0,090 *0.0036*
H12	SPMX070304-75 F40M	0,040 *0.0016*	0,050 *0.0020*	0,070 *0.0028*
H21	SPMX070304-75 F40M	0,040 *0.0016*	0,050 *0.0020*	0,070 *0.0028*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.16 - SP07 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			T25M		
	100%	20%	10%	100%	20%	10%
P1	175 *570*	250 *820*	275 *900*	195 *640*	275 *900*	305 *1000*
P2	170 *560*	240 *790*	270 *890*	190 *620*	265 *870*	295 *970*
P3	150 *490*	210 *690*	230 *750*	165 *540*	235 *770*	255 *840*
P4	130 *425*	185 *610*	210 *690*	145 *475*	205 *670*	230 *750*
P5	125 *410*	180 *590*	200 *660*	140 *460*	195 *640*	220 *720*
P6	145 *475*	205 *670*	225 *740*	160 *520*	225 *740*	245 *800*
P7	135 *445*	190 *620*	210 *690*	150 *490*	210 *690*	230 *750*
P8	125 *410*	180 *590*	195 *640*	140 *460*	195 *640*	215 *710*
P11	130 *425*	185 *610*	205 *670*	145 *475*	205 *670*	225 *740*
P12	85 *280*	120 *395*	130 *425*	90 *295*	130 *425*	145 *475*
M1	140 *460*	195 *640*	215 *710*	155 *510*	215 *710*	240 *790*
M2	115 *375*	160 *520*	180 *590*	125 *410*	175 *570*	195 *640*
M3	95 *310*	130 *425*	145 *475*	100 *330*	140 *460*	160 *520*
M4	70 *230*	100 *330*	110 *360*	80 *260*	110 *360*	120 *395*
M5	60 *195*	85 *280*	90 *295*	65 *215*	90 *295*	100 *330*
K1	135 *445*	190 *620*	215 *710*	150 *490*	210 *690*	235 *770*
K2	120 *395*	170 *560*	190 *620*	130 *425*	185 *610*	205 *670*
K3	100 *330*	145 *475*	160 *520*	110 *360*	160 *520*	175 *570*
K4	95 *310*	135 *445*	150 *490*	105 *345*	150 *490*	165 *540*
K5	60 *195*	85 *280*	90 *295*	65 *215*	90 *295*	100 *330*
K6	85 *280*	120 *395*	135 *445*	95 *310*	135 *445*	145 *475*
K7	75 *245*	105 *345*	120 *395*	85 *280*	115 *375*	130 *425*
N1	1000 *3275*	1425 *4675*	1600 *5250*	— —	— —	— —
N2	405 *1325*	570 *1875*	640 *2100*	— —	— —	— —
N3	270 *890*	385 *1275*	430 *1400*	— —	— —	— —
N11	310 *1025*	440 *1450*	490 *1600*	— —	— —	— —
S1	33 *110*	46 *150*	50 *165*	— —	— —	— —
S2	27 *90*	37 *120*	41 *135*	— —	— —	— —
S3	23 *75*	33 *110*	36 *120*	— —	— —	— —
S11	47 *155*	65 *215*	75 *245*	— —	— —	— —
S12	39 *130*	55 *180*	60 *195*	— —	— —	— —
S13	23 *75*	32 *105*	35 *115*	— —	— —	— —
H5	28 *90*	39 *130*	43 *140*	— —	— —	— —
H8	30 *100*	41 *135*	45 *150*	— —	— —	— —
H11	35 *115*	50 *165*	55 *180*	— —	— —	— —
H12	34 *110*	48 *155*	55 *180*	— —	— —	— —
H21	30 *100*	41 *135*	45 *150*	— —	— —	— —

335.16 -LNK – Insert selection – mm/*Inch*

SMG		f_z		
		100%	20%	10%
P1	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 *0.0055*	0,19 *0.0075*
P2	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 *0.0055*	0,19 *0.0075*
P3	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 *0.0055*	0,18 *0.0070*
P4	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,13 *0.0050*	0,18 *0.0070*
P5	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
P6	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
P7	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
P8	LNKT080508PPTN-M06 MP3000	0,11 *0.0044*	0,14 *0.0055*	0,18 *0.0070*
P11	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
P12	LNKT080508PPTN-M06 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
M1	LNKT080508PPTN-M06 F40M	0,11 *0.0044*	0,14 *0.0055*	0,19 *0.0075*
M2	LNKT080508PPTN-M06 F40M	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
M3	LNKT080508PPTN-M06 F40M	0,085 *0.0034*	0,10 *0.0040*	0,14 *0.0055*
M4	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
M5	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
K1	LNKT080508PPTN-M06 MK2050	0,11 *0.0044*	0,14 *0.0055*	0,19 *0.0075*
K2	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
K3	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
K4	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
K5	LNKT080508PPTN-M06 MK2050	0,095 *0.0038*	0,12 *0.0048*	0,16 *0.0065*
K6	LNKT080508PPTN-M06 MK2050	0,10 *0.0040*	0,13 *0.0050*	0,17 *0.0065*
K7	LNKT080508PPTN-M06 MK2050	0,095 *0.0038*	0,12 *0.0048*	0,16 *0.0065*
N1	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 *0.0065*	0,22 *0.0085*
N2	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 *0.0065*	0,22 *0.0085*
N3	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 *0.0065*	0,22 *0.0085*
N11	LNKT080508PPN-E05 H25	0,13 *0.0050*	0,16 *0.0065*	0,22 *0.0085*
S1	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
S2	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
S3	LNKT080508PPTN-M06 F40M	0,070 *0.0028*	0,085 *0.0034*	0,11 *0.0044*
S11	LNKT080508PPTN-M06 F40M	0,085 *0.0034*	0,10 *0.0040*	0,14 *0.0055*
S12	LNKT080508PPTN-M06 F40M	0,085 *0.0034*	0,10 *0.0040*	0,14 *0.0055*
S13	LNKT080508PPTN-M06 F40M	0,075 *0.0030*	0,090 *0.0036*	0,12 *0.0048*
H5	LNKT080508PPTN-M06 MP3000	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
H8	LNKT080508PPTN-M06 MP3000	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*
H11	LNKT080508PPTN-M06 F40M	0,070 *0.0028*	0,090 *0.0036*	0,12 *0.0048*
H12	LNKT080508PPTN-M06 F40M	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*
H21	LNKT080508PPTN-M06 MP3000	0,055 *0.0022*	0,070 *0.0028*	0,090 *0.0036*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

335.16 -LNK – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			F40M			H25			MK1500			MP2501			MP3501		
	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%	100%	20%	10%
P1	200	280	310	190	270	300	155	215	240	—	—	—	—	—	—	285	370	395	260	330	355
	660	*920*	*1025*	*620*	*890*	*980*	*510*	*710*	*790*	—	—	—	—	—	—	*940*	*1225*	*1300*	*850*	*1075*	*1175*
P2	195	275	300	185	265	290	150	210	230	—	—	—	—	—	—	280	360	385	250	320	345
	640	*900*	*980*	*610*	*870*	*950*	*490*	*690*	*750*	—	—	—	—	—	—	*920*	*1175*	*1275*	*820*	*1050*	*1125*
P3	165	235	265	160	225	255	130	180	205	—	—	—	—	—	—	240	310	335	215	275	300
	540	*770*	*870*	*520*	*740*	*840*	*425*	*590*	*670*	—	—	—	—	—	—	*790*	*1025*	*1100*	*710*	*900*	*980*
P4	145	210	230	140	205	225	115	165	180	—	—	—	—	—	—	210	275	295	190	250	265
	475	*690*	*750*	*460*	*670*	*740*	*375*	*540*	*590*	—	—	—	—	—	—	*690*	*900*	*970*	*620*	*820*	*870*
P5	145	200	225	140	195	215	110	155	175	—	—	—	—	—	—	205	260	280	185	235	255
	475	*660*	*740*	*460*	*640*	*710*	*360*	*510*	*570*	—	—	—	—	—	—	*670*	*850*	*920*	*610*	*770*	*840*
P6	160	225	250	155	220	245	125	175	195	—	—	—	—	—	—	230	295	315	210	265	285
	520	*740*	*820*	*510*	*720*	*800*	*410*	*570*	*640*	—	—	—	—	—	—	*750*	*970*	*1025*	*690*	*870*	*940*
P7	155	215	240	145	205	230	115	165	185	—	—	—	—	—	—	220	280	300	195	250	270
	510	*710*	*790*	*475*	*670*	*750*	*375*	*540*	*610*	—	—	—	—	—	—	*720*	*920*	*980*	*640*	*820*	*890*
P8	140	200	220	135	190	215	110	150	170	—	—	—	—	—	—	200	260	280	180	235	250
	460	*660*	*720*	*445*	*620*	*710*	*360*	*490*	*560*	—	—	—	—	—	—	*660*	*850*	*920*	*590*	*770*	*820*
P11	150	210	230	145	200	220	115	160	180	—	—	—	—	—	—	215	270	290	190	245	260
	490	*690*	*750*	*475*	*660*	*720*	*375*	*520*	*590*	—	—	—	—	—	—	*710*	*890*	*950*	*620*	*800*	*850*
P12	95	135	150	90	130	140	75	105	115	—	—	—	—	—	—	135	165	180	120	150	160
	310	*445*	*490*	*295*	*425*	*460*	*245*	*345*	*375*	—	—	—	—	—	—	*445*	*540*	*590*	*395*	*490*	*520*
M1	—	—	—	140	195	215	120	170	185	—	—	—	—	—	—	140	200	220	130	185	205
	—	—	—	*460*	*640*	*710*	*395*	*560*	*610*	—	—	—	—	—	—	*460*	*660*	*720*	*425*	*610*	*670*
M2	—	—	—	115	160	180	100	140	155	—	—	—	—	—	—	120	165	185	110	155	170
	—	—	—	*375*	*520*	*590*	*330*	*460*	*510*	—	—	—	—	—	—	*395*	*540*	*610*	*360*	*510*	*560*
M3	—	—	—	90	130	145	80	115	125	—	—	—	—	—	—	95	135	145	85	125	135
	—	—	—	*295*	*425*	*475*	*260*	*375*	*410*	—	—	—	—	—	—	*310*	*445*	*475*	*280*	*410*	*445*
M4	—	—	—	70	100	110	60	85	95	—	—	—	—	—	—	70	105	115	65	95	105
	—	—	—	*230*	*330*	*360*	*195*	*280*	*310*	—	—	—	—	—	—	*230*	*345*	*375*	*215*	*310*	*345*
M5	—	—	—	60	85	95	50	75	80	—	—	—	—	—	—	60	85	95	55	80	90
	—	—	—	*195*	*280*	*310*	*165*	*245*	*260*	—	—	—	—	—	—	*195*	*280*	*310*	*180*	*260*	*295*
K1	210	295	325	125	175	195	120	165	185	—	—	—	220	310	345	280	360	385	255	325	350
	690	*970*	*1075*	*410*	*570*	*640*	*395*	*540*	*610*	—	—	—	*720*	*1025*	*1125*	*920*	*1175*	*1275*	*840*	*1075*	*1150*
K2	185	260	290	110	155	170	105	150	165	—	—	—	195	275	305	250	315	340	225	285	310
	610	*850*	*950*	*360*	*510*	*560*	*345*	*490*	*540*	—	—	—	*640*	*900*	*1000*	*820*	*1025*	*1125*	*740*	*940*	*1025*
K3	160	220	245	95	130	145	90	125	140	—	—	—	165	235	260	210	270	290	190	240	260
	520	*720*	*800*	*310*	*425*	*475*	*295*	*410*	*460*	—	—	—	*540*	*770*	*850*	*690*	*890*	*950*	*620*	*790*	*850*
K4	150	210	235	90	125	140	85	120	135	—	—	—	160	225	250	200	255	275	180	230	250
	490	*690*	*770*	*295*	*410*	*460*	*280*	*395*	*445*	—	—	—	*520*	*740*	*820*	*660*	*840*	*900*	*590*	*750*	*820*
K5	90	130	140	55	75	85	50	70	80	—	—	—	95	135	150	120	155	165	110	140	150
	295	*425*	*460*	*180*	*245*	*280*	*165*	*230*	*260*	—	—	—	*310*	*445*	*490*	*395*	*510*	*540*	*360*	*460*	*490*
K6	135	185	205	80	110	125	75	105	115	—	—	—	140	195	220	180	225	245	160	205	220
	445	*610*	*670*	*260*	*360*	*410*	*245*	*345*	*375*	—	—	—	*460*	*640*	*720*	*590*	*740*	*800*	*520*	*670*	*720*
K7	115	165	180	70	95	110	65	95	100	—	—	—	125	175	190	155	200	210	140	180	190
	375	*540*	*590*	*230*	*310*	*360*	*215*	*310*	*330*	—	—	—	*410*	*570*	*620*	*510*	*660*	*690*	*460*	*590*	*620*
N1	—	—	—	1075	1550	1700	860	1225	1375	900	1275	1400	—	—	—	—	—	—	—	—	—
	—	—	—	*3525*	*5075*	*5575*	*2825*	*4025*	*4500*	*2950*	*4175*	*4600*	—	—	—	—	—	—	—	—	—
N2	—	—	—	430	620	690	345	500	550	365	520	570	—	—	—	—	—	—	—	—	—
	—	—	—	*1400*	*2025*	*2275*	*1125*	*1650*	*1800*	*1200*	*1700*	*1875*	—	—	—	—	—	—	—	—	—
N3	—	—	—	290	415	460	230	330	370	240	345	380	—	—	—	—	—	—	—	—	—
	—	—	—	*950*	*1350*	*1500*	*750*	*1075*	*1225*	*790*	*1125*	*1250*	—	—	—	—	—	—	—	—	—
N11	—	—	—	330	475	530	265	380	420	275	395	435	—	—	—	—	—	—	—	—	—
	—	—	—	*1075*	*1550*	*1750*	*870*	*1250*	*1375*	*900*	*1300*	*1425*	—	—	—	—	—	—	—	—	—
S1	—	—	—	33	47	50	29	41	45	—	—	—	—	—	—	—	—	—	22	31	35
	—	—	—	*110*	*155*	*165*	*95*	*135*	*150*	—	—	—	—	—	—	—	—	—	*70*	*100*	*115*
S2	—	—	—	27	38	42	23	33	36	—	—	—	—	—	—	—	—	—	18	25	28
	—	—	—	*90*	*125*	*140*	*75*	*110*	*120*	—	—	—	—	—	—	—	—	—	*60*	*80*	*90*
S3	—	—	—	23	33	37	20	29	32	—	—	—	—	—	—	—	—	—	22	31	35
	—	—	—	*75*	*110*	*120*	*65*	*95*	*105*	—	—	—	—	—	—	—	—	—	*70*	*100*	*115*
S11	—	—	—	46	65	75	40	55	65	—	—	—	—	—	—	—	—	—	44	65	70
	—	—	—	*150*	*215*	*245*	*130*	*180*	*215*	—	—	—	—	—	—	—	—	—	*145*	*215*	*230*
S12	—	—	—	39	55	60	34	48	55	—	—	—	—	—	—	—	—	—	31	44	48
	—	—	—	*130*	*180*	*195*	*110*	*155*	*180*	—	—	—	—	—	—	—	—	—	*100*	*145*	*155*
S13	—	—	—	23	32	36	20	28	31	—	—	—	—	—	—	—	—	—	18	25	28
	—	—	—	*75*	*105*	*120*	*65*	*90*	*100*	—	—	—	—	—	—	—	—	—	*60*	*80*	*90*
H5	—	—	—	26	36	40	24	34	38	—	—	—	—	—	—	—	—	—	28	39	43
	—	—	—	*85*	*120*	*130*	*80*	*110*	*125*	—	—	—	—	—	—	—	—	—	*90*	*130*	*140*
H8	—	—	—	27	38	42	26	36	40	—	—	—	—	—	—	—	—	—	30	41	46
	—	—	—	*90*	*125*	*140*	*85*	*120*	*130*	—	—	—	—	—	—	—	—	—	*100*	*135*	*150*
H11	—	—	—	33	46	50	31	44	48	—	—	—	—	—	—	—	—	—	36	50	55
	—	—	—	*110*	*150*	*165*	*100*	*145*	*155*	—	—	—	—	—	—	—	—	—	*120*	*165*	*180*
H12	—	—	—	31	44	49	30	42	47	—	—	—	—	—	—	—	—	—	55	75	85
	—	—	—	*100*	*145*	*160*	*100*	*140*	*155*	—	—	—	—	—	—	—	—	—	*180*	*245*	*280*
H21	—	—	—	27	38	42	26	36	40	—	—	—	—	—	—	—	—	—	30	41	46
	—	—	—	*90*	*125*	*140*	*85*	*120*	*130*	—	—	—	—	—	—	—	—	—	*100*	*135*	*150*

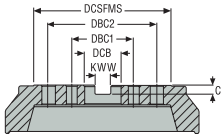


Code keys metric and inch

R	217	.	21	-	12	25	.	RE	-	LP06	.	4	A
1	2		3		4	5		6		7		8	9

R	217	.	21	-	01.00	0	-	LP06	.	3	A
1	2		3		5	6		7		8	9

1.	2.	3.
R = Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4. (Not for inch designation)	**5.**	**6.**
Connecting diameter	Cutter diameter	Shank type .RE for Combimaster .0 for Cylindrical .3 for Weldon .3S for Seco Weldon
7.	**8.**	**9.**
Insert type and size	No. of teeth	A = Through coolant supply E = Solid carbide shank

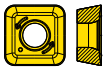
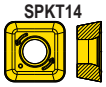


Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

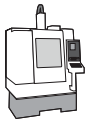
Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

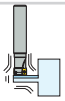
For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
SPKT10 	1,1	■	■	■	□	■	◩	■	◩	■	■
SPKT14 	1,8	■	■	■	□	■	◩	◩	■	■	■
SPKT18 	2,5	■	■	■	□	■	◩	□	■	■	■

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																									See page
			12	14	16	18	20	25	27	32	35	40	42	50	52	63	66	80	84	88	100	108	125	153	160	188	228	
SPKT10	4									3	3	4	4	5	5	6												505
											4	5	5	6	6	7												
SPKT14	4											3		4	4	5	5	6	6		8		9					510, 511
														5	5	6	6	7										
SPKT18	4															5	5	5			7		8	6	10	8	10	516
																		6										

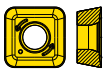
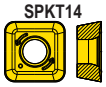
x — x indicates number of teeth (first choice)

x — x indicates number of teeth

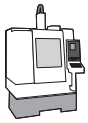
Troubleshooter for unstable fixturing and/or unstable conditions

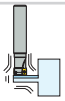
Basic choice

Selection – Inch

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
SPKT10 	0.043	■	■	■	□	■	◩	■	◩	■	■
SPKT14 	0.071	■	■	■	□	■	◩	◩	■	■	■
SPKT18 	0.098	■	■	■	□	■	◩	□	■	■	■

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Inch

Insert	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth													See page
			0.50	0.625	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	
SPKT10	4						3	4	5	6						505
									6	7						
SPKT14	4								4	5	6		8			510, 511
									5	6	7					
SPKT18	4									5	5		7	8	10	516
											6					

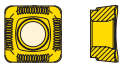
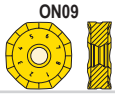
x — x indicates number of teeth (first choice)

x — x indicates number of teeth

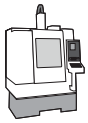
 Troubleshooter for unstable fixturing and/or unstable conditions

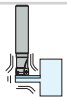
 Basic choice

Selection – Metric

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
LP05 	0,65	■	■	■	□	■	■	■	□	■	■
LP06 	0,8	■	■	■	■	■	■	■	□	■	■
LP09 	1,8	■	■	■	□	■	□	■	■	■	■
LO06 	0,9	■	◩	■	–	■	■	■	◩	◩	◩
218.19-080 	0,6	■	◩	■	■	◩	■	■	◩	■	■
218.19-100 	0,7	■	◩	■	■	◩	■	■	◩	■	■
218.19-125 	1,0	■	◩	■	■	◩	■	◩	■	■	■
218.19-160 	1,8	■	◩	■	■	◩	□	-	■	■	■
218.21-230 	1,8	■	■	■	-	◩	◩	-	■	□	■
SCET 	1,5	■	■	■	-	■	-	-	■	□	■
ON09 	2,0	■	-	■	-	-	-	-	■	-	-

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth																									See page
			12	14	16	18	20	25	27	32	35	40	42	50	52	63	66	80	84	88	100	108	125	133	160	168	208	
LP05	2				2		3																					529
			2	2	3	3	4																					
LP06	2										4																	536
							2	3	3	4	5	6																
					2	2	3	4		5	6	7																
LP09	2									3				5														543
								2		4	4	4	4	6	5	6	6	7										
												5	5	7	7	8	8	9	7		10							
LO06	4											5																551
							2	3	3	4	5	6																
								4		5	6	7	7	8	8	9												
218.19-080	3				2																							
218.19-100	3							2																				
							2	3																				
218.19-125	3									2																		
								2		3	3	4																
218.19-160	3													3		4												
														4	4	5	5	6	6		7							
										2		3		5	5	6	6	7			9							
218.21-230	6													4		5		6	6		7		9		10			559, 560
												3	3	5	5	6	6	7	8		9							
SCET	4															4	4	5	5		5							566
														4	4	5		6	6		7		6		7			
														5	5	6	6	7			8							
ON09	16																	6			7		8		10			590

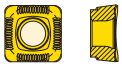
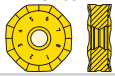
x — x indicates number of teeth (first choice)

x — x indicates number of teeth

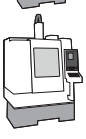
Troubleshooter for unstable fixturing and/or unstable conditions

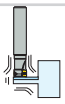
Basic choice

Selection – Inch

Insert	a_p max	Material suitability									
		P	M	K	N	S	H				
LP05 	0.020	■	■	■	□	■	■	■	□	■	■
LP06 	0.031	■	■	■	■	■	■	■	□	■	■
LP09 	0.071	■	■	■	□	■	□	■	■	■	■
LO06 	0.031	■	◩	■	–	■	■	■	◩	◩	◩
218.19-080 	0.025	■	◩	■	■	◩	■	■	◩	■	■
218.19-100 	0.028	■	◩	■	■	◩	■	■	◩	■	■
218.19-125 	0.039	■	◩	■	■	◩	■	◩	■	■	■
218.19-160 	0.071	■	◩	■	■	◩	□	-	■	■	■
218.21-230 	0.071	■	■	■	-	◩	◩	-	■	□	■
SCET 	0.059	■	■	■	-	■	-	-	■	□	■
ON09 	0.079	■	-	■	-	-	-	-	■	-	-

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Inch

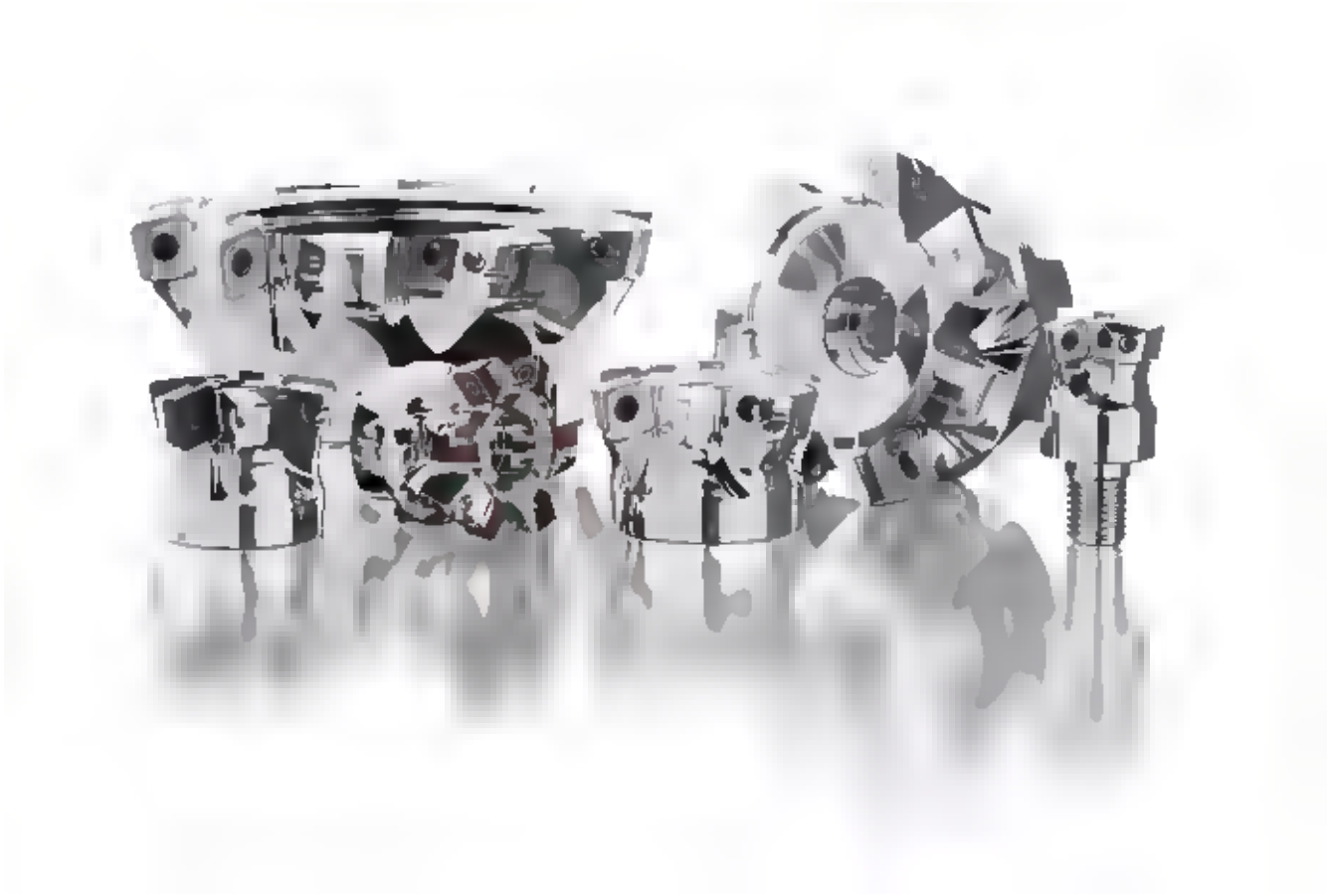
Insert	No. of cutting edges	Application	Cutter diameter available (inch)/number of teeth												See page
			0.50	0.625	0.75	1.00	1.25	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	
LP05	2			2	3											529
			2	3	4											
LP06	2				2	3	4	6								536
				2	3	4	5	7								
LP09	2						4	5	6	6	6	8	9			543
									7	8	8		10			
LO06	4					3	4	5								551
						4	5	6	8	9						
218.19-080	3			2												572
218.19-100	3				2	3										
218.19-125	3					2	3	4								
218.19-160	3						2	3	3	5	6		7			
									4	6	7		9			
									5							
218.21-230	6							3	4	5	5		7			559, 560
									5	6	6	8	9			
SCET	4									4	5		5			566
									4	6	6		8			
									5	6						
ON09	16										6		7	8	10	590

x — x indicates number of teeth (first choice)

x — x indicates number of teeth

Troubleshooter for unstable fixturing and/or unstable conditions

Basic choice

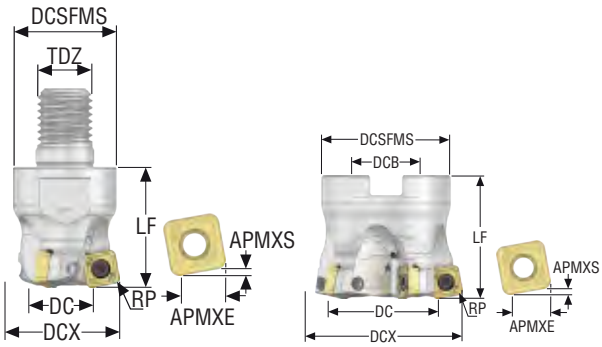


HIGH FEED SP

For challenging ISO P, M and S materials, the Seco High Feed SP features a combination of dedicated cutting geometries and insert grades, as well as optimized lead angles, that combine to boost material removal rates, maximize chip evacuation and extend tool life. Packed with versility, one High Feed SP tool optimizes copy milling, ramping, pocketing, face milling and plunging operations to reduce tooling inventory further. Designed for ease of use, the milling tools provide simple foolproof insert indexing that prevents operator mistakes, unexpected machine downtime and scrapped parts.

- 3 insert sizes, with IC = 10, 14 & 18mm
- 30 items in metric version, Ø32 to Ø160mm
- 19 items in inch version, Ø01.25 to Ø06.00
- Standard and close pitch
- Well proven SPKT inserts with a range of premium Seco grades optimized for tough materials.

R217/220.21-SP10 – Metric



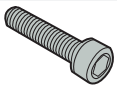


- For insert selection and cutting data recommendations, see page(s) 507-509
- For complete insert programme, see page(s) 837
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm	kg		
R217.21-1632.RE-SP10.3A	10097555	Combimaster	15,7	32,0	3	1,1	7,0	–	30,0	35,0	2,83	4,3	47,7	62,0	0,2	21600	SPKT10T317
R217.21-1635.RE-SP10.3A	10097557	Combimaster	18,7	35,0	3	1,1	7,0	–	30,0	35,0	2,8	3,5	53,7	68,0	0,2	20700	SPKT10T317
R217.21-1635.RE-SP10.4A	10097558	Combimaster	18,7	35,0	4	1,1	7,0	–	30,0	35,0	2,8	3,5	53,7	68,0	0,3	20700	SPKT10T317
R217.21-2040.RE-SP10.4A	10097559	Combimaster	23,7	40,0	4	1,1	7,0	–	36,5	40,0	2,79	2,7	63,7	78,0	0,4	19300	SPKT10T317
R217.21-2040.RE-SP10.5A	10097560	Combimaster	23,7	40,0	5	1,1	7,0	–	36,5	40,0	2,79	2,7	63,7	78,0	0,4	19300	SPKT10T317
R217.21-2042.RE-SP10.4A	10097561	Combimaster	25,7	42,0	4	1,1	7,0	–	36,5	40,0	2,8	2,5	67,7	82,0	0,4	18800	SPKT10T317
R217.21-2042.RE-SP10.5A	10097562	Combimaster	25,7	42,0	5	1,1	7,0	–	36,5	40,0	2,8	2,5	67,7	82,0	0,4	18800	SPKT10T317
R220.21-0050-SP10.5A	10097563	Arbor	33,7	50,0	5	1,1	7,0	22,0	41,0	40,0	2,8	1,9	83,7	98,0	0,3	17300	SPKT10T317
R220.21-0050-SP10.6A	10097564	Arbor	33,7	50,0	6	1,1	7,0	22,0	41,0	40,0	2,8	1,9	83,7	98,0	0,4	17300	SPKT10T317
R220.21-0052-SP10.5A	10097565	Arbor	35,7	52,0	5	1,1	7,0	22,0	49,0	40,0	2,8	1,8	87,7	102,0	0,4	17000	SPKT10T317
R220.21-0052-SP10.6A	10097566	Arbor	35,7	52,0	6	1,1	7,0	22,0	49,0	40,0	2,8	1,8	87,7	102,0	0,4	17000	SPKT10T317
R220.21-0063-SP10.6A	10097567	Arbor	46,7	63,0	6	1,1	7,0	22,0	49,0	40,0	2,8	1,3	109,7	124,0	0,5	15800	SPKT10T317
R220.21-0063-SP10.7A	10097568	Arbor	46,7	63,0	7	1,1	7,0	22,0	49,0	40,0	2,8	1,3	109,7	124,0	0,5	15800	SPKT10T317

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	H4B-T10P	C03508-T10P
R217.21-2040-2042-4A	–	H4B-T10P	C03509-T10P
R220.21-0050-0063	220.17-692	H4B-T10P	C03509-T10P
R220.21-0050-0052-6A	220.17-692	H4B-T10P	C03508-T10P

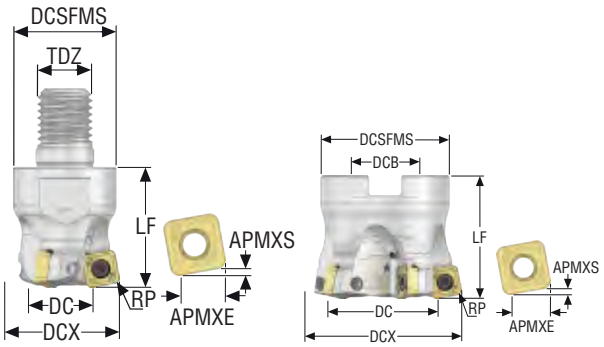
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217/220.21-SP10 – Inch



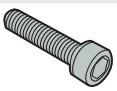


- For insert selection and cutting data recommendations, see page(s) 507-509
- For complete insert programme, see page(s) 837
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch	lbs		
R217.21-01.25.16RE-SP10.3A	10097569	Combimaster	0.606	1.250	3	0.043	0.276	–	1.181	1.378	0.111	5,6	1.856	2.421	0.440	21600	SPKT10T317
R217.21-01.50.20RE-SP10.4A	10097571	Combimaster	0.858	1.500	4	0.043	0.276	–	1.437	1.575	0.110	3,0	2.358	2.921	0.880	19300	SPKT10T317
R220.21-02.00-SP10.5A	10128666	Arbor	1.358	2.000	5	0.043	0.276	0.750	1.789	1.500	0.110	1,9	3.358	3.921	0.880	17300	SPKT10T317
R220.21-02.00-SP10.6A	10097573	Arbor	1.358	2.000	6	0.043	0.276	0.750	1.789	1.500	0.110	1,9	3.358	3.921	0.880	17300	SPKT10T317
R220.21-02.50-SP10.6A	10128667	Arbor	1.858	2.500	6	0.043	0.276	0.750	1.789	1.500	0.110	1,3	4.358	4.921	1.100	15800	SPKT10T317
R220.21-02.50-SP10.7A	10097574	Arbor	1.858	2.500	7	0.043	0.276	0.750	1.789	1.500	0.110	1,3	4.358	4.921	1.320	15800	SPKT10T317

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	H4B-T10P	C03508-T10P
R220.21-02.00	UC6S3/8UNFX1-1/4	H4B-T10P	C03508-T10P
R220.21-02.50	UC6S3/8UNFX1-1/4	H4B-T10P	C03509-T10P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

R220.21-SP10 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT10T317TN-M10 MP3501	1,1 *0.044*	0,80 *0.032*	0,80 *0.032*	0,90 *0.038*
P2	SPKT10T317TN-M10 MP3501	1,1 *0.044*	0,80 *0.032*	0,80 *0.032*	0,95 *0.038*
P3	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
P4	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
P5	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
P6	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
P7	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
P8	SPKT10T317TN-M10 MP2501	1,1 *0.044*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
P11	SPKT10T317TN-M10 MP3501	1,1 *0.044*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
P12	SPKT10T317TN-M10 MP2501	0,85 *0.034*	0,50 *0.020*	0,50 *0.020*	0,55 *0.022*
M1	SPKT10T317TN-M10 MS2050	1,1 *0.044*	0,80 *0.032*	0,80 *0.032*	0,95 *0.038*
M2	SPKT10T317TN-M10 MS2050	1,1 *0.044*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
M3	SPKT10T317TN-M10 MS2050	0,85 *0.034*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
M4	SPKT10T317TN-M10 MP3501	0,85 *0.034*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
M5	SPKT10T317TN-M10 MP3501	0,85 *0.034*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
K1	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
K2	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
K3	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
K4	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
K5	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,80 *0.032*	0,80 *0.032*	0,90 *0.038*
K6	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
K7	SPKT10T317TN-MD12 MK2050	1,1 *0.044*	0,80 *0.032*	0,80 *0.032*	0,90 *0.038*
S1	SPKT10T317TN-M10 MP3501	0,85 *0.034*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
S2	SPKT10T317TN-M10 MP3501	0,85 *0.034*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
S3	SPKT10T317TN-M10 MP3501	0,85 *0.034*	0,48 *0.019*	0,48 *0.019*	0,55 *0.022*
S11	SPKT10T317TN-M10 MS2050	0,85 *0.034*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
S12	SPKT10T317TN-M10 MS2050	0,85 *0.034*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
S13	SPKT10T317TN-M10 MS2050	0,85 *0.034*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
H5	SPKT10T317TN-MD12 MP3000	0,85 *0.034*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
H8	SPKT10T317TN-MD12 MP3000	0,85 *0.034*	0,46 *0.018*	0,46 *0.018*	0,50 *0.020*
H11	SPKT10T317TN-MD12 MP1501	0,85 *0.034*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
H12	SPKT10T317TN-MD12 MP1501	0,85 *0.034*	0,46 *0.018*	0,46 *0.018*	0,50 *0.020*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP10 – Cutting data v_c = (m/min)/*(sf/min)*

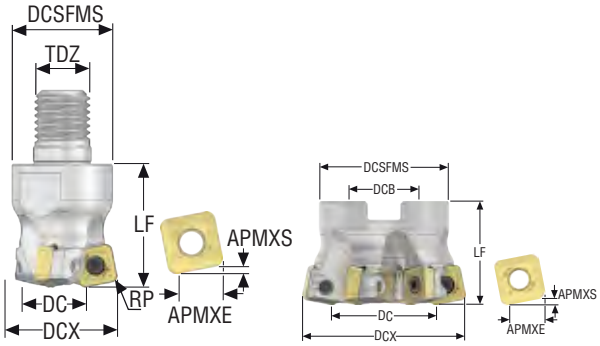
SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	285 *940*	325 *1075*	390 *1275*	270 *890*	315 *1025*	375 *1225*	265 *870*	305 *1000*	365 *1200*	240 *790*	280 *920*	335 *1100*	315 *1025*	360 *1175*	430 *1400*
P2	270 *890*	315 *1025*	370 *1225*	260 *850*	300 *980*	360 *1175*	260 *850*	300 *980*	355 *1175*	235 *770*	270 *890*	325 *1075*	305 *1000*	355 *1175*	420 *1375*
P3	235 *770*	275 *900*	330 *1075*	230 *750*	265 *870*	315 *1025*	225 *740*	260 *850*	310 *1025*	205 *670*	235 *770*	285 *940*	265 *870*	305 *1000*	365 *1200*
P4	210 *690*	245 *800*	290 *950*	205 *670*	235 *770*	280 *920*	200 *660*	230 *750*	275 *900*	180 *590*	210 *690*	250 *820*	235 *770*	270 *890*	325 *1075*
P5	200 *660*	235 *770*	275 *900*	195 *640*	225 *740*	265 *870*	190 *620*	220 *720*	260 *850*	175 *570*	200 *660*	240 *790*	225 *740*	260 *850*	310 *1025*
P6	225 *740*	260 *850*	320 *1050*	220 *720*	250 *820*	305 *1000*	215 *710*	250 *820*	300 *980*	195 *640*	225 *740*	270 *890*	255 *840*	290 *950*	350 *1150*
P7	215 *710*	245 *800*	300 *980*	205 *670*	240 *790*	290 *950*	200 *660*	235 *770*	280 *920*	185 *610*	210 *690*	255 *840*	240 *790*	275 *900*	330 *1075*
P8	200 *660*	230 *750*	275 *900*	190 *620*	220 *720*	265 *870*	190 *620*	215 *710*	260 *850*	170 *560*	195 *640*	240 *790*	220 *720*	255 *840*	310 *1025*
P11	210 *690*	240 *790*	290 *950*	200 *660*	230 *750*	280 *920*	195 *640*	225 *740*	275 *900*	180 *590*	205 *670*	250 *820*	230 *750*	265 *870*	320 *1050*
P12	135 *445*	155 *510*	190 *620*	130 *425*	150 *490*	180 *590*	125 *410*	145 *475*	175 *570*	115 *375*	135 *445*	160 *520*	150 *490*	175 *570*	205 *670*
M1	— —	— —	— —	195 *640*	225 *740*	270 *890*	210 *690*	240 *790*	285 *940*	190 *620*	220 *720*	260 *850*	220 *720*	255 *840*	300 *980*
M2	— —	— —	— —	165 *540*	190 *620*	220 *720*	170 *560*	200 *660*	235 *770*	155 *510*	180 *590*	215 *710*	180 *590*	210 *690*	245 *800*
M3	— —	— —	— —	130 *425*	150 *490*	180 *590*	135 *445*	160 *520*	190 *620*	125 *410*	145 *475*	175 *570*	145 *475*	165 *540*	200 *660*
M4	— —	— —	— —	100 *330*	115 *375*	140 *460*	110 *360*	125 *410*	150 *490*	100 *330*	115 *375*	135 *445*	115 *375*	130 *425*	155 *510*
M5	— —	— —	— —	85 *280*	95 *310*	115 *375*	90 *295*	105 *345*	125 *410*	80 *260*	95 *310*	115 *375*	95 *310*	110 *360*	130 *425*
K1	295 *970*	340 *1125*	400 *1300*	205 *670*	240 *790*	285 *940*	— —	— —	— —	185 *610*	215 *710*	255 *840*	— —	— —	— —
K2	260 *850*	300 *980*	355 *1175*	185 *610*	215 *710*	250 *820*	— —	— —	— —	165 *540*	190 *620*	225 *740*	— —	— —	— —
K3	220 *720*	255 *840*	300 *980*	155 *510*	180 *590*	215 *710*	— —	— —	— —	140 *460*	160 *520*	190 *620*	— —	— —	— —
K4	210 *690*	245 *800*	290 *950*	150 *490*	170 *560*	205 *670*	— —	— —	— —	135 *445*	155 *510*	180 *590*	— —	— —	— —
K5	130 *425*	150 *490*	180 *590*	90 *295*	105 *345*	125 *410*	— —	— —	— —	80 *260*	95 *310*	110 *360*	— —	— —	— —
K6	185 *610*	215 *710*	255 *840*	130 *425*	150 *490*	180 *590*	— —	— —	— —	115 *375*	135 *445*	160 *520*	— —	— —	— —
K7	165 *540*	190 *620*	230 *750*	120 *395*	135 *445*	160 *520*	— —	— —	— —	105 *345*	120 *395*	145 *475*	— —	— —	— —
S1	— —	— —	— —	47 *155*	55 *180*	65 *215*	50 *165*	60 *195*	70 *230*	46 *150*	55 *180*	65 *215*	55 *180*	65 *215*	75 *245*
S2	— —	— —	— —	38 *125*	43 *140*	55 *180*	41 *135*	47 *155*	55 *180*	37 *120*	43 *140*	50 *165*	44 *145*	50 *165*	60 *195*
S3	— —	— —	— —	33 *110*	38 *125*	46 *150*	35 *115*	41 *135*	49 *160*	32 *105*	37 *120*	45 *150*	39 *130*	45 *150*	55 *180*
S11	— —	— —	— —	65 *215*	75 *245*	90 *295*	70 *230*	80 *260*	95 *310*	65 *215*	75 *245*	90 *295*	75 *245*	90 *295*	105 *345*
S12	— —	— —	— —	46 *150*	55 *180*	65 *215*	48 *155*	55 *180*	65 *215*	44 *145*	50 *165*	60 *195*	55 *180*	60 *195*	75 *245*
S13	— —	— —	— —	26 *85*	30 *100*	37 *120*	28 *90*	33 *110*	39 *130*	26 *85*	30 *100*	36 *120*	31 *100*	36 *120*	43 *140*
H5	— —	— —	— —	41 *135*	47 *155*	55 *180*	— —	— —	— —	38 *125*	44 *145*	55 *180*	— —	— —	— —
H8	— —	— —	— —	43 *140*	50 *165*	60 *195*	— —	— —	— —	41 *135*	47 *155*	55 *180*	— —	— —	— —
H11	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	49 *160*	55 *180*	70 *230*	55 *180*	65 *215*	80 *260*
H12	— —	— —	— —	85 *280*	95 *310*	115 *375*	— —	— —	— —	75 *245*	85 *280*	100 *330*	95 *310*	110 *360*	130 *425*

R220.21-SP10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	415 *1350*	460 *1500*	530 *1750*	455 *1500*	500 *1650*	570 *1875*	350 *1150*	400 *1300*	480 *1575*	405 *1325*	450 *1475*	520 *1700*	195 *640*	225 *740*	270 *890*
P2	395 *1300*	440 *1450*	510 *1675*	440 *1450*	490 *1600*	560 *1825*	340 *1125*	390 *1275*	465 *1525*	395 *1300*	435 *1425*	500 *1650*	190 *620*	220 *720*	260 *850*
P3	345 *1125*	385 *1275*	445 *1450*	380 *1250*	420 *1375*	490 *1600*	290 *950*	335 *1100*	405 *1325*	340 *1125*	375 *1225*	440 *1450*	165 *540*	190 *620*	230 *750*
P4	310 *1025*	345 *1125*	390 *1275*	340 *1125*	375 *1225*	430 *1400*	260 *850*	300 *980*	360 *1175*	305 *1000*	335 *1100*	385 *1275*	145 *475*	170 *560*	200 *660*
P5	295 *970*	330 *1075*	375 *1225*	325 *1075*	360 *1175*	410 *1350*	250 *820*	290 *950*	340 *1125*	290 *950*	320 *1050*	370 *1225*	140 *460*	160 *520*	195 *640*
P6	335 *1100*	370 *1225*	430 *1400*	365 *1200*	405 *1325*	465 *1525*	280 *920*	325 *1075*	390 *1275*	325 *1075*	360 *1175*	420 *1375*	160 *520*	180 *590*	220 *720*
P7	315 *1025*	350 *1150*	405 *1325*	345 *1125*	380 *1250*	440 *1450*	265 *870*	305 *1000*	370 *1225*	310 *1025*	340 *1125*	395 *1300*	150 *490*	170 *560*	205 *670*
P8	290 *950*	325 *1075*	375 *1225*	320 *1050*	355 *1175*	410 *1350*	245 *800*	285 *940*	340 *1125*	285 *940*	315 *1025*	370 *1225*	140 *460*	160 *520*	195 *640*
P11	305 *1000*	340 *1125*	395 *1300*	335 *1100*	370 *1225*	430 *1400*	255 *840*	295 *970*	360 *1175*	300 *980*	330 *1075*	385 *1275*	145 *475*	165 *540*	200 *660*
P12	195 *640*	220 *720*	250 *820*	215 *710*	235 *770*	270 *890*	165 *540*	190 *620*	230 *750*	195 *640*	215 *710*	245 *800*	95 *310*	110 *360*	130 *425*
M1	— —	— —	— —	225 *740*	260 *850*	310 *1025*	245 *800*	280 *920*	335 *1100*	210 *690*	240 *790*	285 *940*	165 *540*	190 *620*	225 *740*
M2	— —	— —	— —	185 *610*	215 *710*	250 *820*	200 *660*	230 *750*	275 *900*	170 *560*	200 *660*	235 *770*	135 *445*	155 *510*	185 *610*
M3	— —	— —	— —	145 *475*	170 *560*	205 *670*	160 *520*	185 *610*	225 *740*	135 *445*	160 *520*	190 *620*	110 *360*	125 *410*	150 *490*
M4	— —	— —	— —	115 *375*	135 *445*	160 *520*	125 *410*	145 *475*	175 *570*	110 *360*	125 *410*	150 *490*	85 *280*	100 *330*	115 *375*
M5	— —	— —	— —	95 *310*	110 *360*	135 *445*	105 *345*	120 *395*	145 *475*	90 *295*	105 *345*	125 *410*	70 *230*	80 *260*	95 *310*
K1	400 *1300*	445 *1450*	510 *1675*	445 *1450*	490 *1600*	560 *1825*	270 *890*	310 *1025*	370 *1225*	400 *1300*	440 *1450*	510 *1675*	— —	— —	— —
K2	360 *1175*	395 *1300*	455 *1500*	395 *1300*	435 *1425*	495 *1625*	235 *770*	275 *900*	325 *1075*	350 *1150*	390 *1275*	445 *1450*	— —	— —	— —
K3	305 *1000*	335 *1100*	385 *1275*	330 *1075*	370 *1225*	420 *1375*	200 *660*	230 *750*	275 *900*	300 *980*	330 *1075*	375 *1225*	— —	— —	— —
K4	290 *950*	320 *1050*	365 *1200*	315 *1025*	350 *1150*	400 *1300*	190 *620*	220 *720*	260 *850*	285 *940*	315 *1025*	360 *1175*	— —	— —	— —
K5	180 *590*	195 *640*	225 *740*	195 *640*	215 *710*	245 *800*	120 *395*	135 *445*	160 *520*	175 *570*	195 *640*	220 *720*	— —	— —	— —
K6	255 *840*	280 *920*	320 *1050*	280 *920*	310 *1025*	355 *1175*	170 *560*	195 *640*	230 *750*	250 *820*	275 *900*	315 *1025*	— —	— —	— —
K7	230 *750*	255 *840*	290 *950*	250 *820*	280 *920*	315 *1025*	150 *490*	175 *570*	205 *670*	225 *740*	250 *820*	280 *920*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	85 *280*	50 *165*	60 *195*	70 *230*	26 *85*	30 *100*	36 *120*
S2	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	70 *230*	41 *135*	47 *155*	55 *180*	21 *70*	24 *80*	29 *95*
S3	— —	— —	— —	— —	— —	— —	43 *140*	50 *165*	60 *195*	35 *115*	41 *135*	49 *160*	18 *60*	21 *70*	25 *80*
S11	— —	— —	— —	— —	— —	— —	85 *280*	95 *310*	120 *395*	70 *230*	80 *260*	95 *310*	36 *120*	41 *135*	50 *165*
S12	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	80 *260*	48 *155*	55 *180*	65 *215*	33 *110*	38 *125*	46 *150*
S13	— —	— —	— —	— —	— —	— —	34 *110*	40 *130*	48 *155*	28 *90*	33 *110*	39 *130*	19 *60*	22 *70*	27 *90*
H5	50 *165*	60 *195*	70 *230*	— —	— —	— —	50 *165*	60 *195*	70 *230*	44 *145*	50 *165*	60 *195*	— —	— —	— —
H8	55 *180*	65 *215*	75 *245*	— —	— —	— —	55 *180*	60 *195*	75 *245*	47 *155*	55 *180*	65 *215*	— —	— —	— —
H11	65 *215*	75 *245*	90 *295*	— —	— —	— —	65 *215*	75 *245*	90 *295*	55 *180*	65 *215*	80 *260*	— —	— —	— —
H12	100 *330*	115 *375*	135 *445*	— —	— —	— —	105 *345*	120 *395*	145 *475*	85 *280*	100 *330*	115 *375*	— —	— —	— —

R217/220.21-SP14 – Metric



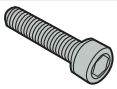
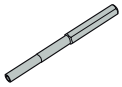


- For insert selection and cutting data recommendations, see page(s) 513-515
- For complete insert programme, see page(s) 837
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm	kg		
R217.21-2040.RE-SP14.3A	10135958	Combimaster	17,0	40,0	3	1,8	10,0	–	36,5	45,0	4,06	2,9	57,0	78,0	0,4	11900	SPKT140523
R220.21-0050-SP14.4A	10068147	Arbor	27,1	50,0	4	1,8	10,0	22,0	41,0	40,0	4,02	3,5	77,1	98,0	0,3	10700	SPKT140523
R220.21-0050-SP14.5A	10068148	Arbor	27,1	50,0	5	1,8	10,0	22,0	41,0	40,0	4,04	1,8	77,1	98,0	0,3	10700	SPKT140523
R220.21-0052-SP14.4A	10068149	Arbor	29,1	52,0	4	1,8	10,0	22,0	49,0	40,0	4,02	3,2	81,1	102,0	0,4	10500	SPKT140523
R220.21-0052-SP14.5A	10101535	Arbor	29,1	52,0	5	1,8	10,0	22,0	49,0	40,0	4,02	3,2	81,1	102,0	0,4	10500	SPKT140523
R220.21-0063-SP14.5A	10068150	Arbor	40,1	63,0	5	1,8	10,0	27,0	49,0	50,0	4,01	2,3	103,1	124,0	0,5	9600	SPKT140523
R220.21-0063-SP14.6A	10068151	Arbor	40,1	63,0	6	1,8	10,0	27,0	49,0	50,0	4,01	2,3	103,1	124,0	0,6	9600	SPKT140523
R220.21-0066-SP14.5A	10068152	Arbor	43,0	66,0	5	1,8	10,0	27,0	61,0	50,0	4,02	2,1	109,0	130,0	0,8	9400	SPKT140523
R220.21-0066-SP14.6A	10101540	Arbor	43,0	66,0	6	1,8	10,0	27,0	61,0	50,0	4,02	2,1	109,0	130,0	0,8	9400	SPKT140523
R220.21-0080-SP14.6A	10068154	Arbor	57,0	80,0	6	1,8	10,0	27,0	61,0	50,0	4,01	1,6	137,0	158,0	1,0	8500	SPKT140523
R220.21-0080-SP14.7A	10068155	Arbor	57,0	80,0	7	1,8	10,0	27,0	61,0	50,0	4,01	1,6	137,0	158,0	1,1	8500	SPKT140523
R220.21-0084-SP14.6A	10068156	Arbor	61,0	84,0	6	1,8	10,0	32,0	79,0	50,0	4,01	1,5	145,0	166,0	1,3	8300	SPKT140523
R220.21-0100-SP14.8A	10068157	Arbor	77,0	100,0	8	1,8	10,0	32,0	79,0	50,0	4,01	1,2	177,0	198,0	1,6	7600	SPKT140523
R220.21-0125-SP14.9A	10132522	Arbor	102,0	125,0	9	1,8	10,0	40,0	90,0	63,0	4,0	0,9	227,0	248,0	3,2	6800	SPKT140523

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	H6B-T20P	C45011-T20P
R220.21-0050-0052	220.17-692M	H6B-T20P	C45011-T20P
R220.21-0063	MC6S12X40	H6B-T20P	C45011-T20P
R220.21-0066	MC6S12X40	H6B-T20P	C45011-T20P
R220.21-0080	MC6S12X40	H6B-T20PL	C45011-T20P
R220.21-0084-0100	MLC6S16X35	H6B-T20PL	C45011-T20P
R220.21-0125	MC6S20X50	H6B-T20PL	C45011-T20P

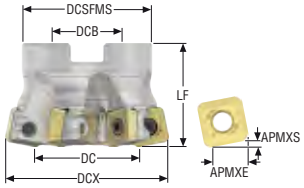
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.21-SP14 – inch

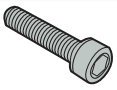
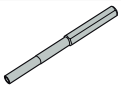




- For insert selection and cutting data recommendations, see page(s) 513-515
- For complete insert programme, see page(s) 837
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch	lbs		
R220.21-02.00-SP14.4A	10068158	Arbor	1.098	2.000	4	0.071	0.394	0.750	1.789	1.500	0.158	3,3	3.098	3.921	0.880	10700	SPKT140523
R220.21-02.00-SP14.5A	10068159	Arbor	1.098	2.000	5	0.071	0.394	0.750	1.789	1.500	0.158	3,3	3.098	3.921	0.880	10700	SPKT140523
R220.21-02.50-SP14.5A	10068160	Arbor	1.594	2.500	5	0.071	0.394	0.750	1.789	1.500	0.158	2,2	4.094	4.921	1.100	9600	SPKT140523
R220.21-02.50-SP14.6A	10068161	Arbor	1.594	2.500	6	0.071	0.394	0.750	1.789	1.500	0.158	2,2	4.094	4.921	1.100	9600	SPKT140523
R220.21-03.00-SP14.6A	10068162	Arbor	2.094	3.000	6	0.071	0.394	1.000	2.289	2.000	0.158	1,7	4.583	5.921	1.980	8500	SPKT140523
R220.21-03.00-SP14.7A	10068163	Arbor	2.094	3.000	7	0.071	0.394	1.000	2.289	2.000	0.158	1,7	4.583	5.921	2.200	8500	SPKT140523
R220.21-04.00-SP14.8A	10068164	Arbor	3.094	4.000	8	0.071	0.394	1.500	3.539	2.000	0.158	1,2	7.094	7.921	4.190	7600	SPKT140523

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	H6B-T20P	C45011-T20P
R220.21-03.00	UC6S1/2UNFX1-1/2	H6B-T20PL	C45011-T20P
R220.21-04.00	ULC6S3/4UNFX11/2	H6B-T20PL	C45011-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.21-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R220.21-SP14 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT140523TN-M14 MP3501	1,8 *0.070*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P2	SPKT140523TN-M14 MP3501	1,8 *0.070*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P3	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P4	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P5	SPKT140523TN-M14 MP2501	1,8 *0.070*	0,95 *0.038*	0,95 *0.038*	1,2 *0.048*
P6	SPKT140523TN-M14 MP2501	1,8 *0.070*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P7	SPKT140523TN-M14 MP2501	1,8 *0.070*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P8	SPKT140523TN-M14 MP2501	1,8 *0.070*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P11	SPKT140523TN-M14 MP3501	1,8 *0.070*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P12	SPKT140523TN-M14 MP2501	1,4 *0.055*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
M1	SPKT140523TN-M14 MS2050	1,8 *0.070*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
M2	SPKT140523TN-M14 MS2050	1,8 *0.070*	0,95 *0.038*	0,95 *0.038*	1,2 *0.048*
M3	SPKT140523TN-M14 MS2050	1,4 *0.055*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
M4	SPKT140523TN-M14 MP3501	1,4 *0.055*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
M5	SPKT140523TN-M14 MP3501	1,4 *0.055*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
K1	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,2 *0.048*	1,2 *0.048*	1,5 *0.060*
K2	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K3	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K4	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K5	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K6	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K7	SPKT140523TN-MD16 MK2050	1,8 *0.070*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
S1	SPKT140523TN-M14 MP3501	1,4 *0.055*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
S2	SPKT140523TN-M14 MP3501	1,4 *0.055*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
S3	SPKT140523TN-M14 MP3501	1,4 *0.055*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
S11	SPKT140523TN-M14 MS2050	1,4 *0.055*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
S12	SPKT140523TN-M14 MS2050	1,4 *0.055*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
S13	SPKT140523TN-M14 MS2050	1,4 *0.055*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
H5	SPKT140523TN-MD16 MP3000	1,4 *0.055*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
H8	SPKT140523TN-MD16 MP3000	1,4 *0.055*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
H11	SPKT140523TN-MD16 MP1501	1,4 *0.055*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
H12	SPKT140523TN-MD16 MP1501	1,4 *0.055*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP14 – Cutting data v_c = (m/min)/*(sf/min)*

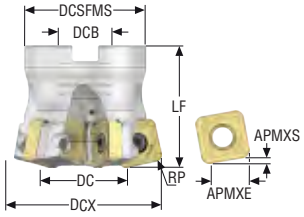
SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	260 *850*	305 *1000*	365 *1200*	250 *820*	290 *950*	350 *1150*	240 *790*	280 *920*	335 *1100*	220 *720*	255 *840*	305 *1000*	280 *920*	330 *1075*	395 *1300*
P2	255 *840*	295 *970*	350 *1150*	245 *800*	285 *940*	335 *1100*	235 *770*	270 *890*	325 *1075*	210 *690*	245 *800*	295 *970*	275 *900*	320 *1050*	385 *1275*
P3	220 *720*	255 *840*	305 *1000*	210 *690*	245 *800*	295 *970*	205 *670*	240 *790*	290 *950*	190 *620*	220 *720*	260 *850*	245 *800*	285 *940*	340 *1125*
P4	195 *640*	230 *750*	270 *890*	190 *620*	220 *720*	260 *850*	180 *590*	210 *690*	255 *840*	165 *540*	195 *640*	230 *750*	215 *710*	250 *820*	300 *980*
P5	190 *620*	220 *720*	265 *870*	180 *590*	210 *690*	255 *840*	175 *570*	205 *670*	240 *790*	160 *520*	185 *610*	220 *720*	205 *670*	240 *790*	285 *940*
P6	210 *690*	245 *800*	295 *970*	205 *670*	235 *770*	285 *940*	200 *660*	230 *750*	270 *890*	180 *590*	210 *690*	245 *800*	235 *770*	275 *900*	320 *1050*
P7	200 *660*	235 *770*	280 *920*	190 *620*	225 *740*	270 *890*	185 *610*	220 *720*	255 *840*	170 *560*	200 *660*	235 *770*	220 *720*	255 *840*	300 *980*
P8	185 *610*	215 *710*	260 *850*	175 *570*	205 *670*	250 *820*	175 *570*	205 *670*	240 *790*	160 *520*	185 *610*	220 *720*	205 *670*	240 *790*	285 *940*
P11	195 *640*	225 *740*	270 *890*	185 *610*	215 *710*	260 *850*	180 *590*	210 *690*	250 *820*	165 *540*	195 *640*	225 *740*	215 *710*	250 *820*	295 *970*
P12	125 *410*	145 *475*	175 *570*	120 *395*	140 *460*	170 *560*	120 *395*	140 *460*	165 *540*	105 *345*	125 *410*	150 *490*	140 *460*	165 *540*	195 *640*
M1	— —	— —	— —	180 *590*	210 *690*	250 *820*	190 *620*	220 *720*	265 *870*	170 *560*	200 *660*	240 *790*	195 *640*	230 *750*	275 *900*
M2	— —	— —	— —	150 *490*	175 *570*	210 *690*	155 *510*	185 *610*	220 *720*	140 *460*	165 *540*	200 *660*	165 *540*	190 *620*	230 *750*
M3	— —	— —	— —	120 *395*	140 *460*	170 *560*	125 *410*	145 *475*	180 *590*	115 *375*	135 *445*	160 *520*	130 *425*	155 *510*	185 *610*
M4	— —	— —	— —	95 *310*	110 *360*	130 *425*	100 *330*	115 *375*	140 *460*	90 *295*	105 *345*	125 *410*	100 *330*	120 *395*	145 *475*
M5	— —	— —	— —	80 *260*	90 *295*	110 *360*	80 *260*	95 *310*	115 *375*	75 *245*	85 *280*	105 *345*	85 *280*	100 *330*	120 *395*
K1	275 *900*	320 *1050*	375 *1225*	195 *640*	225 *740*	265 *870*	— —	— —	— —	170 *560*	195 *640*	235 *770*	— —	— —	— —
K2	245 *800*	285 *940*	340 *1125*	170 *560*	200 *660*	240 *790*	— —	— —	— —	150 *490*	175 *570*	210 *690*	— —	— —	— —
K3	205 *670*	240 *790*	290 *950*	145 *475*	170 *560*	205 *670*	— —	— —	— —	125 *410*	150 *490*	175 *570*	— —	— —	— —
K4	195 *640*	230 *750*	275 *900*	140 *460*	160 *520*	195 *640*	— —	— —	— —	120 *395*	140 *460*	170 *560*	— —	— —	— —
K5	120 *395*	140 *460*	170 *560*	85 *280*	100 *330*	120 *395*	— —	— —	— —	75 *245*	85 *280*	105 *345*	— —	— —	— —
K6	175 *570*	200 *660*	240 *790*	120 *395*	145 *475*	170 *560*	— —	— —	— —	105 *345*	125 *410*	150 *490*	— —	— —	— —
K7	155 *510*	180 *590*	215 *710*	110 *360*	125 *410*	150 *490*	— —	— —	— —	95 *310*	110 *360*	130 *425*	— —	— —	— —
S1	— —	— —	— —	44 *145*	50 *165*	60 *195*	46 *150*	55 *180*	65 *215*	42 *140*	49 *160*	60 *195*	50 *165*	60 *195*	70 *230*
S2	— —	— —	— —	35 *115*	41 *135*	49 *160*	37 *120*	43 *140*	50 *165*	33 *110*	39 *130*	48 *155*	40 *130*	47 *155*	60 *195*
S3	— —	— —	— —	31 *100*	36 *120*	44 *145*	32 *105*	38 *125*	46 *150*	29 *95*	34 *110*	42 *140*	35 *115*	42 *140*	50 *165*
S11	— —	— —	— —	60 *195*	70 *230*	85 *280*	65 *215*	75 *245*	90 *295*	60 *195*	65 *215*	80 *260*	70 *230*	80 *260*	100 *330*
S12	— —	— —	— —	42 *140*	49 *160*	60 *195*	44 *145*	50 *165*	60 *195*	40 *130*	47 *155*	55 *180*	48 *155*	55 *180*	70 *230*
S13	— —	— —	— —	25 *80*	29 *95*	35 *115*	26 *85*	30 *100*	37 *120*	23 *75*	27 *90*	33 *110*	28 *90*	33 *110*	40 *130*
H5	— —	— —	— —	38 *125*	44 *145*	55 *180*	— —	— —	— —	36 *120*	42 *140*	50 *165*	— —	— —	— —
H8	— —	— —	— —	40 *130*	47 *155*	55 *180*	— —	— —	— —	38 *125*	45 *150*	55 *180*	— —	— —	— —
H11	— —	— —	— —	48 *155*	55 *180*	65 *215*	— —	— —	— —	45 *150*	55 *180*	65 *215*	55 *180*	60 *195*	75 *245*
H12	— —	— —	— —	75 *245*	90 *295*	110 *360*	— —	— —	— —	70 *230*	80 *260*	95 *310*	90 *295*	105 *345*	125 *410*

R220.21-SP14 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	375 *1225*	420 *1375*	495 *1625*	400 *1300*	445 *1450*	520 *1700*	315 *1025*	365 *1200*	440 *1450*	355 *1175*	395 *1300*	470 *1550*	175 *570*	205 *670*	245 *800*
P2	365 *1200*	410 *1350*	470 *1550*	390 *1275*	435 *1425*	510 *1675*	305 *1000*	355 *1175*	425 *1400*	345 *1125*	385 *1275*	455 *1500*	170 *560*	200 *660*	240 *790*
P3	315 *1025*	350 *1150*	415 *1350*	345 *1125*	390 *1275*	450 *1475*	270 *890*	315 *1025*	375 *1225*	310 *1025*	345 *1125*	405 *1325*	150 *490*	180 *590*	210 *690*
P4	285 *940*	320 *1050*	365 *1200*	305 *1000*	340 *1125*	400 *1300*	240 *790*	280 *920*	330 *1075*	270 *890*	305 *1000*	355 *1175*	135 *445*	155 *510*	185 *610*
P5	275 *900*	305 *1000*	355 *1175*	290 *950*	325 *1075*	380 *1250*	225 *740*	265 *870*	315 *1025*	260 *850*	290 *950*	340 *1125*	130 *425*	150 *490*	180 *590*
P6	305 *1000*	345 *1125*	400 *1300*	335 *1100*	375 *1225*	425 *1400*	260 *850*	305 *1000*	355 *1175*	295 *970*	330 *1075*	380 *1250*	145 *475*	170 *560*	200 *660*
P7	290 *950*	325 *1075*	380 *1250*	315 *1025*	350 *1150*	400 *1300*	245 *800*	285 *940*	335 *1100*	280 *920*	315 *1025*	360 *1175*	140 *460*	160 *520*	190 *620*
P8	265 *870*	295 *970*	350 *1150*	290 *950*	325 *1075*	380 *1250*	225 *740*	265 *870*	315 *1025*	260 *850*	290 *950*	340 *1125*	130 *425*	150 *490*	180 *590*
P11	280 *920*	315 *1025*	370 *1225*	305 *1000*	340 *1125*	390 *1275*	240 *790*	280 *920*	325 *1075*	270 *890*	305 *1000*	350 *1150*	135 *445*	155 *510*	185 *610*
P12	185 *610*	205 *670*	240 *790*	200 *660*	225 *740*	260 *850*	155 *510*	180 *590*	215 *710*	180 *590*	200 *660*	230 *750*	85 *280*	100 *330*	120 *395*
M1	— —	— —	— —	200 *660*	235 *770*	280 *920*	220 *720*	255 *840*	305 *1000*	190 *620*	220 *720*	265 *870*	145 *475*	170 *560*	205 *670*
M2	— —	— —	— —	170 *560*	195 *640*	235 *770*	180 *590*	210 *690*	255 *840*	155 *510*	185 *610*	220 *720*	125 *410*	145 *475*	170 *560*
M3	— —	— —	— —	135 *445*	155 *510*	190 *620*	145 *475*	170 *560*	205 *670*	125 *410*	145 *475*	180 *590*	100 *330*	115 *375*	140 *460*
M4	— —	— —	— —	105 *345*	125 *410*	150 *490*	115 *375*	135 *445*	160 *520*	100 *330*	115 *375*	140 *460*	75 *245*	90 *295*	110 *360*
M5	— —	— —	— —	85 *280*	100 *330*	125 *410*	95 *310*	110 *360*	135 *445*	80 *260*	95 *310*	115 *375*	65 *215*	75 *245*	90 *295*
K1	370 *1225*	415 *1350*	475 *1550*	390 *1275*	440 *1450*	520 *1700*	240 *790*	280 *920*	340 *1125*	350 *1150*	390 *1275*	460 *1500*	— —	— —	— —
K2	330 *1075*	370 *1225*	430 *1400*	355 *1175*	395 *1300*	460 *1500*	215 *710*	250 *820*	300 *980*	315 *1025*	350 *1150*	410 *1350*	— —	— —	— —
K3	280 *920*	315 *1025*	365 *1200*	300 *980*	335 *1100*	390 *1275*	185 *610*	215 *710*	255 *840*	265 *870*	295 *970*	345 *1125*	— —	— —	— —
K4	265 *870*	300 *980*	350 *1150*	285 *940*	320 *1050*	370 *1225*	175 *570*	205 *670*	245 *800*	255 *840*	285 *940*	330 *1075*	— —	— —	— —
K5	165 *540*	185 *610*	215 *710*	175 *570*	195 *640*	225 *740*	105 *345*	125 *410*	150 *490*	155 *510*	175 *570*	205 *670*	— —	— —	— —
K6	235 *770*	265 *870*	310 *1025*	250 *820*	280 *920*	325 *1075*	155 *510*	180 *590*	215 *710*	225 *740*	250 *820*	290 *950*	— —	— —	— —
K7	210 *690*	235 *770*	275 *900*	225 *740*	250 *820*	290 *950*	135 *445*	160 *520*	190 *620*	200 *660*	225 *740*	260 *850*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	80 *260*	46 *150*	55 *180*	65 *215*	23 *75*	27 *90*	33 *110*
S2	— —	— —	— —	— —	— —	— —	45 *150*	50 *165*	65 *215*	37 *120*	43 *140*	50 *165*	19 *60*	22 *70*	27 *90*
S3	— —	— —	— —	— —	— —	— —	39 *130*	46 *150*	55 *180*	32 *105*	38 *125*	46 *150*	17 *55*	19 *60*	24 *80*
S11	— —	— —	— —	— —	— —	— —	75 *245*	90 *295*	110 *360*	65 *215*	75 *245*	90 *295*	33 *110*	38 *125*	46 *150*
S12	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	44 *145*	50 *165*	60 *195*	30 *100*	35 *115*	43 *140*
S13	— —	— —	— —	— —	— —	— —	31 *100*	37 *120*	45 *150*	26 *85*	30 *100*	37 *120*	18 *60*	21 *70*	25 *80*
H5	48 *155*	55 *180*	65 *215*	— —	— —	— —	46 *150*	55 *180*	65 *215*	41 *135*	48 *155*	55 *180*	— —	— —	— —
H8	50 *165*	60 *195*	70 *230*	— —	— —	— —	50 *165*	60 *195*	70 *230*	44 *145*	50 *165*	60 *195*	— —	— —	— —
H11	60 *195*	70 *230*	85 *280*	— —	— —	— —	60 *195*	70 *230*	80 *260*	50 *165*	60 *195*	75 *245*	— —	— —	— —
H12	90 *295*	105 *345*	130 *425*	— —	— —	— —	100 *330*	115 *375*	140 *460*	80 *260*	90 *295*	110 *360*	— —	— —	— —

R220.21-SP18 – Metric

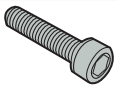
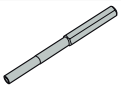
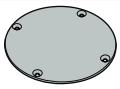




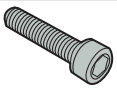
- For insert selection and cutting data recommendations, see page(s) 519-521
- For complete insert programme, see page(s) 837
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm	kg		
R220.21-0063-SP18.5A	10097579	Arbor	33,7	63,0	5	2,5	14,0	22,0	49,0	50,0	5,41	2,4	96,7	124,0	0,6	5800	SPKT180630
R220.21-0066-SP18.5A	10097580	Arbor	36,7	66,0	5	2,5	14,0	27,0	61,0	55,0	5,4	3,4	102,7	130,0	0,8	5700	SPKT180630
R220.21-0080-SP18.5A	10097581	Arbor	50,7	80,0	5	2,5	14,0	27,0	61,0	50,0	5,4	2,4	130,7	158,0	1,0	5100	SPKT180630
R220.21-0080-SP18.6A	10097582	Arbor	50,7	80,0	6	2,5	14,0	27,0	61,0	50,0	5,4	2,4	130,7	158,0	1,4	5100	SPKT180630
R220.21-0100-SP18.7A	10097583	Arbor	70,7	100,0	7	2,5	14,0	32,0	79,0	50,0	5,39	1,7	170,7	198,0	1,6	4500	SPKT180630
R220.21-0125-SP18.8A	10097584	Arbor	95,6	125,0	8	2,5	14,0	40,0	90,0	63,0	5,39	1,2	220,6	248,0	3,1	4000	SPKT180630
R220.21-8160-SP18.10A	10097585	Arbor	130,6	160,0	10	2,5	14,0	40,0	90,0	63,0	5,39	0,9	290,6	318,0	3,9	3600	SPKT180630

Spare Parts, included in delivery

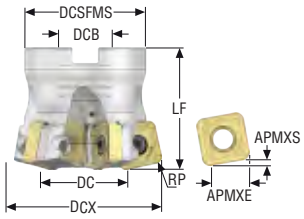
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R220.21-0063	MLC6S10X45	H6B-T20P	C05013-T20P	–	–
R220.21-0066	MLC6S12X50	H6B-T20P	C05013-T20P	–	–
R220.21-0080	MC6S12X40	H6B-T20PL	C05013-T20P	–	–
R220.21-0100	MLC6S16X35	H6B-T20PL	C05013-T20P	–	–
R220.21-0125	MC6S20X50	H6B-T20PL	C05013-T20P	–	–
R220.21-8160	–	H6B-T20PL	C05013-T20P	SC160-53	MF6S4X10

Accessories

For cutter	Arbor screw	Insert clamping torque	Torque key
			
R220.21-0063-0125	–	5.0NM	T00-20P50
R220.21-8160	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.21-SP18 – inch





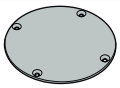
- For insert selection and cutting data recommendations, see page(s) 519-521
- For complete insert programme, see page(s) 837
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch	lbs		
R220.21-02.50-SP18.5A	10097586	Arbor	1.346	2.500	5	0.098	0.551	0.750	1.789	2.000	0.213	3,7	3.846	4.921	1.320	5800	SPKT180630
R220.21-03.00-SP18.5A	10128670	Arbor	1.846	3.000	5	0.098	0.551	1.000	2.289	2.000	0.213	2,6	4.846	5.921	1.980	5100	SPKT180630
R220.21-03.00-SP18.6A	10097587	Arbor	1.846	3.000	6	0.098	0.551	1.000	2.289	2.000	0.213	2,6	4.846	5.921	1.980	5100	SPKT180630
R220.21-04.00-SP18.7A	10097588	Arbor	2.846	4.000	7	0.098	0.551	1.500	3.539	2.000	0.212	1,7	6.846	7.921	1.320	4500	SPKT180630
R220.21-05.00-SP18.8A	10097589	Arbor	3.843	5.000	8	0.098	0.551	1.500	3.539	2.500	0.212	1,2	8.843	9.921	6.610	4000	SPKT180630
R220.21-06.00-SP18.10A	10097590	Arbor	4.843	6.000	10	0.098	0.551	2.000	4.909	2.500	0.212	1,0	10.843	11.921	8.600	3700	SPKT180630

Spare Parts, included in delivery

For cutter	Arbor screw	Insert screw
		
R220.21-02.50	UC6S3/8UNFX11/2	C05013-T20P
R220.21-03.00	UC6S1/2UNFX1-1/2	C05013-T20P
R220.21-04.00	ULC6S3/4UNFX11/2	C05013-T20P
R220.21-05.00	UC6S3/4UNFX2	C05013-T20P
R220.21-06.00	–	C05013-T20P

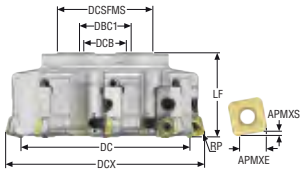
Accessories

For cutter	Insert clamping torque	Lid	Lid Screw	Torque key
				
R220.21-02.50-05.00	44.3IN.LBS	–	–	T00-20P50
R220.21-06.00	44.3IN.LBS	SC-160-90	MF6S4X10	T00-20P50

Torque and fixed keys, see page 872

R220.21-SP18CA – Metric

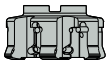




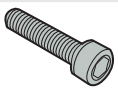
- For insert selection and cutting data recommendations, see page(s) 522-527
- For complete insert programme, see page(s) 837
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DBC1	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm	mm	mm	mm	mm		mm	mm	kg		
R220.21-0153-SP18HF-6CA	10135928	Arbor	123,8	153,0	6	2,9	14,0	40,0	–	90,0	80,0	5,79	0,8	276,8	304,0	6,1	3700	SPKT180630
R220.21-0153-SP18MF-6CA	10135931	Arbor	124,5	153,0	6	4,1	14,0	40,0	–	90,0	80,0	6,99	0,7	277,5	304,0	6,1	3700	SPKT180630
R220.21-8188-SP18HF-8CA	10135929	Arbor	158,8	188,0	8	2,9	14,0	40,0	66,7	90,0	80,0	5,79	0,6	346,8	374,0	8,2	3300	SPKT180630
R220.21-8188-SP18MF-8CA	10135932	Arbor	159,5	188,0	8	4,1	14,0	40,0	66,7	90,0	80,0	6,99	0,5	347,5	374,0	8,2	3300	SPKT180630
R220.21-8228-SP18HF-10CA	10135930	Arbor	198,7	228,0	10	2,9	14,0	60,0	101,6	130,0	80,0	5,79	0,5	426,7	454,0	11,5	3000	SPKT180630
R220.21-8228-SP18MF-10CA	10135933	Arbor	199,5	228,0	10	4,1	14,0	60,0	101,6	130,0	80,0	6,99	0,4	427,5	454,0	11,5	3000	SPKT180630

Spare Parts, included in delivery

For cutter	Adjustment unit	Arbor screw	Basic body	Cassette	Cassette screw	Insert screw	Lid	Lid screw	Wedge clamp	Wedge screw
										
R220.21-0153HF	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-6CA	SP18HF-R	FS98030	C05013-T20P	–	–	CW0810	LD8020-T25P
R220.21-0153MF	AU1114T-T15P	MC6S20X70	B-R220.21/29I-0153-6CA	SP18MF-R	FS98030	C05013-T20P	–	–	CW0810	LD8020-T25P
R220.21-8188HF	AU1114T-T15P	–	B-R220.21/29I-8188-8CA	SP18HF-R	FS98030	C05013-T20P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8188MF	AU1114T-T15P	–	B-R220.21/29I-8188-8CA	SP18MF-R	FS98030	C05013-T20P	SC-160-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8228HF	AU1114T-T15P	–	B-R220.21/29I-8228-10CA	SP18HF-R	FS98030	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P
R220.21-8228MF	AU1114T-T15P	–	B-R220.21/29I-8228-10CA	SP18MF-R	FS98030	C05013-T20P	SC-200-90	MF6S4X10	CW0810	LD8020-T25P

Accessories

For cutter	Arbor screw	Setting key	Torque key	Wedge key
				
R220.21-0153	–	1/4HEX-T15PX50	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T25PX50
R220.21-8188	MC6S12X40	1/4HEX-T15PX50	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T25PX50
R220.21-8228	MC6S16X50	1/4HEX-T15PX50	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-T25PX50

Torque and fixed keys, see page 872

R220.21-SP18 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT180630TN-M14 MP3501	2,5 *0.10*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P2	SPKT180630TN-M14 MP3501	2,5 *0.10*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P3	SPKT180630TN-M14 MP2501	2,5 *0.10*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P4	SPKT180630TN-M14 MP2501	2,5 *0.10*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P5	SPKT180630TN-M14 MP2501	2,5 *0.10*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P6	SPKT180630TN-M14 MP2501	2,5 *0.10*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P7	SPKT180630TN-M14 MP2501	2,5 *0.10*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P8	SPKT180630TN-M14 MP2501	2,5 *0.10*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P11	SPKT180630TN-M14 MP3501	2,5 *0.10*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P12	SPKT180630TN-M14 MP2501	2,0 *0.075*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
M1	SPKT180630TN-M14 MS2050	2,5 *0.10*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
M2	SPKT180630TN-M14 MS2050	2,5 *0.10*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
M3	SPKT180630TN-M14 MS2050	2,0 *0.075*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
M4	SPKT180630TN-M14 MP3501	2,0 *0.075*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
M5	SPKT180630TN-M14 MP3501	2,0 *0.075*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
K1	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,2 *0.048*	1,2 *0.048*	1,3 *0.050*
K2	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K3	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K4	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K5	SPKT180630TN-MD16 MK2050	2,5 *0.10*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
K6	SPKT180630TN-MD16 MK2050	2,5 *0.10*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K7	SPKT180630TN-MD16 MK2050	2,5 *0.10*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
S1	SPKT180630TN-M14 MP3501	2,0 *0.075*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
S2	SPKT180630TN-M14 MP3501	2,0 *0.075*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
S3	SPKT180630TN-M14 MP3501	2,0 *0.075*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S11	SPKT180630TN-M14 MS2050	2,0 *0.075*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
S12	SPKT180630TN-M14 MS2050	2,0 *0.075*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
S13	SPKT180630TN-M14 MS2050	2,0 *0.075*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
H5	SPKT180630TN-MD16 MP3000	2,0 *0.075*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
H8	SPKT180630TN-MD16 MP3000	2,0 *0.075*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
H11	SPKT180630TN-MD16 MP1501	2,0 *0.075*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
H12	SPKT180630TN-MD16 MP1501	2,0 *0.075*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP18 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	360 *1175*	395 *1300*	465 *1525*	385 *1275*	425 *1400*	500 *1650*	305 *1000*	345 *1125*	420 *1375*	345 *1125*	380 *1250*	450 *1475*
P2	350 *1150*	385 *1275*	450 *1475*	370 *1225*	405 *1325*	475 *1550*	290 *950*	330 *1075*	395 *1300*	330 *1075*	360 *1175*	425 *1400*
P3	300 *980*	330 *1075*	400 *1300*	325 *1075*	355 *1175*	420 *1375*	255 *840*	290 *950*	350 *1150*	290 *950*	315 *1025*	375 *1225*
P4	275 *900*	300 *980*	350 *1150*	290 *950*	320 *1050*	370 *1225*	225 *740*	260 *850*	310 *1025*	260 *850*	285 *940*	330 *1075*
P5	260 *850*	290 *950*	335 *1100*	280 *920*	305 *1000*	365 *1200*	215 *710*	250 *820*	305 *1000*	250 *820*	270 *890*	325 *1075*
P6	295 *970*	325 *1075*	375 *1225*	310 *1025*	345 *1125*	410 *1350*	245 *800*	280 *920*	340 *1125*	280 *920*	305 *1000*	365 *1200*
P7	275 *900*	305 *1000*	355 *1175*	295 *970*	325 *1075*	385 *1275*	230 *750*	265 *870*	320 *1050*	260 *850*	290 *950*	345 *1125*
P8	250 *820*	280 *920*	335 *1100*	275 *900*	300 *980*	355 *1175*	215 *710*	245 *800*	295 *970*	240 *790*	265 *870*	315 *1025*
P11	270 *890*	295 *970*	345 *1125*	285 *940*	315 *1025*	375 *1225*	225 *740*	255 *840*	310 *1025*	255 *840*	280 *920*	335 *1100*
P12	175 *570*	195 *640*	230 *750*	190 *620*	210 *690*	245 *800*	145 *475*	165 *540*	205 *670*	170 *560*	185 *610*	220 *720*
M1	— —	— —	— —	190 *620*	220 *720*	260 *850*	210 *690*	240 *790*	285 *940*	180 *590*	205 *670*	245 *800*
M2	— —	— —	— —	160 *520*	185 *610*	225 *740*	175 *570*	200 *660*	245 *800*	150 *490*	170 *560*	210 *690*
M3	— —	— —	— —	130 *425*	150 *490*	180 *590*	140 *460*	160 *520*	195 *640*	120 *395*	140 *460*	165 *540*
M4	— —	— —	— —	100 *330*	115 *375*	140 *460*	110 *360*	125 *410*	150 *490*	95 *310*	105 *345*	130 *425*
M5	— —	— —	— —	85 *280*	95 *310*	115 *375*	90 *295*	100 *330*	125 *410*	75 *245*	90 *295*	110 *360*
K1	350 *1150*	385 *1275*	455 *1500*	375 *1225*	410 *1350*	480 *1575*	230 *750*	265 *870*	315 *1025*	330 *1075*	365 *1200*	425 *1400*
K2	315 *1025*	350 *1150*	405 *1325*	335 *1100*	370 *1225*	440 *1450*	205 *670*	235 *770*	290 *950*	300 *980*	330 *1075*	395 *1300*
K3	265 *870*	295 *970*	345 *1125*	285 *940*	315 *1025*	375 *1225*	175 *570*	200 *660*	245 *800*	255 *840*	280 *920*	335 *1100*
K4	255 *840*	280 *920*	325 *1075*	270 *890*	300 *980*	355 *1175*	165 *540*	190 *620*	235 *770*	240 *790*	265 *870*	320 *1050*
K5	160 *520*	175 *570*	200 *660*	170 *560*	185 *610*	215 *710*	105 *345*	120 *395*	140 *460*	150 *490*	165 *540*	195 *640*
K6	225 *740*	250 *820*	290 *950*	240 *790*	265 *870*	315 *1025*	145 *475*	170 *560*	205 *670*	215 *710*	235 *770*	280 *920*
K7	200 *660*	225 *740*	255 *840*	215 *710*	240 *790*	275 *900*	130 *425*	150 *490*	180 *590*	195 *640*	210 *690*	245 *800*
S1	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	75 *245*	43 *140*	49 *160*	60 *195*
S2	— —	— —	— —	— —	— —	— —	43 *140*	48 *155*	60 *195*	35 *115*	40 *130*	49 *160*
S3	— —	— —	— —	— —	— —	— —	37 *120*	43 *140*	50 *165*	31 *100*	35 *115*	43 *140*
S11	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	105 *345*	60 *195*	70 *230*	85 *280*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	42 *140*	48 *155*	60 *195*
S13	— —	— —	— —	— —	— —	— —	30 *100*	34 *110*	41 *135*	24 *80*	28 *90*	34 *110*
H5	46 *150*	50 *165*	65 *215*	— —	— —	— —	44 *145*	50 *165*	60 *195*	39 *130*	44 *145*	55 *180*
H8	49 *160*	55 *180*	70 *230*	— —	— —	— —	47 *155*	55 *180*	65 *215*	41 *135*	48 *155*	60 *195*
H11	60 *195*	65 *215*	80 *260*	— —	— —	— —	55 *180*	65 *215*	80 *260*	50 *165*	55 *180*	70 *230*
H12	90 *295*	100 *330*	125 *410*	— —	— —	— —	95 *310*	105 *345*	130 *425*	75 *245*	85 *280*	105 *345*

R220.21-SP18 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MS2050			MS2500			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	270 *890*	310 *1025*	370 *1225*	230 *750*	260 *850*	315 *1025*	300 *980*	345 *1125*	410 *1350*	270 *890*	310 *1025*	370 *1225*
P2	260 *850*	300 *980*	360 *1175*	220 *720*	255 *840*	305 *1000*	290 *950*	335 *1100*	400 *1300*	260 *850*	300 *980*	360 *1175*
P3	230 *750*	265 *870*	320 *1050*	195 *640*	225 *740*	270 *890*	255 *840*	290 *950*	350 *1150*	230 *750*	265 *870*	315 *1025*
P4	200 *660*	230 *750*	280 *920*	170 *560*	195 *640*	235 *770*	225 *740*	255 *840*	310 *1025*	200 *660*	230 *750*	280 *920*
P5	195 *640*	225 *740*	265 *870*	165 *540*	190 *620*	225 *740*	215 *710*	250 *820*	295 *970*	195 *640*	225 *740*	265 *870*
P6	220 *720*	255 *840*	300 *980*	185 *610*	215 *710*	255 *840*	245 *800*	280 *920*	330 *1075*	220 *720*	250 *820*	300 *980*
P7	210 *690*	240 *790*	285 *940*	175 *570*	200 *660*	240 *790*	230 *750*	265 *870*	315 *1025*	205 *670*	240 *790*	280 *920*
P8	195 *640*	220 *720*	265 *870*	165 *540*	185 *610*	225 *740*	215 *710*	245 *800*	295 *970*	190 *620*	220 *720*	265 *870*
P11	200 *660*	230 *750*	275 *900*	170 *560*	195 *640*	235 *770*	225 *740*	255 *840*	305 *1000*	200 *660*	230 *750*	275 *900*
P12	130 *425*	150 *490*	180 *590*	110 *360*	125 *410*	155 *510*	145 *475*	165 *540*	200 *660*	130 *425*	145 *475*	180 *590*
M1	— —	— —	— —	180 *590*	205 *670*	245 *800*	210 *690*	240 *790*	285 *940*	185 *610*	215 *710*	255 *840*
M2	— —	— —	— —	150 *490*	170 *560*	205 *670*	175 *570*	200 *660*	235 *770*	155 *510*	180 *590*	215 *710*
M3	— —	— —	— —	120 *395*	135 *445*	165 *540*	140 *460*	155 *510*	190 *620*	125 *410*	140 *460*	170 *560*
M4	— —	— —	— —	95 *310*	105 *345*	125 *410*	110 *360*	125 *410*	150 *490*	95 *310*	110 *360*	135 *445*
M5	— —	— —	— —	75 *245*	90 *295*	105 *345*	90 *295*	105 *345*	125 *410*	80 *260*	90 *295*	110 *360*
K1	285 *940*	325 *1075*	390 *1275*	— —	— —	— —	— —	— —	— —	— —	— —	— —
K2	255 *840*	290 *950*	345 *1125*	— —	— —	— —	— —	— —	— —	— —	— —	— —
K3	215 *710*	245 *800*	290 *950*	— —	— —	— —	— —	— —	— —	— —	— —	— —
K4	205 *670*	235 *770*	280 *920*	— —	— —	— —	— —	— —	— —	— —	— —	— —
K5	125 *410*	145 *475*	175 *570*	— —	— —	— —	— —	— —	— —	— —	— —	— —
K6	180 *590*	205 *670*	245 *800*	— —	— —	— —	— —	— —	— —	— —	— —	— —
K7	160 *520*	185 *610*	220 *720*	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	43 *140*	49 *160*	60 *195*	55 *180*	60 *195*	70 *230*	48 *155*	55 *180*	65 *215*
S2	— —	— —	— —	35 *115*	40 *130*	48 *155*	43 *140*	48 *155*	60 *195*	38 *125*	44 *145*	50 *165*
S3	— —	— —	— —	31 *100*	35 *115*	42 *140*	38 *125*	43 *140*	50 *165*	34 *110*	38 *125*	46 *150*
S11	— —	— —	— —	60 *195*	70 *230*	85 *280*	75 *245*	85 *280*	100 *330*	65 *215*	75 *245*	90 *295*
S12	— —	— —	— —	42 *140*	47 *155*	55 *180*	50 *165*	60 *195*	70 *230*	46 *150*	50 *165*	65 *215*
S13	— —	— —	— —	24 *80*	28 *90*	33 *110*	30 *100*	34 *110*	41 *135*	27 *90*	30 *100*	37 *120*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	70 *230*
H12	— —	— —	— —	— —	— —	— —	95 *310*	105 *345*	125 *410*	85 *280*	95 *310*	115 *375*
H21	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —

R220.21-SP18HF-CA – Insert selection – Metric / *Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT180630TN-M14 MP3501	3,0 *0.11*	0,85 *0.034*	0,85 *0.034*	0,90 *0.036*
P2	SPKT180630TN-M14 MP3501	3,0 *0.11*	0,85 *0.034*	0,85 *0.034*	0,95 *0.038*
P3	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,80 *0.032*	0,80 *0.032*	0,90 *0.036*
P4	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,80 *0.032*	0,80 *0.032*	0,85 *0.034*
P5	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
P6	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
P7	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
P8	SPKT180630TN-M14 MP2501	3,0 *0.11*	0,80 *0.032*	0,80 *0.032*	0,90 *0.036*
P11	SPKT180630TN-M14 MP3501	3,0 *0.11*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
P12	SPKT180630TN-M14 MP2501	2,5 *0.090*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
M1	SPKT180630TN-M14 MS2050	3,0 *0.11*	0,85 *0.034*	0,85 *0.034*	0,95 *0.038*
M2	SPKT180630TN-M14 MS2050	3,0 *0.11*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
M3	SPKT180630TN-M14 MS2050	2,5 *0.090*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
M4	SPKT180630TN-M14 MP3501	2,5 *0.090*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
M5	SPKT180630TN-M14 MP3501	2,5 *0.090*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
K1	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
K2	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,90 *0.036*	0,90 *0.036*	1,0 *0.040*
K3	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,90 *0.036*	0,90 *0.036*	1,0 *0.040*
K4	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,90 *0.036*	0,90 *0.036*	1,0 *0.040*
K5	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,80 *0.032*	0,80 *0.032*	0,90 *0.036*
K6	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,90 *0.036*	0,90 *0.036*	1,0 *0.040*
K7	SPKT180630TN-MD16 MK2050	3,0 *0.11*	0,80 *0.032*	0,80 *0.032*	0,90 *0.036*
S1	SPKT180630TN-M14 MP3501	2,5 *0.090*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
S2	SPKT180630TN-M14 MP3501	2,5 *0.090*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
S3	SPKT180630TN-M14 MP3501	2,5 *0.090*	0,50 *0.020*	0,50 *0.020*	0,55 *0.022*
S11	SPKT180630TN-M14 MS2050	2,5 *0.090*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S12	SPKT180630TN-M14 MS2050	2,5 *0.090*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S13	SPKT180630TN-M14 MS2050	2,5 *0.090*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
H5	SPKT180630TN-MD16 MP3000	2,5 *0.090*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
H8	SPKT180630TN-MD16 MP3000	2,5 *0.090*	0,46 *0.018*	0,46 *0.018*	0,50 *0.020*
H11	SPKT180630TN-MD16 MP1501	2,5 *0.090*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
H12	SPKT180630TN-MD16 MP1501	2,5 *0.090*	0,46 *0.018*	0,46 *0.018*	0,50 *0.020*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP18HF-CA – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	230 *750*	250 *820*	305 *1000*	220 *720*	240 *790*	295 *970*	210 *690*	235 *770*	285 *940*	190 *620*	210 *690*	260 *850*	250 *820*	275 *900*	335 *1100*
P2	220 *720*	245 *800*	295 *970*	215 *710*	235 *770*	285 *940*	205 *670*	225 *740*	275 *900*	185 *610*	205 *670*	250 *820*	240 *790*	265 *870*	325 *1075*
P3	195 *640*	215 *710*	265 *870*	185 *610*	205 *670*	255 *840*	180 *590*	200 *660*	240 *790*	165 *540*	180 *590*	220 *720*	210 *690*	235 *770*	285 *940*
P4	170 *560*	190 *620*	230 *750*	165 *540*	180 *590*	225 *740*	160 *520*	175 *570*	215 *710*	145 *475*	160 *520*	195 *640*	185 *610*	205 *670*	250 *820*
P5	165 *540*	180 *590*	220 *720*	155 *510*	175 *570*	215 *710*	155 *510*	170 *560*	205 *670*	140 *460*	155 *510*	190 *620*	180 *590*	200 *660*	245 *800*
P6	185 *610*	205 *670*	250 *820*	175 *570*	195 *640*	240 *790*	175 *570*	190 *620*	230 *750*	155 *510*	175 *570*	210 *690*	205 *670*	225 *740*	275 *900*
P7	175 *570*	190 *620*	235 *770*	165 *540*	185 *610*	225 *740*	165 *540*	180 *590*	220 *720*	150 *490*	165 *540*	200 *660*	190 *620*	215 *710*	260 *850*
P8	165 *540*	180 *590*	220 *720*	155 *510*	175 *570*	215 *710*	150 *490*	165 *540*	205 *670*	135 *445*	150 *490*	185 *610*	180 *590*	195 *640*	240 *790*
P11	170 *560*	185 *610*	230 *750*	160 *520*	180 *590*	220 *720*	160 *520*	175 *570*	215 *710*	145 *475*	160 *520*	195 *640*	185 *610*	205 *670*	250 *820*
P12	110 *360*	125 *410*	150 *490*	110 *360*	120 *395*	145 *475*	100 *330*	115 *375*	140 *460*	95 *310*	105 *345*	125 *410*	120 *395*	135 *445*	165 *540*
M1	— —	— —	— —	160 *520*	175 *570*	215 *710*	165 *540*	185 *610*	225 *740*	150 *490*	165 *540*	205 *670*	175 *570*	190 *620*	235 *770*
M2	— —	— —	— —	130 *425*	145 *475*	180 *590*	140 *460*	155 *510*	185 *610*	125 *410*	140 *460*	170 *560*	145 *475*	160 *520*	195 *640*
M3	— —	— —	— —	110 *360*	120 *395*	145 *475*	115 *375*	125 *410*	150 *490*	100 *330*	115 *375*	135 *445*	120 *395*	130 *425*	155 *510*
M4	— —	— —	— —	85 *280*	95 *310*	110 *360*	85 *280*	95 *310*	120 *395*	80 *260*	85 *280*	105 *345*	90 *295*	100 *330*	125 *410*
M5	— —	— —	— —	70 *230*	80 *260*	95 *310*	70 *230*	80 *260*	100 *330*	65 *215*	75 *245*	90 *295*	75 *245*	85 *280*	105 *345*
K1	240 *790*	265 *870*	320 *1050*	170 *560*	185 *610*	225 *740*	— —	— —	— —	145 *475*	165 *540*	200 *660*	— —	— —	— —
K2	210 *690*	235 *770*	285 *940*	150 *490*	165 *540*	200 *660*	— —	— —	— —	135 *445*	145 *475*	180 *590*	— —	— —	— —
K3	180 *590*	200 *660*	240 *790*	125 *410*	140 *460*	170 *560*	— —	— —	— —	110 *360*	125 *410*	150 *490*	— —	— —	— —
K4	170 *560*	190 *620*	230 *750*	120 *395*	135 *445*	165 *540*	— —	— —	— —	105 *345*	120 *395*	145 *475*	— —	— —	— —
K5	105 *345*	115 *375*	140 *460*	75 *245*	80 *260*	100 *330*	— —	— —	— —	65 *215*	70 *230*	85 *280*	— —	— —	— —
K6	150 *490*	165 *540*	205 *670*	105 *345*	115 *375*	145 *475*	— —	— —	— —	95 *310*	105 *345*	125 *410*	— —	— —	— —
K7	135 *445*	150 *490*	180 *590*	95 *310*	105 *345*	130 *425*	— —	— —	— —	85 *280*	95 *310*	110 *360*	— —	— —	— —
S1	— —	— —	— —	40 *130*	44 *145*	50 *165*	40 *130*	45 *150*	55 *180*	37 *120*	41 *135*	50 *165*	44 *145*	49 *160*	60 *195*
S2	— —	— —	— —	32 *105*	35 *115*	42 *140*	33 *110*	36 *120*	44 *145*	30 *100*	33 *110*	40 *130*	36 *120*	40 *130*	48 *155*
S3	— —	— —	— —	27 *90*	30 *100*	37 *120*	29 *95*	32 *105*	39 *130*	26 *85*	29 *95*	35 *115*	32 *105*	35 *115*	43 *140*
S11	— —	— —	— —	55 *180*	60 *195*	75 *245*	55 *180*	65 *215*	75 *245*	50 *165*	55 *180*	70 *230*	60 *195*	70 *230*	85 *280*
S12	— —	— —	— —	38 *125*	42 *140*	50 *165*	39 *130*	44 *145*	55 *180*	36 *120*	40 *130*	48 *155*	43 *140*	48 *155*	60 *195*
S13	— —	— —	— —	22 *70*	25 *80*	30 *100*	23 *75*	25 *80*	31 *100*	21 *70*	23 *75*	28 *90*	25 *80*	28 *90*	34 *110*
H5	— —	— —	— —	34 *110*	37 *120*	45 *150*	— —	— —	— —	31 *100*	34 *110*	42 *140*	— —	— —	— —
H8	— —	— —	— —	36 *120*	40 *130*	49 *160*	— —	— —	— —	34 *110*	37 *120*	45 *150*	— —	— —	— —
H11	— —	— —	— —	43 *140*	47 *155*	60 *195*	— —	— —	— —	39 *130*	44 *145*	55 *180*	46 *150*	50 *165*	60 *195*
H12	— —	— —	— —	70 *230*	75 *245*	95 *310*	— —	— —	— —	60 *195*	65 *215*	80 *260*	80 *260*	85 *280*	105 *345*

R220.21-SP18HF-CA – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	330 *1075*	350 *1150*	415 *1350*	350 *1150*	375 *1225*	445 *1450*	275 *900*	305 *1000*	370 *1225*	310 *1025*	330 *1075*	400 *1300*
P2	320 *1050*	340 *1125*	405 *1325*	340 *1125*	365 *1200*	435 *1425*	270 *890*	295 *970*	360 *1175*	305 *1000*	325 *1075*	390 *1275*
P3	280 *920*	300 *980*	360 *1175*	300 *980*	320 *1050*	380 *1250*	235 *770*	260 *850*	315 *1025*	270 *890*	285 *940*	340 *1125*
P4	245 *800*	265 *870*	315 *1025*	265 *870*	285 *940*	335 *1100*	205 *670*	230 *750*	280 *920*	235 *770*	250 *820*	300 *980*
P5	235 *770*	250 *820*	300 *980*	260 *850*	275 *900*	325 *1075*	200 *660*	225 *740*	270 *890*	230 *750*	245 *800*	290 *950*
P6	265 *870*	285 *940*	340 *1125*	290 *950*	310 *1025*	365 *1200*	225 *740*	250 *820*	305 *1000*	260 *850*	275 *900*	330 *1075*
P7	250 *820*	265 *870*	320 *1050*	275 *900*	295 *970*	345 *1125*	215 *710*	235 *770*	285 *940*	245 *800*	260 *850*	310 *1025*
P8	235 *770*	250 *820*	300 *980*	255 *840*	270 *890*	320 *1050*	200 *660*	220 *720*	265 *870*	225 *740*	240 *790*	285 *940*
P11	245 *800*	260 *850*	310 *1025*	265 *870*	285 *940*	335 *1100*	210 *690*	230 *750*	280 *920*	240 *790*	255 *840*	300 *980*
P12	165 *540*	175 *570*	205 *670*	175 *570*	185 *610*	220 *720*	135 *445*	150 *490*	180 *590*	155 *510*	165 *540*	195 *640*
M1	— —	— —	— —	175 *570*	195 *640*	240 *790*	190 *620*	215 *710*	260 *850*	165 *540*	185 *610*	225 *740*
M2	— —	— —	— —	150 *490*	165 *540*	200 *660*	160 *520*	180 *590*	215 *710*	140 *460*	155 *510*	185 *610*
M3	— —	— —	— —	120 *395*	135 *445*	160 *520*	130 *425*	145 *475*	175 *570*	115 *375*	125 *410*	150 *490*
M4	— —	— —	— —	95 *310*	105 *345*	125 *410*	100 *330*	110 *360*	135 *445*	85 *280*	95 *310*	120 *395*
M5	— —	— —	— —	75 *245*	85 *280*	105 *345*	85 *280*	95 *310*	115 *375*	70 *230*	80 *260*	100 *330*
K1	325 *1075*	345 *1125*	405 *1325*	345 *1125*	365 *1200*	440 *1450*	210 *690*	235 *770*	285 *940*	305 *1000*	325 *1075*	390 *1275*
K2	285 *940*	305 *1000*	365 *1200*	315 *1025*	335 *1100*	395 *1300*	190 *620*	210 *690*	255 *840*	280 *920*	295 *970*	355 *1175*
K3	240 *790*	260 *850*	310 *1025*	265 *870*	285 *940*	335 *1100*	160 *520*	180 *590*	220 *720*	235 *770*	250 *820*	300 *980*
K4	230 *750*	245 *800*	295 *970*	255 *840*	270 *890*	320 *1050*	155 *510*	170 *560*	210 *690*	225 *740*	240 *790*	285 *940*
K5	145 *475*	155 *510*	180 *590*	155 *510*	165 *540*	195 *640*	95 *310*	105 *345*	125 *410*	140 *460*	145 *475*	175 *570*
K6	205 *670*	215 *710*	260 *850*	225 *740*	240 *790*	280 *920*	135 *445*	150 *490*	185 *610*	200 *660*	210 *690*	250 *820*
K7	185 *610*	195 *640*	230 *750*	200 *660*	210 *690*	250 *820*	120 *395*	135 *445*	160 *520*	175 *570*	190 *620*	220 *720*
S1	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	65 *215*	40 *130*	45 *150*	55 *180*
S2	— —	— —	— —	— —	— —	— —	40 *130*	44 *145*	55 *180*	33 *110*	36 *120*	44 *145*
S3	— —	— —	— —	— —	— —	— —	35 *115*	39 *130*	48 *155*	29 *95*	32 *105*	39 *130*
S11	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	95 *310*	55 *180*	65 *215*	75 *245*
S12	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	65 *215*	39 *130*	44 *145*	55 *180*
S13	— —	— —	— —	— —	— —	— —	28 *90*	31 *100*	38 *125*	23 *75*	25 *80*	31 *100*
H5	43 *140*	47 *155*	60 *195*	— —	— —	— —	40 *130*	44 *145*	55 *180*	36 *120*	39 *130*	48 *155*
H8	46 *150*	50 *165*	60 *195*	— —	— —	— —	44 *145*	49 *160*	60 *195*	39 *130*	43 *140*	50 *165*
H11	55 *180*	60 *195*	75 *245*	— —	— —	— —	50 *165*	55 *180*	70 *230*	45 *150*	50 *165*	60 *195*
H12	85 *280*	90 *295*	110 *360*	— —	— —	— —	85 *280*	95 *310*	120 *395*	70 *230*	75 *245*	95 *310*

R220.21-SP18MF-CA – Insert selection – Metric / *Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	SPKT180630TN-M14 MP3501	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
P2	SPKT180630TN-M14 MP3501	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
P3	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
P4	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P5	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P6	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
P7	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
P8	SPKT180630TN-M14 MP2501	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
P11	SPKT180630TN-M14 MP3501	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
P12	SPKT180630TN-M14 MP2501	3,0 *0.12*	0,38 *0.015*	0,38 *0.015*	0,42 *0.017*
M1	SPKT180630TN-M14 MS2050	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
M2	SPKT180630TN-M14 MS2050	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
M3	SPKT180630TN-M14 MS2050	3,0 *0.12*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
M4	SPKT180630TN-M14 MP3501	3,0 *0.12*	0,40 *0.016*	0,40 *0.016*	0,44 *0.017*
M5	SPKT180630TN-M14 MP3501	3,0 *0.12*	0,40 *0.016*	0,40 *0.016*	0,44 *0.017*
K1	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
K2	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,65 *0.026*	0,65 *0.026*	0,70 *0.028*
K3	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,65 *0.026*	0,65 *0.026*	0,70 *0.028*
K4	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,65 *0.026*	0,65 *0.026*	0,70 *0.028*
K5	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
K6	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,65 *0.026*	0,65 *0.026*	0,70 *0.028*
K7	SPKT180630TN-MD16 MK2050	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
S1	SPKT180630TN-M14 MP3501	3,0 *0.12*	0,40 *0.016*	0,40 *0.016*	0,44 *0.017*
S2	SPKT180630TN-M14 MP3501	3,0 *0.12*	0,40 *0.016*	0,40 *0.016*	0,44 *0.017*
S3	SPKT180630TN-M14 MP3501	3,0 *0.12*	0,36 *0.014*	0,36 *0.014*	0,40 *0.016*
S11	SPKT180630TN-M14 MS2050	3,0 *0.12*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
S12	SPKT180630TN-M14 MS2050	3,0 *0.12*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
S13	SPKT180630TN-M14 MS2050	3,0 *0.12*	0,40 *0.016*	0,40 *0.016*	0,44 *0.017*
H5	SPKT180630TN-MD16 MP3000	3,0 *0.12*	0,44 *0.017*	0,44 *0.017*	0,48 *0.019*
H8	SPKT180630TN-MD16 MP3000	3,0 *0.12*	0,34 *0.013*	0,34 *0.013*	0,38 *0.015*
H11	SPKT180630TN-MD16 MP1501	3,0 *0.12*	0,44 *0.017*	0,44 *0.017*	0,48 *0.019*
H12	SPKT180630TN-MD16 MP1501	3,0 *0.12*	0,34 *0.013*	0,34 *0.013*	0,38 *0.015*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SP18MF-CA – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	225 *740*	250 *820*	305 *1000*	215 *710*	240 *790*	295 *970*	210 *690*	230 *750*	285 *940*	190 *620*	210 *690*	260 *850*	245 *800*	275 *900*	335 *1100*
P2	220 *720*	240 *790*	295 *970*	210 *690*	230 *750*	280 *920*	205 *670*	225 *740*	270 *890*	185 *610*	205 *670*	245 *800*	240 *790*	265 *870*	320 *1050*
P3	190 *620*	215 *710*	255 *840*	185 *610*	205 *670*	245 *800*	175 *570*	195 *640*	240 *790*	160 *520*	175 *570*	220 *720*	205 *670*	230 *750*	280 *920*
P4	170 *560*	185 *610*	230 *750*	165 *540*	180 *590*	225 *740*	160 *520*	175 *570*	210 *690*	145 *475*	160 *520*	190 *620*	185 *610*	205 *670*	250 *820*
P5	160 *520*	180 *590*	220 *720*	155 *510*	170 *560*	210 *690*	150 *490*	170 *560*	205 *670*	140 *460*	155 *510*	185 *610*	180 *590*	200 *660*	245 *800*
P6	180 *590*	200 *660*	250 *820*	175 *570*	195 *640*	240 *790*	170 *560*	190 *620*	230 *750*	155 *510*	170 *560*	210 *690*	200 *660*	220 *720*	275 *900*
P7	170 *560*	190 *620*	235 *770*	165 *540*	180 *590*	225 *740*	160 *520*	180 *590*	220 *720*	145 *475*	160 *520*	200 *660*	190 *620*	210 *690*	255 *840*
P8	160 *520*	180 *590*	215 *710*	155 *510*	170 *560*	210 *690*	150 *490*	165 *540*	200 *660*	135 *445*	150 *490*	185 *610*	175 *570*	190 *620*	235 *770*
P11	165 *540*	185 *610*	225 *740*	160 *520*	175 *570*	220 *720*	155 *510*	175 *570*	210 *690*	140 *460*	155 *510*	195 *640*	185 *610*	205 *670*	250 *820*
P12	110 *360*	125 *410*	150 *490*	105 *345*	120 *395*	145 *475*	105 *345*	115 *375*	140 *460*	95 *310*	105 *345*	125 *410*	120 *395*	135 *445*	165 *540*
M1	— —	— —	— —	155 *510*	175 *570*	210 *690*	165 *540*	180 *590*	220 *720*	150 *490*	165 *540*	200 *660*	170 *560*	190 *620*	230 *750*
M2	— —	— —	— —	130 *425*	145 *475*	175 *570*	135 *445*	150 *490*	185 *610*	125 *410*	135 *445*	170 *560*	145 *475*	160 *520*	195 *640*
M3	— —	— —	— —	105 *345*	120 *395*	145 *475*	110 *360*	125 *410*	150 *490*	100 *330*	110 *360*	135 *445*	115 *375*	130 *425*	155 *510*
M4	— —	— —	— —	85 *280*	95 *310*	110 *360*	85 *280*	95 *310*	115 *375*	80 *260*	85 *280*	105 *345*	90 *295*	100 *330*	120 *395*
M5	— —	— —	— —	70 *230*	75 *245*	95 *310*	70 *230*	80 *260*	95 *310*	65 *215*	70 *230*	90 *295*	75 *245*	85 *280*	100 *330*
K1	235 *770*	260 *850*	315 *1025*	165 *540*	185 *610*	225 *740*	— —	— —	— —	145 *475*	165 *540*	195 *640*	— —	— —	— —
K2	210 *690*	230 *750*	285 *940*	150 *490*	165 *540*	200 *660*	— —	— —	— —	130 *425*	145 *475*	180 *590*	— —	— —	— —
K3	175 *570*	195 *640*	240 *790*	125 *410*	140 *460*	170 *560*	— —	— —	— —	110 *360*	125 *410*	150 *490*	— —	— —	— —
K4	170 *560*	185 *610*	230 *750*	120 *395*	130 *425*	165 *540*	— —	— —	— —	105 *345*	115 *375*	145 *475*	— —	— —	— —
K5	105 *345*	115 *375*	140 *460*	75 *245*	85 *280*	100 *330*	— —	— —	— —	65 *215*	70 *230*	90 *295*	— —	— —	— —
K6	150 *490*	165 *540*	205 *670*	105 *345*	115 *375*	145 *475*	— —	— —	— —	95 *310*	105 *345*	125 *410*	— —	— —	— —
K7	135 *445*	150 *490*	180 *590*	95 *310*	105 *345*	125 *410*	— —	— —	— —	85 *280*	90 *295*	110 *360*	— —	— —	— —
S1	— —	— —	— —	39 *130*	43 *140*	50 *165*	40 *130*	44 *145*	55 *180*	36 *120*	40 *130*	49 *160*	44 *145*	49 *160*	60 *195*
S2	— —	— —	— —	31 *100*	35 *115*	42 *140*	32 *105*	36 *120*	44 *145*	29 *95*	32 *105*	40 *130*	35 *115*	39 *130*	48 *155*
S3	— —	— —	— —	27 *90*	30 *100*	37 *120*	29 *95*	32 *105*	39 *130*	26 *85*	29 *95*	35 *115*	31 *100*	35 *115*	42 *140*
S11	— —	— —	— —	55 *180*	60 *195*	75 *245*	55 *180*	60 *195*	75 *245*	50 *165*	55 *180*	70 *230*	60 *195*	70 *230*	85 *280*
S12	— —	— —	— —	38 *125*	42 *140*	50 *165*	39 *130*	43 *140*	50 *165*	35 *115*	39 *130*	47 *155*	43 *140*	47 *155*	55 *180*
S13	— —	— —	— —	22 *70*	24 *80*	29 *95*	23 *75*	25 *80*	30 *100*	20 *65*	23 *75*	28 *90*	25 *80*	27 *90*	33 *110*
H5	— —	— —	— —	33 *110*	37 *120*	45 *150*	— —	— —	— —	31 *100*	34 *110*	42 *140*	— —	— —	— —
H8	— —	— —	— —	36 *120*	39 *130*	48 *155*	— —	— —	— —	33 *110*	37 *120*	45 *150*	— —	— —	— —
H11	— —	— —	— —	42 *140*	47 *155*	55 *180*	— —	— —	— —	40 *130*	44 *145*	55 *180*	46 *150*	50 *165*	60 *195*
H12	— —	— —	— —	70 *230*	75 *245*	95 *310*	— —	— —	— —	60 *195*	65 *215*	80 *260*	75 *245*	85 *280*	105 *345*

R220.21-SP18MF-CA – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	320 *1050*	345 *1125*	420 *1375*	350 *1150*	375 *1225*	450 *1475*	275 *900*	305 *1000*	375 *1225*	310 *1025*	330 *1075*	400 *1300*
P2	315 *1025*	335 *1100*	400 *1300*	340 *1125*	365 *1200*	430 *1400*	265 *870*	295 *970*	355 *1175*	305 *1000*	320 *1050*	380 *1250*
P3	280 *920*	295 *970*	350 *1150*	295 *970*	310 *1025*	380 *1250*	230 *750*	255 *840*	315 *1025*	260 *850*	275 *900*	335 *1100*
P4	245 *800*	260 *850*	315 *1025*	265 *870*	285 *940*	335 *1100*	210 *690*	230 *750*	275 *900*	240 *790*	255 *840*	295 *970*
P5	235 *770*	250 *820*	300 *980*	255 *840*	270 *890*	325 *1075*	200 *660*	220 *720*	270 *890*	225 *740*	240 *790*	290 *950*
P6	260 *850*	280 *920*	340 *1125*	285 *940*	305 *1000*	365 *1200*	225 *740*	245 *800*	305 *1000*	255 *840*	270 *890*	325 *1075*
P7	250 *820*	265 *870*	320 *1050*	270 *890*	290 *950*	345 *1125*	210 *690*	235 *770*	285 *940*	240 *790*	255 *840*	310 *1025*
P8	235 *770*	250 *820*	295 *970*	245 *800*	265 *870*	320 *1050*	195 *640*	215 *710*	265 *870*	220 *720*	235 *770*	285 *940*
P11	240 *790*	255 *840*	310 *1025*	265 *870*	280 *920*	335 *1100*	205 *670*	225 *740*	280 *920*	235 *770*	250 *820*	300 *980*
P12	160 *520*	175 *570*	205 *670*	175 *570*	185 *610*	220 *720*	135 *445*	150 *490*	180 *590*	155 *510*	165 *540*	195 *640*
M1	— —	— —	— —	175 *570*	195 *640*	235 *770*	190 *620*	210 *690*	255 *840*	165 *540*	180 *590*	220 *720*
M2	— —	— —	— —	145 *475*	160 *520*	200 *660*	160 *520*	175 *570*	215 *710*	135 *445*	150 *490*	185 *610*
M3	— —	— —	— —	120 *395*	130 *425*	160 *520*	130 *425*	145 *475*	175 *570*	110 *360*	125 *410*	150 *490*
M4	— —	— —	— —	90 *295*	100 *330*	125 *410*	100 *330*	110 *360*	135 *445*	85 *280*	95 *310*	115 *375*
M5	— —	— —	— —	75 *245*	85 *280*	105 *345*	85 *280*	90 *295*	115 *375*	70 *230*	80 *260*	95 *310*
K1	315 *1025*	335 *1100*	400 *1300*	345 *1125*	365 *1200*	430 *1400*	210 *690*	235 *770*	280 *920*	305 *1000*	325 *1075*	385 *1275*
K2	285 *940*	300 *980*	365 *1200*	310 *1025*	330 *1075*	395 *1300*	190 *620*	210 *690*	255 *840*	275 *900*	290 *950*	350 *1150*
K3	240 *790*	255 *840*	310 *1025*	260 *850*	280 *920*	335 *1100*	160 *520*	175 *570*	215 *710*	230 *750*	245 *800*	300 *980*
K4	230 *750*	245 *800*	295 *970*	250 *820*	265 *870*	320 *1050*	150 *490*	170 *560*	205 *670*	220 *720*	235 *770*	285 *940*
K5	145 *475*	155 *510*	180 *590*	155 *510*	165 *540*	195 *640*	95 *310*	105 *345*	125 *410*	135 *445*	145 *475*	175 *570*
K6	200 *660*	215 *710*	260 *850*	220 *720*	235 *770*	280 *920*	135 *445*	150 *490*	180 *590*	195 *640*	210 *690*	250 *820*
K7	185 *610*	200 *660*	230 *750*	195 *640*	210 *690*	250 *820*	120 *395*	130 *425*	160 *520*	175 *570*	185 *610*	225 *740*
S1	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	65 *215*	40 *130*	44 *145*	55 *180*
S2	— —	— —	— —	— —	— —	— —	39 *130*	44 *145*	55 *180*	32 *105*	36 *120*	44 *145*
S3	— —	— —	— —	— —	— —	— —	35 *115*	39 *130*	47 *155*	29 *95*	32 *105*	39 *130*
S11	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	90 *295*	55 *180*	60 *195*	75 *245*
S12	— —	— —	— —	— —	— —	— —	47 *155*	50 *165*	65 *215*	39 *130*	43 *140*	50 *165*
S13	— —	— —	— —	— —	— —	— —	27 *90*	30 *100*	37 *120*	23 *75*	25 *80*	30 *100*
H5	42 *140*	47 *155*	55 *180*	— —	— —	— —	40 *130*	45 *150*	55 *180*	36 *120*	40 *130*	48 *155*
H8	45 *150*	50 *165*	60 *195*	— —	— —	— —	43 *140*	48 *155*	60 *195*	38 *125*	42 *140*	50 *165*
H11	55 *180*	60 *195*	75 *245*	— —	— —	— —	50 *165*	55 *180*	70 *230*	45 *150*	50 *165*	60 *195*
H12	80 *260*	90 *295*	110 *360*	— —	— —	— —	85 *280*	95 *310*	115 *375*	70 *230*	75 *245*	95 *310*

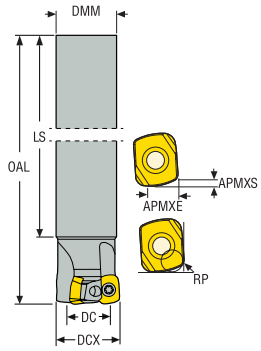


R217/220.21 HIGH FEED 2

Highfeed 2 for LP05/06/09 insert types, 2-cutting edge, single sided positive inserts.
The inserts have modern geometries that provide the lowest possible cutting forces in all materials. These low forces lead to superior tool life.

- Cutter range 12-100 mm (.5 - 4 inch)
- Max depths of cut by insert type: LP05/0.65 mm, LP06/0.8 mm, LP09/1.8 mm
- First choice for ISO M & S materials in small-to-medium size machines
- Excellent solution for plunge milling

R217.21-LP05 – Metric





- For insert selection and cutting data recommendations, see page(s) 533-535
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.21-1012.0-LP05.2A	02952509	Cylindrical	5,4	12,0	2	0,65	3,5	10,0	84,0	100,0	1,5	3,9	17,4	22,0	45000	0,1	LP..05
R217.21-1214.0-LP05.2A	02881032	Cylindrical	7,4	14,0	2	0,65	3,5	12,0	104,0	120,0	1,5	3,5	21,4	26,0	42000	0,2	LP..05
R217.21-1416.0-LP05.2A	02881033	Cylindrical	9,4	16,0	2	0,65	3,5	14,0	132,0	150,0	1,5	3,0	25,4	30,0	39000	0,3	LP..05
R217.21-1618.0-LP05.3A	02881034	Cylindrical	11,4	18,0	3	0,65	3,5	16,0	142,0	160,0	1,5	2,2	29,4	34,0	37000	0,3	LP..05
R217.21-1820.0-LP05.3A	02881035	Cylindrical	13,4	20,0	3	0,65	3,5	18,0	142,0	160,0	1,5	1,9	33,4	38,0	35000	0,4	LP..05

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-1012	H4B-T06P	C02005-T06P
R217.21-1214-1820	H4B-T06P	C02053-T06P

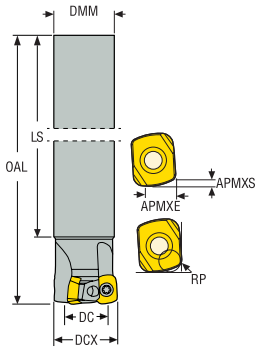
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	0.5NM	T00-06P05

Torque and fixed keys, see page 872

R217.21-LP05 – inch





- For insert selection and cutting data recommendations, see page(s) 533-535
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.21-00.500-0-LP05-2A	02881043	Cylindrical	0.240	0.500	2	0.026	0.138	0.500	4.370	5.000	0.059	5,4	0.740	0.921	45000	0.440	LP..05
R217.21-00.625-0-LP05-2A	02881044	Cylindrical	0.362	0.625	2	0.026	0.138	0.625	5.000	6.000	0.059	3,0	0.987	1.171	39000	0.440	LP..05

Spare Parts, included in delivery

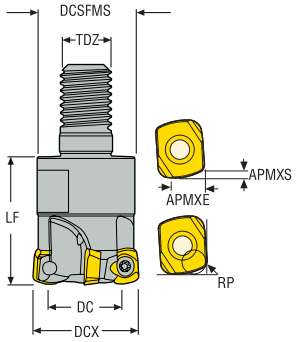
For cutter	Insert key	Insert screw
		
R217.21-0.500	H4B-T06P	C02005-T06P
R217.21-0.625-0.750	H4B-T06P	C02053-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-0.500	4.4IN.LBS	T00-06P05
R217.21-0.625-0.750	4.4IN.LBS	T00-06P05

Torque and fixed keys, see page 872

R217.21-LP05 – Metric





- For insert selection and cutting data recommendations, see page(s) 533-535
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	TDZ	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm		mm	mm	mm		mm	mm	kg		
R217.21-0612.RE-LP05.2A	02952506	Combimaster	5,4	12,0	2	0,65	3,5	M6	11,0	18,0	1,5	3,9	17,4	22,0	0,1	45000	LP..05
R217.21-0812.RE-LP05.2A	02952507	Combimaster	5,4	12,0	2	0,65	3,5	M8	13,5	20,0	1,5	3,9	17,4	22,0	0,1	45000	LP..05
R217.21-0614.RE-LP05.2A	02881029	Combimaster	7,4	14,0	2	0,65	3,5	M6	11,0	18,0	1,5	3,5	21,4	26,0	0,1	42000	LP..05
R217.21-0814.RE-LP05.2A	02952508	Combimaster	7,4	14,0	2	0,65	3,5	M8	13,5	20,0	1,5	3,5	21,4	26,0	0,1	42000	LP..05
R217.21-0816.RE-LP05.3A	02881030	Combimaster	9,4	16,0	3	0,65	3,5	M8	13,5	20,0	1,5	3,0	25,4	30,0	0,1	39000	LP..05
R217.21-1020.RE-LP05.4A	02881031	Combimaster	13,4	20,0	4	0,65	3,5	M10	18,5	23,0	1,5	1,9	33,4	38,0	0,1	35000	LP..05

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-.. Ø12	H4B-T06P	C02005-T06P
R217.21-.. Ø14-20	H4B-T06P	C02053-T06P

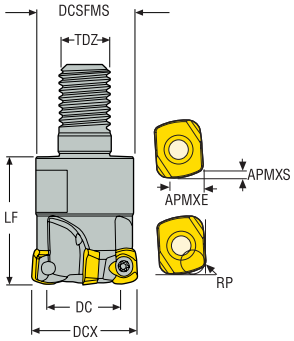
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	0.5NM	T00-06P05

Torque and fixed keys, see page 872

R217.21-LP05 – inch





- For insert selection and cutting data recommendations, see page(s) 533-535
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	TDZ	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch		inch	inch	inch		inch	inch	lbs		
R217.21-00.500-06RE-LP05-2A	02881039	Combimaster	0.240	0.500	2	0.026	0.138	M6	0.433	0.709	0.059	3,9	0.740	0.921	0.220	45000	LP..05
R217.21-00.625-08RE-LP05-3A	02881040	Combimaster	0.362	0.625	3	0.026	0.138	M8	0.531	0.787	0.059	3,0	0.987	1.171	0.220	39000	LP..05

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-0.500-00.625	H4B-T06P	C02005-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	4.4IN.LBS	T00-06P05

Torque and fixed keys, see page 872

R217.21-LP05 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	LPHT05T210TR-ME04 MP3501	0,60 *0.024*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*
P2	LPHT05T210TR-ME04 MP3501	0,60 *0.024*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*
P3	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P4	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
P5	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
P6	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
P7	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
P8	LPKT05T210TR-M05 MP2501	0,60 *0.024*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P11	LPHT05T210TR-ME04 MP3501	0,60 *0.024*	0,40 *0.016*	0,40 *0.016*	0,48 *0.020*
P12	LPKT05T210TR-M05 MP2501	0,46 *0.018*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*
M1	LPHT05T210TR-ME04 MS2050	0,60 *0.024*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*
M2	LPHT05T210TR-ME04 MS2050	0,60 *0.024*	0,40 *0.016*	0,40 *0.016*	0,50 *0.020*
M3	LPHT05T210TR-ME04 MS2050	0,46 *0.018*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*
M4	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
M5	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
K1	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,55 *0.022*	0,55 *0.022*	0,70 *0.028*
K2	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
K3	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
K4	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
K5	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,46 *0.018*	0,46 *0.018*	0,55 *0.022*
K6	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
K7	LPKW05T210TR-MD05 MP2501	0,60 *0.024*	0,46 *0.018*	0,46 *0.018*	0,55 *0.022*
S1	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
S2	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
S3	LPHT05T210TR-ME04 MP3501	0,36 *0.014*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*
S11	LPHT05T210TR-ME04 MS2050	0,40 *0.016*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*
S12	LPHT05T210TR-ME04 MS2050	0,40 *0.016*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*
S13	LPHT05T210TR-ME04 MS2050	0,36 *0.014*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
H5	LPHW05T210TR-MD05 MH1000	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,44 *0.017*
H8	LPHW05T210TR-MD05 MH1000	0,32 *0.013*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*
H11	LPKW05T210TR-MD05 MP3000	0,36 *0.014*	0,36 *0.014*	0,36 *0.014*	0,44 *0.017*
H12	LPKW05T210TR-MD05 MP3000	0,32 *0.013*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.21-LP05 – Cutting data v_c = (m/min)/*(sf/min)*

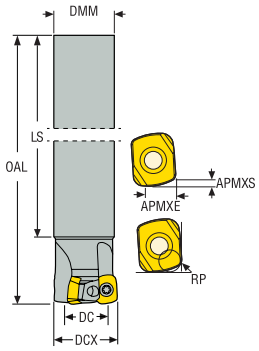
SMG	MH1000			MP3000			MS2050			F40M		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	— —	— —	— —	290 *950*	345 *1125*	400 *1300*	305 *1000*	360 *1175*	420 *1375*	250 *820*	300 *980*	350 *1150*
P2	— —	— —	— —	285 *940*	335 *1100*	390 *1275*	295 *970*	350 *1150*	410 *1350*	245 *800*	290 *950*	340 *1125*
P3	— —	— —	— —	245 *800*	290 *950*	340 *1125*	255 *840*	305 *1000*	360 *1175*	210 *690*	250 *820*	295 *970*
P4	— —	— —	— —	220 *720*	260 *850*	300 *980*	225 *740*	270 *890*	315 *1025*	190 *620*	225 *740*	260 *850*
P5	245 *800*	290 *950*	335 *1100*	210 *690*	250 *820*	290 *950*	220 *720*	260 *850*	300 *980*	180 *590*	215 *710*	250 *820*
P6	275 *900*	325 *1075*	380 *1250*	235 *770*	280 *920*	330 *1075*	245 *800*	290 *950*	340 *1125*	205 *670*	240 *790*	285 *940*
P7	260 *850*	305 *1000*	360 *1175*	220 *720*	265 *870*	310 *1025*	230 *750*	275 *900*	320 *1050*	195 *640*	230 *750*	270 *890*
P8	235 *770*	280 *920*	335 *1100*	205 *670*	245 *800*	290 *950*	215 *710*	255 *840*	300 *980*	175 *570*	210 *690*	250 *820*
P11	250 *820*	295 *970*	350 *1150*	215 *710*	255 *840*	300 *980*	225 *740*	265 *870*	310 *1025*	185 *610*	220 *720*	260 *850*
P12	160 *520*	190 *620*	225 *740*	140 *460*	165 *540*	195 *640*	145 *475*	170 *560*	200 *660*	120 *395*	140 *460*	165 *540*
M1	— —	— —	— —	210 *690*	250 *820*	290 *950*	240 *790*	280 *920*	330 *1075*	200 *660*	235 *770*	275 *900*
M2	— —	— —	— —	175 *570*	210 *690*	240 *790*	195 *640*	235 *770*	270 *890*	165 *540*	195 *640*	225 *740*
M3	— —	— —	— —	140 *460*	165 *540*	195 *640*	160 *520*	185 *610*	215 *710*	130 *425*	155 *510*	185 *610*
M4	— —	— —	— —	110 *360*	130 *425*	150 *490*	120 *395*	140 *460*	165 *540*	100 *330*	120 *395*	140 *460*
M5	— —	— —	— —	90 *295*	105 *345*	125 *410*	100 *330*	120 *395*	140 *460*	85 *280*	100 *330*	115 *375*
K1	260 *850*	310 *1025*	360 *1175*	225 *740*	265 *870*	310 *1025*	— —	— —	— —	195 *640*	230 *750*	270 *890*
K2	230 *750*	275 *900*	315 *1025*	200 *660*	235 *770*	275 *900*	— —	— —	— —	170 *560*	205 *670*	235 *770*
K3	195 *640*	230 *750*	270 *890*	170 *560*	200 *660*	230 *750*	— —	— —	— —	145 *475*	175 *570*	200 *660*
K4	185 *610*	220 *720*	255 *840*	160 *520*	190 *620*	220 *720*	— —	— —	— —	140 *460*	165 *540*	190 *620*
K5	115 *375*	135 *445*	160 *520*	100 *330*	115 *375*	135 *445*	— —	— —	— —	85 *280*	100 *330*	120 *395*
K6	165 *540*	195 *640*	225 *740*	140 *460*	170 *560*	195 *640*	— —	— —	— —	125 *410*	145 *475*	170 *560*
K7	145 *475*	170 *560*	205 *670*	125 *410*	150 *490*	175 *570*	— —	— —	— —	110 *360*	130 *425*	150 *490*
S1	— —	— —	— —	50 *165*	60 *195*	70 *230*	55 *180*	65 *215*	80 *260*	48 *155*	55 *180*	65 *215*
S2	— —	— —	— —	41 *135*	48 *155*	55 *180*	46 *150*	55 *180*	65 *215*	39 *130*	45 *150*	55 *180*
S3	— —	— —	— —	36 *120*	42 *140*	50 *165*	40 *130*	47 *155*	55 *180*	34 *110*	39 *130*	46 *150*
S11	— —	— —	— —	70 *230*	85 *280*	100 *330*	80 *260*	95 *310*	110 *360*	65 *215*	80 *260*	90 *295*
S12	— —	— —	— —	49 *160*	60 *195*	70 *230*	55 *180*	65 *215*	75 *245*	46 *150*	55 *180*	65 *215*
S13	— —	— —	— —	29 *95*	34 *110*	39 *130*	32 *105*	37 *120*	44 *145*	27 *90*	31 *100*	37 *120*
H5	55 *180*	65 *215*	75 *245*	45 *150*	50 *165*	60 *195*	— —	— —	— —	41 *135*	48 *155*	55 *180*
H8	60 *195*	70 *230*	80 *260*	48 *155*	55 *180*	65 *215*	— —	— —	— —	45 *150*	50 *165*	60 *195*
H11	70 *230*	85 *280*	100 *330*	55 *180*	65 *215*	80 *260*	— —	— —	— —	55 *180*	60 *195*	75 *245*
H12	105 *345*	125 *410*	145 *475*	90 *295*	105 *345*	125 *410*	— —	— —	— —	80 *260*	95 *310*	110 *360*

R217.21-LP05 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	275 *900*	330 *1075*	380 *1250*	470 *1550*	530 *1750*	600 *1975*	365 *1200*	430 *1400*	500 *1650*	460 *1500*	520 *1700*	580 *1900*
P2	270 *890*	320 *1050*	370 *1225*	460 *1500*	520 *1700*	580 *1900*	355 *1175*	420 *1375*	485 *1600*	450 *1475*	510 *1675*	570 *1875*
P3	230 *750*	275 *900*	325 *1075*	395 *1300*	445 *1450*	510 *1675*	305 *1000*	360 *1175*	425 *1400*	390 *1275*	440 *1450*	495 *1625*
P4	210 *690*	250 *820*	285 *940*	355 *1175*	400 *1300*	445 *1450*	275 *900*	325 *1075*	375 *1225*	345 *1125*	385 *1275*	435 *1425*
P5	200 *660*	235 *770*	275 *900*	340 *1125*	385 *1275*	425 *1400*	260 *850*	310 *1025*	360 *1175*	330 *1075*	375 *1225*	415 *1350*
P6	225 *740*	265 *870*	315 *1025*	380 *1250*	430 *1400*	485 *1600*	295 *970*	350 *1150*	410 *1350*	370 *1225*	420 *1375*	465 *1525*
P7	210 *690*	250 *820*	295 *970*	360 *1175*	405 *1325*	460 *1500*	275 *900*	330 *1075*	390 *1275*	350 *1150*	395 *1300*	440 *1450*
P8	195 *640*	230 *750*	275 *900*	330 *1075*	375 *1225*	425 *1400*	255 *840*	305 *1000*	360 *1175*	330 *1075*	370 *1225*	415 *1350*
P11	205 *670*	245 *800*	290 *950*	350 *1150*	395 *1300*	445 *1450*	270 *890*	320 *1050*	375 *1225*	340 *1125*	385 *1275*	425 *1400*
P12	130 *425*	155 *510*	185 *610*	220 *720*	245 *800*	275 *900*	175 *570*	205 *670*	240 *790*	210 *690*	235 *770*	260 *850*
M1	215 *710*	260 *850*	300 *980*	235 *770*	275 *900*	320 *1050*	255 *840*	300 *980*	350 *1150*	240 *790*	280 *920*	330 *1075*
M2	180 *590*	215 *710*	245 *800*	195 *640*	230 *750*	265 *870*	210 *690*	250 *820*	285 *940*	195 *640*	235 *770*	270 *890*
M3	145 *475*	170 *560*	200 *660*	155 *510*	185 *610*	215 *710*	170 *560*	200 *660*	235 *770*	160 *520*	185 *610*	215 *710*
M4	115 *375*	130 *425*	155 *510*	120 *395*	140 *460*	165 *540*	130 *425*	155 *510*	180 *590*	120 *395*	140 *460*	165 *540*
M5	95 *310*	110 *360*	130 *425*	100 *330*	115 *375*	140 *460*	110 *360*	125 *410*	150 *490*	100 *330*	120 *395*	140 *460*
K1	— —	— —	— —	465 *1525*	520 *1700*	580 *1900*	280 *920*	330 *1075*	385 *1275*	455 *1500*	510 *1675*	570 *1875*
K2	— —	— —	— —	410 *1350*	465 *1525*	510 *1675*	250 *820*	295 *970*	340 *1125*	400 *1300*	450 *1475*	500 *1650*
K3	— —	— —	— —	345 *1125*	390 *1275*	435 *1425*	210 *690*	250 *820*	290 *950*	340 *1125*	380 *1250*	425 *1400*
K4	— —	— —	— —	330 *1075*	375 *1225*	415 *1350*	200 *660*	240 *790*	275 *900*	325 *1075*	365 *1200*	405 *1325*
K5	— —	— —	— —	200 *660*	225 *740*	255 *840*	120 *395*	145 *475*	170 *560*	195 *640*	220 *720*	245 *800*
K6	— —	— —	— —	290 *950*	330 *1075*	365 *1200*	175 *570*	210 *690*	240 *790*	285 *940*	320 *1050*	355 *1175*
K7	— —	— —	— —	255 *840*	290 *950*	325 *1075*	155 *510*	185 *610*	220 *720*	250 *820*	280 *920*	315 *1025*
S1	55 *180*	60 *195*	70 *230*	— —	— —	— —	65 *215*	75 *245*	85 *280*	55 *180*	65 *215*	80 *260*
S2	42 *140*	49 *160*	60 *195*	— —	— —	— —	50 *165*	60 *195*	70 *230*	46 *150*	55 *180*	65 *215*
S3	37 *120*	43 *140*	50 *165*	— —	— —	— —	45 *150*	50 *165*	60 *195*	40 *130*	47 *155*	55 *180*
S11	75 *245*	85 *280*	100 *330*	— —	— —	— —	90 *295*	105 *345*	125 *410*	80 *260*	95 *310*	110 *360*
S12	50 *165*	60 *195*	70 *230*	— —	— —	— —	60 *195*	70 *230*	85 *280*	55 *180*	65 *215*	75 *245*
S13	30 *100*	34 *110*	40 *130*	— —	— —	— —	36 *120*	42 *140*	49 *160*	32 *105*	37 *120*	44 *145*
H5	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	50 *165*	60 *195*	70 *230*
H8	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	80 *260*	55 *180*	65 *215*	75 *245*
H11	— —	— —	— —	— —	— —	— —	70 *230*	80 *260*	95 *310*	65 *215*	75 *245*	90 *295*
H12	— —	— —	— —	— —	— —	— —	115 *375*	135 *445*	155 *510*	100 *330*	115 *375*	135 *445*

R217.21-LP06 – Metric





- For insert selection and cutting data recommendations, see page(s) 540-542
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.21-1416.0-LP06.2A	02789713	Cylindrical	7,5	16,0	2	0,8	4,5	14,0	132,0	150,0	1,8	5,0	23,5	30,0	39000	0,3	LP..06
R217.21-1618.0-LP06.2A	02789715	Cylindrical	9,5	18,0	2	0,8	4,5	16,0	142,0	160,0	1,8	3,5	27,5	34,0	37000	0,3	LP..06
R217.21-1820.0-LP06.2A	02789717	Cylindrical	11,6	20,0	2	0,8	4,5	18,0	142,0	160,0	1,8	3,0	31,6	38,0	35000	0,4	LP..06
R217.21-2525.0-LP06.3A	02789720	Cylindrical	16,5	25,0	3	0,8	4,5	25,0	140,0	180,0	1,8	2,0	41,5	48,0	30000	0,7	LP..06
R217.21-2527.0-LP06.3A	02789722	Cylindrical	18,5	27,0	3	0,8	4,5	25,0	228,0	250,0	1,8	1,5	45,5	52,0	30000	0,9	LP..06
R217.21-3232.0-LP06.4A	02789725	Cylindrical	23,5	32,0	4	0,8	4,5	32,0	160,0	200,0	1,8	1,5	55,5	62,0	27000	1,2	LP..06
R217.21-3235.0-LP06.4A	02789729	Cylindrical	26,5	35,0	4	0,8	4,5	32,0	228,0	250,0	1,8	1,2	61,5	68,0	26000	0,4	LP..06

Spare Parts, included in delivery

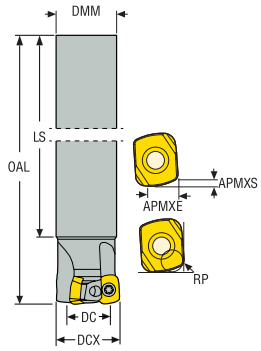
For cutter	Insert key	Insert screw
		
R217.21-1416-1820	H4B-T08P	C02555-T08P
R217.21-2525-3235	H4B-T08P	C02506-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

R217.21-LP06 – inch





- For insert selection and cutting data recommendations, see page(s) 540-542
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.21-00.625-0-LP06-2A	02789777	Cylindrical	0.290	0.625	2	0.030	0.177	0.625	5.000	6.000	0.071	5,0	0.915	1.171	39000	0.440	LP..06
R217.21-00.750-0-LP06-2A	02789778	Cylindrical	0.410	0.750	2	0.030	0.177	0.750	5.591	6.500	0.071	3,0	1.160	1.421	35000	0.660	LP..06
R217.21-01.00-0-LP06-3A	02789782	Cylindrical	0.660	1.000	3	0.030	0.177	1.000	5.512	7.000	0.071	2,0	1.660	1.921	30000	1.540	LP..06
R217.21-01.25-0-LP06-4A	02789785	Cylindrical	0.659	1.250	4	0.030	0.177	1.250	6.299	8.000	0.071	1,5	1.909	2.421	27000	2.650	LP..06

Spare Parts, included in delivery

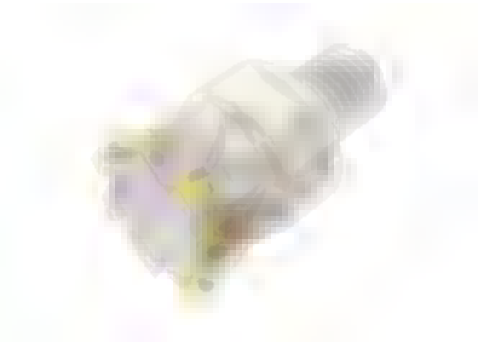
For cutter	Insert key	Insert screw
		
R217.21-0.625-0.750	H4B-T08P	C02555-T08P
R217.21-1.00-1.50	H4B-T08P	C02506-T08P

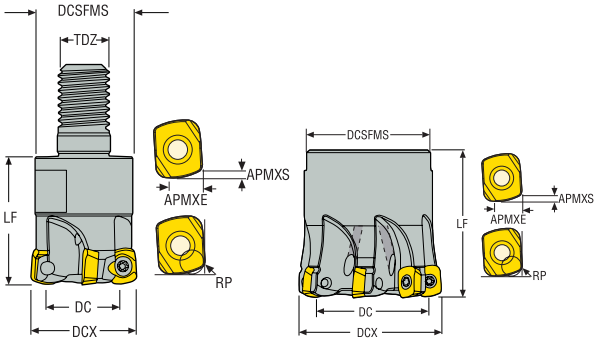
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

R217/220.21-LP06 – Metric



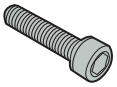


- For insert selection and cutting data recommendations, see page(s) 540-542
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm	kg		
R217.21-0816.RE-LP06.2A	02789697	Combimaster	7,5	16,0	2	0,8	4,5	–	M8	13,5	20,0	1,8	5,0	23,5	30,0	0,1	39000	LP..06
R217.21-1020.RE-LP06.2A	02789700	Combimaster	11,5	20,0	2	0,8	4,5	–	M10	18,5	28,0	1,8	3,0	31,5	38,0	0,1	35000	LP..06
R217.21-1020.RE-LP06.3A	02789701	Combimaster	11,5	20,0	3	0,8	4,5	–	M10	18,5	28,0	1,8	3,0	31,5	38,0	0,1	35000	LP..06
R217.21-1225.RE-LP06.3A	02789702	Combimaster	16,5	25,0	3	0,8	4,5	–	M12	23,0	30,0	1,8	2,0	41,5	48,0	0,2	30000	LP..06
R217.21-1225.RE-LP06.4A	02789705	Combimaster	16,5	25,0	4	0,8	4,5	–	M12	23,0	30,0	1,8	2,0	41,5	48,0	0,2	30000	LP..06
R217.21-1632.RE-LP06.5A	02789708	Combimaster	23,5	32,0	5	0,8	4,5	–	M16	30,0	35,0	1,8	1,5	55,5	62,0	0,3	27000	LP..06
R217.21-1635.RE-LP06.5A	02789711	Combimaster	26,5	35,0	5	0,8	4,5	–	M16	30,0	35,0	1,8	1,5	61,5	68,0	0,3	26000	LP..06
R217.21-2040.RE-LP06.7A	02928084	Combimaster	31,5	40,0	7	0,8	4,5	–	M20	36,5	40,0	1,8	0,9	71,5	78,0	0,4	24000	LP..06
R220.21-0035-LP06.6A	02789734	Arbor	26,5	35,0	6	0,8	4,5	16,0	–	32,0	35,0	1,8	1,29	61,5	68,0	0,2	26000	LP..06
R220.21-0040-LP06.6A	02892228	Arbor	31,5	40,0	6	0,8	4,5	16,0	–	32,0	40,0	1,8	0,9	71,5	78,0	0,3	24000	LP..06

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

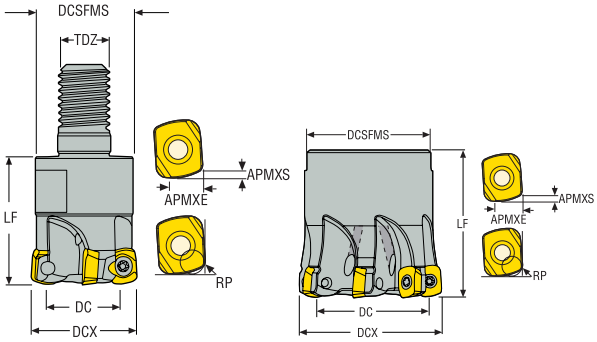
For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0816-1020	–	H4B-T08P	C02555-T08P
R217.21-1225-2040	–	H4B-T08P	C02506-T08P
R220.21-..	220.17-689	H4B-T08P	C02506-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

R217/220.21-LP06 – inch



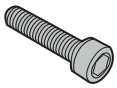


- For insert selection and cutting data recommendations, see page(s) 540-542
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch	lbs		
R217.21-00.625-08RE-LP06-2A	02789772	Combimaster	0.290	0.625	2	0.031	0.177	–	M8	0.531	0.787	0.071	5,0	0.915	1.171	0.040	39000	LP..06
R217.21-00.750-10RE-LP06-3A	02789773	Combimaster	0.409	0.750	3	0.031	0.177	–	M10	0.728	1.102	0.071	3,0	1.159	1.421	0.220	35000	LP..06
R217.21-01.00-12RE-LP06-3A	02789774	Combimaster	0.660	1.000	3	0.031	0.177	–	M12	0.906	1.181	0.071	2,0	1.660	1.921	0.440	30000	LP..06
R217.21-01.00-12RE-LP06-4A	02789775	Combimaster	0.660	1.000	4	0.031	0.177	–	M12	0.906	1.181	0.071	2,0	1.660	1.921	0.440	30000	LP..06
R217.21-01.25-16RE-LP06-5A	02789776	Combimaster	0.909	1.250	5	0.031	0.177	–	M16	1.181	1.378	0.071	1,2	2.159	2.421	0.660	27000	LP..06
R217.21-01.50-20RE-LP06.7A	02928069	Combimaster	1.181	1.500	7	0.031	0.177	–	M20	1.437	1.575	0.071	0,9	2.681	2.921	0.880	24000	LP..06
R220.21-01.50-LP06-6A	02892229	Arbor	1.165	1.500	6	0.031	0.177	0.500	–	1.260	1.500	0.071	1,0	2.665	2.921	0.440	25000	LP..06

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0.625-0.750	–	H4B-T08P	C02555-T08P
R217.21-1.00-1.50	–	H4B-T08P	C02506-T08P
R220.21-..	UC6S1/4UNFX1	H4B-T08P	C02506-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

R217/220.21-LP06 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	LPHT060310TR-M06 MP3501	0,70 *0.028*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
P2	LPHT060310TR-M06 MP3501	0,70 *0.028*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
P3	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
P4	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
P5	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
P6	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
P7	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
P8	LPHT060310TR-M06 MP2501	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
P11	LPHT060310TR-M06 MP3501	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
P12	LPHT060310TR-M06 MP2501	0,60 *0.024*	0,46 *0.018*	0,46 *0.018*	0,55 *0.022*
M1	LPHT060310TR-ME05 MS2050	0,70 *0.028*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
M2	LPHT060310TR-ME05 MS2050	0,70 *0.028*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
M3	LPHT060310TR-ME05 MS2050	0,60 *0.024*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*
M4	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
M5	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
K1	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
K2	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
K3	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
K4	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
K5	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,55 *0.022*	0,55 *0.022*	0,70 *0.028*
K6	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,65 *0.026*	0,65 *0.026*	0,80 *0.032*
K7	LPHW060310TR-D06 MP3000	0,70 *0.028*	0,55 *0.022*	0,55 *0.022*	0,70 *0.028*
N1	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
N2	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
N3	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
N11	LPHT060310ER-E05 H25	0,70 *0.028*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
S1	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
S2	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
S3	LPHT060310TR-M06 MP3501	0,44 *0.017*	0,48 *0.019*	0,48 *0.019*	0,60 *0.024*
S11	LPHT060310TR-M06 MS2050	0,50 *0.020*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S12	LPHT060310TR-M06 MS2050	0,50 *0.020*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S13	LPHT060310TR-M06 MS2050	0,44 *0.017*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
H5	LPHW060310TR-D06 MH1000	0,44 *0.017*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
H8	LPHW060310TR-D06 MH1000	0,40 *0.016*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*
H11	LPHW060310TR-D06 MP3000	0,44 *0.017*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
H12	LPHW060310TR-D06 MP3000	0,40 *0.016*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

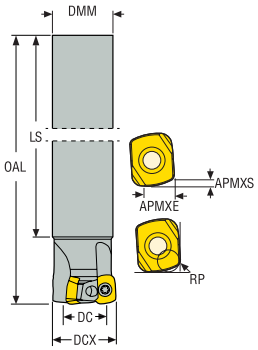
R217/220.21-LP06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	260	300	360	250	285	345	225	260	310	295	335	405
	—	—	—	*850*	*980*	*1175*	*820*	*940*	*1125*	*740*	*850*	*1025*	*970*	*1100*	*1325*
P2	—	—	—	255	290	350	240	280	335	220	250	305	285	325	395
	—	—	—	*840*	*950*	*1150*	*790*	*920*	*1100*	*720*	*820*	*1000*	*940*	*1075*	*1300*
P3	—	—	—	225	255	305	210	245	290	195	220	265	250	285	345
	—	—	—	*740*	*840*	*1000*	*690*	*800*	*950*	*640*	*720*	*870*	*820*	*940*	*1125*
P4	—	—	—	195	225	270	185	215	255	170	195	235	220	255	305
	—	—	—	*640*	*740*	*890*	*610*	*710*	*840*	*560*	*640*	*770*	*720*	*840*	*1000*
P5	—	—	—	190	215	260	180	205	245	160	185	225	210	240	290
	—	—	—	*620*	*710*	*850*	*590*	*670*	*800*	*520*	*610*	*740*	*690*	*790*	*950*
P6	245	280	335	210	240	290	200	230	275	180	210	250	235	270	325
	800	*920*	*1100*	*690*	*790*	*950*	*660*	*750*	*900*	*590*	*690*	*820*	*770*	*890*	*1075*
P7	230	265	315	200	230	275	190	215	260	170	195	235	225	255	305
	750	*870*	*1025*	*660*	*750*	*900*	*620*	*710*	*850*	*560*	*640*	*770*	*740*	*840*	*1000*
P8	220	250	300	190	215	260	180	205	245	160	185	225	210	240	290
	720	*820*	*980*	*620*	*710*	*850*	*590*	*670*	*800*	*520*	*610*	*740*	*690*	*790*	*950*
P11	225	255	310	195	220	265	185	210	255	165	190	230	215	250	300
	740	*840*	*1025*	*640*	*720*	*870*	*610*	*690*	*840*	*540*	*620*	*750*	*710*	*820*	*980*
P12	145	170	200	125	145	175	120	140	165	110	125	150	145	165	195
	475	*560*	*660*	*410*	*475*	*570*	*395*	*460*	*540*	*360*	*410*	*490*	*475*	*540*	*640*
M1	—	—	—	—	—	—	195	225	270	175	205	245	205	235	280
	—	—	—	—	—	—	*640*	*740*	*890*	*570*	*670*	*800*	*670*	*770*	*920*
M2	—	—	—	—	—	—	160	185	220	145	170	200	170	195	230
	—	—	—	—	—	—	*520*	*610*	*720*	*475*	*560*	*660*	*560*	*640*	*750*
M3	—	—	—	—	—	—	130	150	180	120	135	165	135	155	190
	—	—	—	—	—	—	*425*	*490*	*590*	*395*	*445*	*540*	*445*	*510*	*620*
M4	—	—	—	—	—	—	100	115	140	95	105	125	105	120	145
	—	—	—	—	—	—	*330*	*375*	*460*	*310*	*345*	*410*	*345*	*395*	*475*
M5	—	—	—	—	—	—	85	95	115	75	85	105	90	100	120
	—	—	—	—	—	—	*280*	*310*	*375*	*245*	*280*	*345*	*295*	*330*	*395*
K1	235	270	320	200	230	275	—	—	—	175	200	240	—	—	—
	770	*890*	*1050*	*660*	*750*	*900*	—	—	—	*570*	*660*	*790*	—	—	—
K2	205	235	285	180	205	245	—	—	—	155	175	210	—	—	—
	670	*770*	*940*	*590*	*670*	*800*	—	—	—	*510*	*570*	*690*	—	—	—
K3	175	200	240	150	175	205	—	—	—	130	150	180	—	—	—
	570	*660*	*790*	*490*	*570*	*670*	—	—	—	*425*	*490*	*590*	—	—	—
K4	165	190	230	145	165	200	—	—	—	125	145	170	—	—	—
	540	*620*	*750*	*475*	*540*	*660*	—	—	—	*410*	*475*	*560*	—	—	—
K5	105	120	140	90	105	120	—	—	—	75	90	105	—	—	—
	345	*395*	*460*	*295*	*345*	*395*	—	—	—	*245*	*295*	*345*	—	—	—
K6	145	170	200	125	145	175	—	—	—	110	125	150	—	—	—
	475	*560*	*660*	*410*	*475*	*570*	—	—	—	*360*	*410*	*490*	—	—	—
K7	135	155	180	115	130	155	—	—	—	100	115	135	—	—	—
	445	*510*	*590*	*375*	*425*	*510*	—	—	—	*330*	*375*	*445*	—	—	—
N1	—	—	—	—	—	—	—	—	—	1275	1475	1775	—	—	—
	—	—	—	—	—	—	—	—	—	*4175*	*4850*	*5825*	—	—	—
N2	—	—	—	—	—	—	—	—	—	520	590	720	—	—	—
	—	—	—	—	—	—	—	—	—	*1700*	*1925*	*2350*	—	—	—
N3	—	—	—	—	—	—	—	—	—	345	395	480	—	—	—
	—	—	—	—	—	—	—	—	—	*1125*	*1300*	*1575*	—	—	—
N11	—	—	—	—	—	—	—	—	—	395	455	550	—	—	—
	—	—	—	—	—	—	—	—	—	*1300*	*1500*	*1800*	—	—	—
S1	—	—	—	—	—	—	48	55	65	43	49	60	50	60	70
	—	—	—	—	—	—	*155*	*180*	*215*	*140*	*160*	*195*	*165*	*195*	*230*
S2	—	—	—	—	—	—	38	43	50	35	39	47	42	47	55
	—	—	—	—	—	—	*125*	*140*	*165*	*115*	*130*	*155*	*140*	*155*	*180*
S3	—	—	—	—	—	—	34	38	46	31	35	42	37	42	50
	—	—	—	—	—	—	*110*	*125*	*150*	*100*	*115*	*140*	*120*	*140*	*165*
S11	—	—	—	—	—	—	65	75	90	60	70	85	75	85	100
	—	—	—	—	—	—	*215*	*245*	*295*	*195*	*230*	*280*	*245*	*280*	*330*
S12	—	—	—	—	—	—	46	55	65	42	48	55	50	60	70
	—	—	—	—	—	—	*150*	*180*	*215*	*140*	*155*	*180*	*165*	*195*	*230*
S13	—	—	—	—	—	—	27	30	36	24	27	33	29	33	40
	—	—	—	—	—	—	*90*	*100*	*120*	*80*	*90*	*110*	*95*	*110*	*130*
H5	50	60	70	41	47	55	—	—	—	38	44	50	—	—	—
	165	*195*	*230*	*135*	*155*	*180*	—	—	—	*125*	*145*	*165*	—	—	—
H8	55	60	75	44	50	60	—	—	—	41	47	55	—	—	—
	180	*195*	*245*	*145*	*165*	*195*	—	—	—	*135*	*155*	*180*	—	—	—
H11	65	75	90	55	60	70	—	—	—	49	55	65	55	65	75
	215	*245*	*295*	*180*	*195*	*230*	—	—	—	*160*	*180*	*215*	*180*	*215*	*245*
H12	—	—	—	85	95	115	—	—	—	75	85	100	95	110	125
	—	—	—	*280*	*310*	*375*	—	—	—	*245*	*280*	*330*	*310*	*360*	*410*

R217/220.21-LP06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	H25			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	420	465	540	325	375	450	380	415	485	200	230	275
	—	—	—	*1375*	*1525*	*1775*	*1075*	*1225*	*1475*	*1250*	*1350*	*1600*	*660*	*750*	*900*
P2	—	—	—	410	450	520	315	365	435	370	405	470	190	220	265
	—	—	—	*1350*	*1475*	*1700*	*1025*	*1200*	*1425*	*1225*	*1325*	*1550*	*620*	*720*	*870*
P3	—	—	—	360	400	460	280	320	380	325	355	410	170	195	230
	—	—	—	*1175*	*1300*	*1500*	*920*	*1050*	*1250*	*1075*	*1175*	*1350*	*560*	*640*	*750*
P4	—	—	—	320	350	405	245	280	335	285	315	365	150	170	205
	—	—	—	*1050*	*1150*	*1325*	*800*	*920*	*1100*	*940*	*1025*	*1200*	*490*	*560*	*670*
P5	—	—	—	305	335	385	235	270	320	270	300	345	140	165	200
	—	—	—	*1000*	*1100*	*1275*	*770*	*890*	*1050*	*890*	*980*	*1125*	*460*	*540*	*660*
P6	—	—	—	340	375	435	260	300	360	305	335	390	165	190	220
	—	—	—	*1125*	*1225*	*1425*	*850*	*980*	*1175*	*1000*	*1100*	*1275*	*540*	*620*	*720*
P7	—	—	—	320	355	410	250	285	340	290	315	365	155	180	210
	—	—	—	*1050*	*1175*	*1350*	*820*	*940*	*1125*	*950*	*1025*	*1200*	*510*	*590*	*690*
P8	—	—	—	305	335	385	235	270	320	270	300	345	140	165	195
	—	—	—	*1000*	*1100*	*1275*	*770*	*890*	*1050*	*890*	*980*	*1125*	*460*	*540*	*640*
P11	—	—	—	315	345	395	240	275	330	280	310	355	150	170	205
	—	—	—	*1025*	*1125*	*1300*	*790*	*900*	*1075*	*920*	*1025*	*1175*	*490*	*560*	*670*
P12	—	—	—	205	225	255	160	180	215	185	200	230	95	110	130
	—	—	—	*670*	*740*	*840*	*520*	*590*	*710*	*610*	*660*	*750*	*310*	*360*	*425*
M1	—	—	—	210	240	290	225	260	315	195	225	270	165	190	225
	—	—	—	*690*	*790*	*950*	*740*	*850*	*1025*	*640*	*740*	*890*	*540*	*620*	*740*
M2	—	—	—	170	200	235	185	215	255	160	185	220	135	155	190
	—	—	—	*560*	*660*	*770*	*610*	*710*	*840*	*520*	*610*	*720*	*445*	*510*	*620*
M3	—	—	—	140	160	195	150	175	210	130	150	180	110	125	150
	—	—	—	*460*	*520*	*640*	*490*	*570*	*690*	*425*	*490*	*590*	*360*	*410*	*490*
M4	—	—	—	110	125	150	120	135	160	100	115	140	85	100	115
	—	—	—	*360*	*410*	*490*	*395*	*445*	*520*	*330*	*375*	*460*	*280*	*330*	*375*
M5	—	—	—	90	100	125	100	110	135	85	95	115	75	80	100
	—	—	—	*295*	*330*	*410*	*330*	*360*	*445*	*280*	*310*	*375*	*245*	*260*	*330*
K1	—	—	—	415	455	530	250	290	345	370	410	475	—	—	—
	—	—	—	*1350*	*1500*	*1750*	*820*	*950*	*1125*	*1225*	*1350*	*1550*	—	—	—
K2	—	—	—	365	405	465	220	255	305	330	360	420	—	—	—
	—	—	—	*1200*	*1325*	*1525*	*720*	*840*	*1000*	*1075*	*1175*	*1375*	—	—	—
K3	—	—	—	310	340	395	190	215	260	280	305	355	—	—	—
	—	—	—	*1025*	*1125*	*1300*	*620*	*710*	*850*	*920*	*1000*	*1175*	—	—	—
K4	—	—	—	295	325	375	180	205	245	265	290	340	—	—	—
	—	—	—	*970*	*1075*	*1225*	*590*	*670*	*800*	*870*	*950*	*1125*	—	—	—
K5	—	—	—	185	205	230	110	130	150	165	180	210	—	—	—
	—	—	—	*610*	*670*	*750*	*360*	*425*	*490*	*540*	*590*	*690*	—	—	—
K6	—	—	—	260	290	330	160	180	215	235	260	300	—	—	—
	—	—	—	*850*	*950*	*1075*	*520*	*590*	*710*	*770*	*850*	*980*	—	—	—
K7	—	—	—	235	260	295	145	165	195	210	235	265	—	—	—
	—	—	—	*770*	*850*	*970*	*475*	*540*	*640*	*690*	*770*	*870*	—	—	—
N1	1325	1525	1825	—	—	—	—	—	—	—	—	—	—	—	—
	4350	*5000*	*6000*	—	—	—	—	—	—	—	—	—	—	—	—
N2	540	620	740	—	—	—	—	—	—	—	—	—	—	—	—
	1775	*2025*	*2425*	—	—	—	—	—	—	—	—	—	—	—	—
N3	360	410	495	—	—	—	—	—	—	—	—	—	—	—	—
	1175	*1350*	*1625*	—	—	—	—	—	—	—	—	—	—	—	—
N11	410	470	570	—	—	—	—	—	—	—	—	—	—	—	—
	1350	*1550*	*1875*	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	60	65	80	48	55	65	27	30	36
	—	—	—	—	—	—	*195*	*215*	*260*	*155*	*180*	*215*	*90*	*100*	*120*
S2	—	—	—	—	—	—	47	55	65	38	43	50	21	24	29
	—	—	—	—	—	—	*155*	*180*	*215*	*125*	*140*	*165*	*70*	*80*	*95*
S3	—	—	—	—	—	—	41	47	55	34	38	46	19	21	25
	—	—	—	—	—	—	*135*	*155*	*180*	*110*	*125*	*150*	*60*	*70*	*80*
S11	—	—	—	—	—	—	80	95	110	65	75	90	37	42	50
	—	—	—	—	—	—	*260*	*310*	*360*	*215*	*245*	*295*	*120*	*140*	*165*
S12	—	—	—	—	—	—	55	65	75	46	55	65	34	39	47
	—	—	—	—	—	—	*180*	*215*	*245*	*150*	*180*	*215*	*110*	*130*	*155*
S13	—	—	—	—	—	—	33	37	44	27	30	36	20	23	27
	—	—	—	—	—	—	*110*	*120*	*145*	*90*	*100*	*120*	*65*	*75*	*90*
H5	—	—	—	—	—	—	50	55	70	44	50	60	—	—	—
	—	—	—	—	—	—	*165*	*180*	*230*	*145*	*165*	*195*	—	—	—
H8	—	—	—	—	—	—	55	60	70	47	55	65	—	—	—
	—	—	—	—	—	—	*180*	*195*	*230*	*155*	*180*	*215*	—	—	—
H11	—	—	—	—	—	—	65	70	85	55	65	75	—	—	—
	—	—	—	—	—	—	*215*	*230*	*280*	*180*	*215*	*245*	—	—	—
H12	—	—	—	—	—	—	105	120	140	85	95	115	—	—	—
	—	—	—	—	—	—	*345*	*395*	*460*	*280*	*310*	*375*	—	—	—

R217.21-LP09 – inch





- For insert selection and cutting data recommendations, see page(s) 547-549
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.21-01.25-0-LP09-4A	03212900	Cylindrical	0.744	1.250	4	0.071	0.287	1.250	6.102	8.000	0.137	4,9	1.994	2.421	31200	2.430	LP..09
R217.21-01.50-0-LP09-5A	03212901	Cylindrical	0.992	1.500	5	0.071	0.287	1.500	6.102	8.000	0.137	3,4	2.492	2.921	28500	3.530	LP..09

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-..	H4B-T15P	C04009-T15P

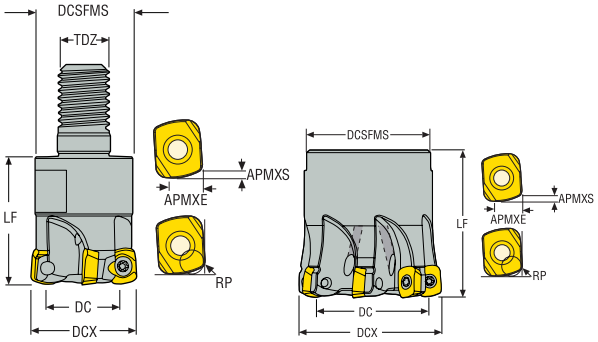
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R220.21-LP09 – Metric

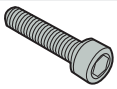




- For insert selection and cutting data recommendations, see page(s) 547-549
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm	kg		
R217.21-1225.RE-LP09.2A	03212883	Combimaster	12,0	25,0	2	1,8	7,3	–	M12	23,0	35,0	3,49	8,8	37,0	48,0	0,2	35200	LP..09
R217.21-1632.RE-LP09.3A	03212884	Combimaster	19,1	32,0	3	1,8	7,3	–	M16	30,0	35,0	3,45	4,8	51,1	62,0	0,2	31100	LP..09
R217.21-1632.RE-LP09.4A	03212885	Combimaster	19,1	32,0	4	1,8	7,3	–	M16	30,0	35,0	3,47	4,8	51,1	62,0	0,3	31100	LP..09
R217.21-1635.RE-LP09.4A	03212886	Combimaster	22,1	35,0	4	1,8	7,3	–	M16	30,0	35,0	3,47	4,0	57,1	68,0	0,3	29700	LP..09
R217.21-2040.RE-LP09.5A	03212887	Combimaster	27,0	40,0	5	1,8	7,3	–	M20	36,5	40,0	3,48	3,2	67,0	78,0	0,4	27800	LP..09
R217.21-2042.RE-LP09.5A	03212888	Combimaster	28,9	42,0	5	1,8	7,3	–	M20	36,5	40,0	3,48	2,9	70,9	82,0	0,4	27100	LP..09
R220.21-0040-LP09.4A	03212889	Arbor	27,5	40,0	4	1,8	7,3	16,0	–	32,0	40,0	3,46	3,2	67,5	78,0	0,3	27800	LP..09
R220.21-0050-LP09.5A	03212890	Arbor	37,0	50,0	5	1,8	7,3	22,0	–	40,0	40,0	3,45	2,2	87,0	98,0	0,3	24800	LP..09
R220.21-0050-LP09.6A	03212891	Arbor	37,0	50,0	6	1,8	7,3	22,0	–	40,0	40,0	3,45	2,2	87,0	98,0	0,3	24800	LP..09
R220.21-0050-LP09.7A	03212892	Arbor	37,1	50,0	7	1,8	7,3	22,0	–	40,0	40,0	3,47	2,2	87,1	98,0	0,3	24800	LP..09
R220.21-0052-LP09.5A	03252422	Arbor	39,0	51,98	5	1,8	7,3	22,0	–	49,0	40,0	3,45	2,1	90,98	101,96	0,5	24400	LP..09
R220.21-0052-LP09.7A	03212893	Arbor	39,1	51,98	7	1,8	7,3	22,0	–	48,0	40,0	3,47	2,1	91,08	101,96	0,4	24400	LP..09
R220.21-0063-LP09.6A	03212894	Arbor	50,0	63,0	6	1,8	7,3	22,0	–	48,0	40,0	3,45	2,7	113,0	124,0	0,5	22100	LP..09
R220.21-0063-LP09.6A-27	03317247	Arbor	50,0	63,0	6	1,8	7,3	27,0	–	61,0	50,0	3,45	2,7	113,0	124,0	0,8	22100	LP..09
R220.21-0063-LP09.8A	03212895	Arbor	50,1	63,0	8	1,8	7,3	22,0	–	48,0	40,0	3,47	1,6	113,1	124,0	0,5	22100	LP..09
R220.21-0063-LP09.8A-27	03317248	Arbor	50,1	63,0	8	1,8	7,3	27,0	–	61,0	50,0	3,47	1,6	113,1	124,0	0,8	22100	LP..09
R220.21-0066-LP09.6A	03252423	Arbor	53,1	66,0	6	1,8	7,3	27,0	–	61,0	50,0	3,47	1,5	119,1	130,0	0,8	21600	LP..09
R220.21-0066-LP09.8A	03212896	Arbor	53,1	66,0	8	1,8	7,3	27,0	–	60,0	50,0	3,47	1,5	119,1	130,0	0,8	21600	LP..09
R220.21-0080-LP09.7A	03212897	Arbor	67,0	80,0	7	1,8	7,3	27,0	–	60,0	50,0	3,45	1,1	147,0	158,0	1,0	19600	LP..09
R220.21-0080-LP09.9A	03212898	Arbor	67,0	80,0	9	1,8	7,3	27,0	–	60,0	50,0	3,45	1,1	147,0	158,0	1,0	19600	LP..09
R220.21-0084-LP09.7A	03252424	Arbor	71,0	84,0	7	1,8	7,3	32,0	–	79,0	50,0	3,44	1,1	155,0	166,0	1,4	18600	LP..09
R220.21-0100-LP09.10A	03212899	Arbor	87,0	100,0	10	1,8	7,3	32,0	–	78,0	50,0	3,44	0,8	187,0	198,0	1,7	17600	LP..09

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	H4B-T15P	C04009-T15P
R220.21-0040	MC6S8X30	H4B-T15P	C04009-T15P
R220.21-0050-0063	220.17-692	H4B-T15P	C04009-T15P
R220.21-0063-6A	220.17-692	H4B-T15P	C04011-T15P
R220.21-0063-6A-27	MC6S12X40	H4B-T15P	C04011-T15P
R220.21-0063-8A-27	MC6S12X40	H4B-T15P	C04009-T15P
R220.21-0066	MC6S12X35	H4B-T15P	C04009-T15P
R220.21-0080	MC6S12X35	H4B-T15P	C04011-T15P
R220.21-0084	MLC6S16X35	H4B-T15P	C04009-T15P
R220.21-0100	MLC6S16X35	H4B-T15PL	C04011-T15P

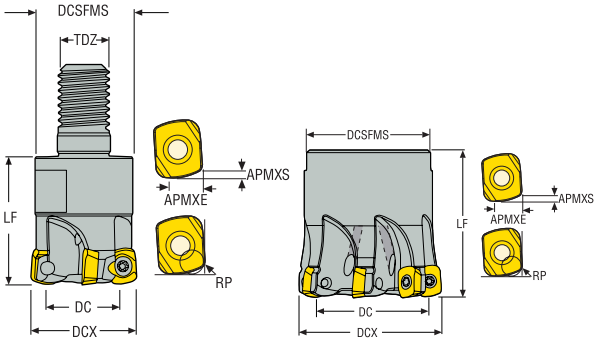
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R220.21-LP09 – inch

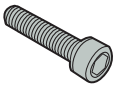




- For insert selection and cutting data recommendations, see page(s) 547-549
- For complete insert programme, see page(s) 813
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch	lbs		
R217.21-01.25-16RE-LP09-4A	03212902	Combimaster	0.744	1.250	4	0.071	0.287	–	M16	1.181	1.378	0.137	4,9	1.994	2.421	0.660	31100	LP..09
R220.21-02.00-LP09-6A	03212903	Arbor	1.488	2.000	6	0.071	0.287	0.750	–	1.750	1.500	0.136	2,2	3.488	3.921	0.880	24600	LP..09
R220.21-02.00-LP09-7A	03212904	Arbor	1.492	2.000	7	0.071	0.287	0.750	–	1.750	1.500	0.137	2,2	3.492	3.921	0.880	24600	LP..09
R220.21-02.50-LP09-6A	03212905	Arbor	1.988	2.500	6	0.071	0.287	0.750	–	1.750	1.500	0.136	1,6	4.488	4.921	1.100	22000	LP..09
R220.21-03.00-LP09-6A	03212907	Arbor	2.488	3.000	6	0.071	0.287	1.000	–	2.250	2.000	0.136	1,2	5.488	5.921	2.200	19600	LP..09
R220.21-03.00-LP09-8A	03212908	Arbor	2.488	3.000	8	0.071	0.287	1.000	–	2.250	2.000	0.136	1,2	5.488	5.921	2.200	20100	LP..09

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	H4B-T15P	C04009-T15P
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	H4B-T15P	C04009-T15P
R220.21-03.00	UC6S1/2UNFX1-1/2	H4B-T15P	C04011-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R217/220.21-LP09 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	LPKT09T420TR-M13 MP3501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P2	LPKT09T420TR-M13 MP3501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P3	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
P4	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P5	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P6	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P7	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P8	LPKT09T420TR-M13 MP2501	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
P11	LPKT09T420TR-M13 MP3501	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
P12	LPKT09T420TR-M13 MP2501	1,3 *0.050*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
M1	LPKT09T420TR-ME08 MS2050	1,6 *0.065*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
M2	LPKT09T420TR-ME08 MS2050	1,6 *0.065*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
M3	LPKT09T420TR-ME08 MS2050	1,3 *0.050*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
M4	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
M5	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
K1	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,3 *0.050*	1,3 *0.050*	1,5 *0.060*
K2	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
K3	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
K4	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
K5	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
K6	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
K7	LPKW09T420TR-D15 MK2050	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
N1	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
N2	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
N3	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
N11	LPHT09T420R-E08 H25	1,6 *0.065*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
S1	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
S2	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
S3	LPKT09T420TR-M13 MP3501	0,95 *0.038*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
S11	LPKT09T420TR-ME08 MS2050	1,1 *0.044*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S12	LPKT09T420TR-ME08 MS2050	1,1 *0.044*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S13	LPKT09T420TR-ME08 MS2050	0,95 *0.038*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
H5	LPHW09T420TR-D12 MH1000	1,0 *0.040*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
H8	LPHW09T420TR-D12 MH1000	0,90 *0.036*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
H11	LPKW09T420TR-D15 MP3000	1,0 *0.040*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
H12	LPKW09T420TR-D15 MP3000	0,90 *0.036*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*

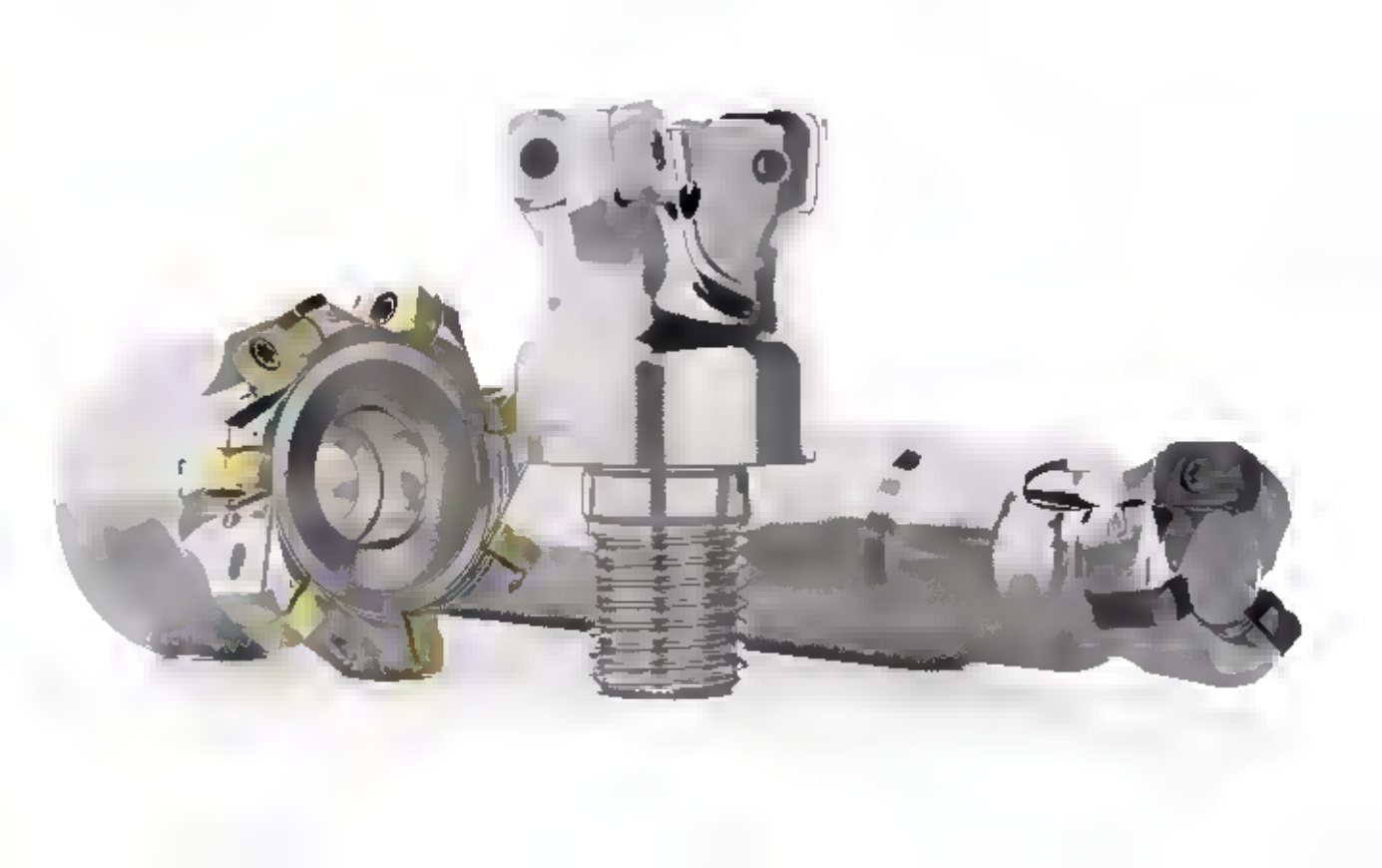
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-LP09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	215	250	295	205	240	280	245	285	340	180	210	255	235	275	330
	—	—	—	*710*	*820*	*970*	*670*	*790*	*920*	*800*	*940*	*1125*	*590*	*690*	*840*	*770*	*900*	*1075*
P2	—	—	—	200	235	285	195	225	275	235	270	330	175	205	250	230	265	320
	—	—	—	*660*	*770*	*940*	*640*	*740*	*900*	*770*	*890*	*1075*	*570*	*670*	*820*	*750*	*870*	*1050*
P3	—	—	—	180	210	245	170	200	235	205	240	290	155	185	215	205	235	275
	—	—	—	*590*	*690*	*800*	*560*	*660*	*770*	*670*	*790*	*950*	*510*	*610*	*710*	*670*	*770*	*900*
P4	—	—	—	155	185	220	150	175	215	180	210	255	140	160	195	180	210	250
	—	—	—	*510*	*610*	*720*	*490*	*570*	*710*	*590*	*690*	*840*	*460*	*520*	*640*	*590*	*690*	*820*
P5	—	—	—	150	175	210	145	170	205	175	205	240	130	155	185	170	200	240
	—	—	—	*490*	*570*	*690*	*475*	*560*	*670*	*570*	*670*	*790*	*425*	*510*	*610*	*560*	*660*	*790*
P6	205	240	285	175	200	235	165	195	230	200	230	270	150	170	205	190	225	270
	670	*790*	*940*	*570*	*660*	*770*	*540*	*640*	*750*	*660*	*750*	*890*	*490*	*560*	*670*	*620*	*740*	*890*
P7	195	230	270	165	190	225	155	185	215	185	220	255	140	165	195	180	210	255
	640	*750*	*890*	*540*	*620*	*740*	*510*	*610*	*710*	*610*	*720*	*840*	*460*	*540*	*640*	*590*	*690*	*840*
P8	180	210	250	150	175	205	145	170	200	170	200	240	130	155	180	170	200	230
	590	*690*	*820*	*490*	*570*	*670*	*475*	*560*	*660*	*560*	*660*	*790*	*425*	*510*	*590*	*560*	*660*	*750*
P11	190	220	265	160	185	220	155	180	210	180	210	250	135	160	190	175	205	245
	620	*720*	*870*	*520*	*610*	*720*	*510*	*590*	*690*	*590*	*690*	*820*	*445*	*520*	*620*	*570*	*670*	*800*
P12	125	145	175	105	120	145	100	115	140	120	140	165	90	105	125	120	135	165
	410	*475*	*570*	*345*	*395*	*475*	*330*	*375*	*460*	*395*	*460*	*540*	*295*	*345*	*410*	*395*	*445*	*540*
M1	—	—	—	—	—	—	—	—	—	190	220	265	140	165	200	165	190	230
	—	—	—	—	—	—	—	—	—	*620*	*720*	*870*	*460*	*540*	*660*	*540*	*620*	*750*
M2	—	—	—	—	—	—	—	—	—	160	185	220	120	140	165	135	160	190
	—	—	—	—	—	—	—	—	—	*520*	*610*	*720*	*395*	*460*	*540*	*445*	*520*	*620*
M3	—	—	—	—	—	—	—	—	—	130	145	180	95	115	135	110	130	155
	—	—	—	—	—	—	—	—	—	*425*	*475*	*590*	*310*	*375*	*445*	*360*	*425*	*510*
M4	—	—	—	—	—	—	—	—	—	100	115	140	75	90	105	90	100	120
	—	—	—	—	—	—	—	—	—	*330*	*375*	*460*	*245*	*295*	*345*	*295*	*330*	*395*
M5	—	—	—	—	—	—	—	—	—	85	95	115	65	75	90	75	85	100
	—	—	—	—	—	—	—	—	—	*280*	*310*	*375*	*215*	*245*	*295*	*245*	*280*	*330*
K1	195	225	270	215	255	310	155	180	220	—	—	—	140	165	195	—	—	—
	640	*740*	*890*	*710*	*840*	*1025*	*510*	*590*	*720*	—	—	—	*460*	*540*	*640*	—	—	—
K2	175	205	240	195	225	275	135	160	195	—	—	—	125	145	175	—	—	—
	570	*670*	*790*	*640*	*740*	*900*	*445*	*520*	*640*	—	—	—	*410*	*475*	*570*	—	—	—
K3	150	170	205	165	190	230	115	135	165	—	—	—	105	125	150	—	—	—
	490	*560*	*670*	*540*	*620*	*750*	*375*	*445*	*540*	—	—	—	*345*	*410*	*490*	—	—	—
K4	140	165	195	155	180	220	110	130	155	—	—	—	100	120	140	—	—	—
	460	*540*	*640*	*510*	*590*	*720*	*360*	*425*	*510*	—	—	—	*330*	*395*	*460*	—	—	—
K5	85	100	120	100	115	135	70	80	95	—	—	—	60	75	85	—	—	—
	280	*330*	*395*	*330*	*375*	*445*	*230*	*260*	*310*	—	—	—	*195*	*245*	*280*	—	—	—
K6	125	145	170	140	160	195	95	115	135	—	—	—	90	105	125	—	—	—
	410	*475*	*560*	*460*	*520*	*640*	*310*	*375*	*445*	—	—	—	*295*	*345*	*410*	—	—	—
K7	110	130	155	125	150	170	90	105	120	—	—	—	80	95	110	—	—	—
	360	*425*	*510*	*410*	*490*	*560*	*295*	*345*	*395*	—	—	—	*260*	*310*	*360*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1025	1175	1425	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*3375*	*3850*	*4675*	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	410	480	570	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1350*	*1575*	*1875*	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	275	320	380	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*900*	*1050*	*1250*	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	315	365	435	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	*1025*	*1200*	*1425*	—	—	—
S1	—	—	—	—	—	—	—	—	—	47	55	65	36	41	49	43	49	60
	—	—	—	—	—	—	—	—	—	*155*	*180*	*215*	*120*	*135*	*160*	*140*	*160*	*195*
S2	—	—	—	—	—	—	—	—	—	38	44	50	29	33	40	35	40	48
	—	—	—	—	—	—	—	—	—	*125*	*145*	*165*	*95*	*110*	*130*	*115*	*130*	*155*
S3	—	—	—	—	—	—	—	—	—	33	38	46	25	29	35	30	35	42
	—	—	—	—	—	—	—	—	—	*110*	*125*	*150*	*80*	*95*	*115*	*100*	*115*	*140*
S11	—	—	—	—	—	—	—	—	—	65	75	90	49	55	70	60	70	85
	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*	*160*	*180*	*230*	*195*	*230*	*280*
S12	—	—	—	—	—	—	—	—	—	45	50	60	34	39	48	41	47	55
	—	—	—	—	—	—	—	—	—	*150*	*165*	*195*	*110*	*130*	*155*	*135*	*155*	*180*
S13	—	—	—	—	—	—	—	—	—	26	31	36	20	23	28	24	28	33
	—	—	—	—	—	—	—	—	—	*85*	*100*	*120*	*65*	*75*	*90*	*80*	*90*	*110*
H5	43	50	60	—	—	—	33	38	45	—	—	—	31	36	43	—	—	—
	140	*165*	*195*	—	—	—	*110*	*125*	*150*	—	—	—	*100*	*120*	*140*	—	—	—
H8	47	55	65	—	—	—	35	41	49	—	—	—	34	39	46	—	—	—
	155	*180*	*215*	—	—	—	*115*	*135*	*160*	—	—	—	*110*	*130*	*150*	—	—	—
H11	55	65	75	—	—	—	42	48	60	—	—	—	40	46	55	47	55	65
	180	*215*	*245*	—	—	—	*140*	*155*	*195*	—	—	—	*130*	*150*	*180*	*155*	*180*	*215*
H12	—	—	—	—	—	—	70	80	95	—	—	—	60	70	85	80	90	110
	—	—	—	—	—	—	*230*	*260*	*310*	—	—	—	*195*	*230*	*280*	*260*	*295*	*360*

R217/220.21-LP09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	H25			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	330	370	440	320	355	425	260	305	365	280	315	375	180	210	250
	—	—	—	*1075*	*1225*	*1450*	*1050*	*1175*	*1400*	*850*	*1000*	*1200*	*920*	*1025*	*1225*	*590*	*690*	*820*
P2	—	—	—	320	360	430	310	345	415	255	295	355	270	305	365	170	200	240
	—	—	—	*1050*	*1175*	*1400*	*1025*	*1125*	*1350*	*840*	*970*	*1175*	*890*	*1000*	*1200*	*560*	*660*	*790*
P3	—	—	—	290	325	370	280	310	355	225	265	305	245	275	315	150	175	210
	—	—	—	*950*	*1075*	*1225*	*920*	*1025*	*1175*	*740*	*870*	*1000*	*800*	*900*	*1025*	*490*	*570*	*690*
P4	—	—	—	255	285	335	245	275	325	200	230	275	215	240	290	135	155	185
	—	—	—	*840*	*940*	*1100*	*800*	*900*	*1075*	*660*	*750*	*900*	*710*	*790*	*950*	*445*	*510*	*610*
P5	—	—	—	245	270	320	235	260	310	190	220	265	205	230	275	130	150	180
	—	—	—	*800*	*890*	*1050*	*770*	*850*	*1025*	*620*	*720*	*870*	*670*	*750*	*900*	*425*	*490*	*590*
P6	—	—	—	270	305	360	265	295	350	215	250	295	230	260	310	145	170	200
	—	—	—	*890*	*1000*	*1175*	*870*	*970*	*1150*	*710*	*820*	*970*	*750*	*850*	*1025*	*475*	*560*	*660*
P7	—	—	—	255	290	340	250	280	330	200	235	280	220	245	290	140	160	190
	—	—	—	*840*	*950*	*1125*	*820*	*920*	*1075*	*660*	*770*	*920*	*720*	*800*	*950*	*460*	*520*	*620*
P8	—	—	—	245	270	310	235	260	300	190	220	260	205	230	265	125	150	180
	—	—	—	*800*	*890*	*1025*	*770*	*850*	*980*	*620*	*720*	*850*	*670*	*750*	*870*	*410*	*490*	*590*
P11	—	—	—	250	280	330	240	270	320	195	230	275	210	240	285	135	155	185
	—	—	—	*820*	*920*	*1075*	*790*	*890*	*1050*	*640*	*750*	*900*	*690*	*790*	*940*	*445*	*510*	*610*
P12	—	—	—	170	190	220	170	185	215	130	150	180	150	165	195	90	100	120
	—	—	—	*560*	*620*	*720*	*560*	*610*	*710*	*425*	*490*	*590*	*490*	*540*	*640*	*295*	*330*	*395*
M1	—	—	—	—	—	—	170	195	235	180	210	255	155	180	220	145	170	210
	—	—	—	—	—	—	*560*	*640*	*770*	*590*	*690*	*840*	*510*	*590*	*720*	*475*	*560*	*690*
M2	—	—	—	—	—	—	140	165	195	150	175	210	130	150	180	125	145	170
	—	—	—	—	—	—	*460*	*540*	*640*	*490*	*570*	*690*	*425*	*490*	*590*	*410*	*475*	*560*
M3	—	—	—	—	—	—	115	135	160	125	145	175	105	125	150	100	115	140
	—	—	—	—	—	—	*375*	*445*	*520*	*410*	*475*	*570*	*345*	*410*	*490*	*330*	*375*	*460*
M4	—	—	—	—	—	—	90	105	125	100	110	135	85	95	115	80	90	110
	—	—	—	—	—	—	*295*	*345*	*410*	*330*	*360*	*445*	*280*	*310*	*375*	*260*	*295*	*360*
M5	—	—	—	—	—	—	75	85	105	80	95	110	70	80	95	65	75	90
	—	—	—	—	—	—	*245*	*280*	*345*	*260*	*310*	*360*	*230*	*260*	*310*	*215*	*245*	*295*
K1	—	—	—	325	365	435	310	350	420	200	235	285	275	310	370	—	—	—
	—	—	—	*1075*	*1200*	*1425*	*1025*	*1150*	*1375*	*660*	*770*	*940*	*900*	*1025*	*1225*	—	—	—
K2	—	—	—	295	330	390	285	315	375	180	210	250	250	280	330	—	—	—
	—	—	—	*970*	*1075*	*1275*	*940*	*1025*	*1225*	*590*	*690*	*820*	*820*	*920*	*1075*	—	—	—
K3	—	—	—	250	280	330	240	270	320	150	180	215	210	235	280	—	—	—
	—	—	—	*820*	*920*	*1075*	*790*	*890*	*1050*	*490*	*590*	*710*	*690*	*770*	*920*	—	—	—
K4	—	—	—	235	265	315	230	255	305	145	170	205	200	225	270	—	—	—
	—	—	—	*770*	*870*	*1025*	*750*	*840*	*1000*	*475*	*560*	*670*	*660*	*740*	*890*	—	—	—
K5	—	—	—	145	165	195	145	160	185	90	105	125	125	140	165	—	—	—
	—	—	—	*475*	*540*	*640*	*475*	*520*	*610*	*295*	*345*	*410*	*410*	*460*	*540*	—	—	—
K6	—	—	—	210	235	275	200	225	265	130	150	180	175	200	235	—	—	—
	—	—	—	*690*	*770*	*900*	*660*	*740*	*870*	*425*	*490*	*590*	*570*	*660*	*770*	—	—	—
K7	—	—	—	190	210	245	185	205	240	115	135	160	160	180	210	—	—	—
	—	—	—	*620*	*690*	*800*	*610*	*670*	*790*	*375*	*445*	*520*	*520*	*590*	*690*	—	—	—
N1	1225	1425	1725	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	4025	*4675*	*5650*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	495	580	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1625	*1900*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	330	385	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1075	*1275*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	375	440	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1225	*1450*	*1750*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	48	55	65	39	45	55	24	28	33
	—	—	—	—	—	—	—	—	—	*155*	*180*	*215*	*130*	*150*	*180*	*80*	*90*	*110*
S2	—	—	—	—	—	—	—	—	—	39	44	55	32	36	44	19	23	27
	—	—	—	—	—	—	—	—	—	*130*	*145*	*180*	*105*	*120*	*145*	*60*	*75*	*90*
S3	—	—	—	—	—	—	—	—	—	34	39	47	28	32	38	17	20	24
	—	—	—	—	—	—	—	—	—	*110*	*130*	*155*	*90*	*105*	*125*	*55*	*65*	*80*
S11	—	—	—	—	—	—	—	—	—	65	75	90	55	60	75	33	39	46
	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*	*180*	*195*	*245*	*110*	*130*	*150*
S12	—	—	—	—	—	—	—	—	—	46	55	65	38	43	50	31	36	42
	—	—	—	—	—	—	—	—	—	*150*	*180*	*215*	*125*	*140*	*165*	*100*	*120*	*140*
S13	—	—	—	—	—	—	—	—	—	27	31	37	22	25	30	18	21	25
	—	—	—	—	—	—	—	—	—	*90*	*100*	*120*	*70*	*80*	*100*	*60*	*70*	*80*
H5	—	—	—	47	55	65	—	—	—	41	47	55	36	42	49	—	—	—
	—	—	—	*155*	*180*	*215*	—	—	—	*135*	*155*	*180*	*120*	*140*	*160*	—	—	—
H8	—	—	—	50	60	70	—	—	—	44	50	60	39	45	55	—	—	—
	—	—	—	*165*	*195*	*230*	—	—	—	*145*	*165*	*195*	*130*	*150*	*180*	—	—	—
H11	—	—	—	60	70	80	—	—	—	50	60	70	46	55	65	—	—	—
	—	—	—	*195*	*230*	*260*	—	—	—	*165*	*195*	*230*	*150*	*180*	*215*	—	—	—
H12	—	—	—	90	105	125	—	—	—	90	100	120	70	80	95	—	—	—
	—	—	—	*295*	*345*	*410*	—	—	—	*295*	*330*	*395*	*230*	*260*	*310*	—	—	—

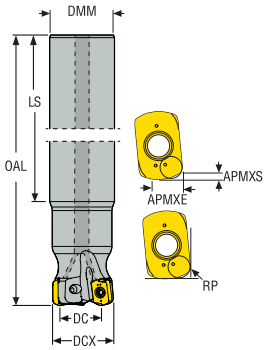


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- For insert selection and cutting data recommendations, see page(s) 555-557
- For complete insert programme, see page(s) 808
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.21-1820.0-LO06.2A	02952673	Cylindrical	13,3	20,0	2	0,9	2,5	18,0	134,9	160,0	1,8	1,0	33,3	38,0	23400	0,4	LO..06
R217.21-2525.0-LO06.3A	02828469	Cylindrical	18,3	25,0	3	0,9	2,5	25,0	140,0	180,0	1,8	0,8	43,3	48,0	20900	0,7	LO..06
R217.21-2527.0-LO06.3A	02828470	Cylindrical	20,3	27,0	3	0,9	2,5	25,0	175,0	200,0	1,8	0,7	47,3	52,0	20100	0,8	LO..06
R217.21-3232.0-LO06.4A	02828474	Cylindrical	25,3	32,0	4	0,9	2,5	32,0	160,0	200,0	1,8	0,5	57,3	62,0	18500	1,2	LO..06

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-..	H4B-T08P	C02508-T08P

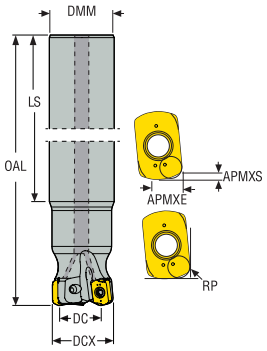
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

R217.21-LO06 – inch





- For insert selection and cutting data recommendations, see page(s) 555-557
- For complete insert programme, see page(s) 808
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.21-01.00-0-LO06-3A	02842018	Cylindrical	0.736	1.000	3	0.035	0.098	1.000	5.500	7.000	0.071	0,7	1.736	1.921	20700	1.540	LO..06
R217.21-01.25-0-LO06-4A	02842021	Cylindrical	0.984	1.250	4	0.035	0.098	1.250	6.500	8.000	0.071	0,5	2.234	2.421	18600	2.650	LO..06

Spare Parts, included in delivery

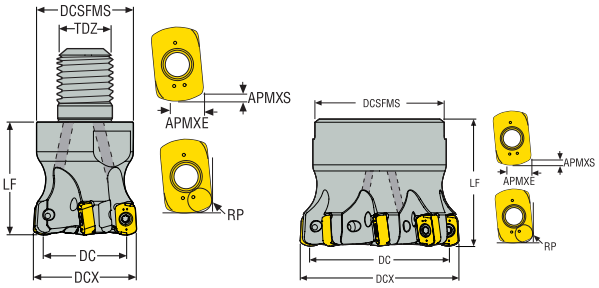
For cutter	Insert key	Insert screw
		
R217.21..	H4B-T08P	C02508-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-..	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

R217/220.21-LO06 – Metric



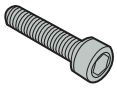


- For insert selection and cutting data recommendations, see page(s) 555-557
- For complete insert programme, see page(s) 808
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm	kg		
R217.21-1020.RE-LO06.2A	03020137	Combimaster	13,3	20,0	2	0,9	2,5	–	M10	18,5	28,0	1,8	1,0	33,3	38,0	0,1	23400	LO..06
R217.21-1225.RE-LO06.3A	03020140	Combimaster	18,3	25,0	3	0,9	2,5	–	M12	23,0	30,0	1,8	0,8	43,3	48,0	0,2	20900	LO..06
R217.21-1225.RE-LO06.4A	02828468	Combimaster	18,3	25,0	4	0,9	2,5	–	M12	23,0	30,0	1,8	0,8	43,3	48,0	0,2	20900	LO..06
R217.21-1632.RE-LO06.4A	02927092	Combimaster	25,3	32,0	4	0,9	2,5	–	M16	30,0	35,0	1,8	0,5	57,3	62,0	0,2	18500	LO..06
R217.21-1632.RE-LO06.5A	02828471	Combimaster	25,3	32,0	5	0,9	2,5	–	M16	30,0	35,0	1,8	0,5	57,3	62,0	0,3	18500	LO..06
R217.21-1635.RE-LO06.5A	02828472	Combimaster	28,3	35,0	5	0,9	2,5	–	M16	30,0	35,0	1,8	0,5	63,3	68,0	0,3	17700	LO..06
R217.21-1640.RE-LO06.5A	02828478	Combimaster	33,3	40,0	5	0,9	2,5	–	M16	30,0	35,0	1,8	0,4	73,3	78,0	0,3	16500	LO..06
R217.21-2040.RE-LO06.6A	02991177	Combimaster	33,0	40,0	6	0,9	2,5	–	M20	36,5	40,0	1,8	0,4	73,3	78,0	0,4	16500	LO..06
R220.21-0035-LO06.6A	02952739	Arbor	28,3	35,0	6	0,9	2,5	16,0	–	32,0	35,0	1,8	0,5	63,3	68,0	0,2	17700	LO..06
R220.21-0040-LO06.7A	02927090	Arbor	33,3	40,0	7	0,9	2,5	16,0	–	35,0	40,0	1,8	0,4	73,3	78,0	0,3	16500	LO..06
R220.21-0042-LO06.7A	02828477	Arbor	35,3	42,0	7	0,9	2,5	16,0	–	35,0	40,0	1,8	0,4	77,3	82,0	0,3	16100	LO..06
R220.21-0050-LO06.8A	02927091	Arbor	43,3	50,0	8	0,9	2,5	22,0	–	42,0	40,0	1,8	0,3	93,3	98,0	0,4	14800	LO..06
R220.21-0052-LO06.8A	02952735	Arbor	45,3	52,0	8	0,9	2,5	22,0	–	42,0	40,0	1,8	0,3	97,3	102,0	0,4	14500	LO..06
R220.21-0063-LO06.9A	02952736	Arbor	56,3	63,0	9	0,9	2,5	22,0	–	47,0	40,0	1,8	0,25	119,3	124,0	0,6	13100	LO..06

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	H4B-T08P	C02508-T08P
R220.21- Ø35	TCEI0825	H4B-T08P	C02508-T08P
R220.21- Ø40-42	220.17-689	H4B-T08P	C02508-T08P
R220.21- Ø50-63	220.17-692	H4B-T08P	C02508-T08P

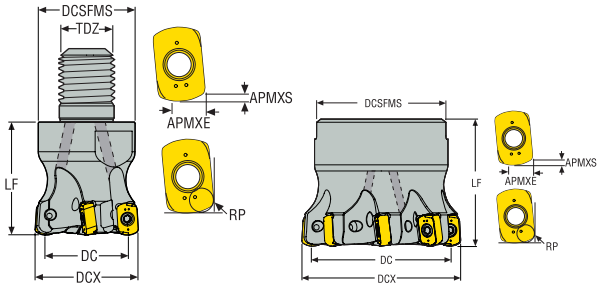
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

R217/220.21-LO06 – inch



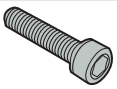


- For insert selection and cutting data recommendations, see page(s) 555-557
- For complete insert programme, see page(s) 808
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch	lbs		
R217.21-01.00-12RE-LO06-4A	02842017	Combimaster	0.736	1.000	4	0.035	0.098	–	M12	0.906	1.181	0.071	0,7	1.736	1.921	0.440	20700	LO..06
R217.21-01.50-16RE-LO06-5A	02952695	Combimaster	1.236	1.500	5	0.035	0.098	–	M16	1.181	1.378	0.071	0,4	2.736	2.921	0.440	16900	LO..06
R217.21-01.50-20RE-LO06.6A	03002406	Combimaster	1.299	1.500	6	0.035	0.098	–	M20	1.437	1.575	0.071	0,4	2.736	2.921	0.660	16900	LO..06
R220.21-02.00-LO06-8A	02952697	Arbor	1.736	2.000	8	0.035	0.098	0.750	–	1.654	1.500	0.071	0,3	3.736	3.921	0.880	14700	LO..06

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-..	–	H4B-T08P	C02508-T08P
R220.21-2.00-2.50	UC6S3/8UNFX1	H4B-T08P	C02508-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.21-..	10.6IN.LBS	T00-08P12

Torque and fixed keys, see page 872

R217/220.21-LO06 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	LOHT060310TR-M07 MP3501	0,80 *0.032*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
P2	LOHT060310TR-M07 MP3501	0,80 *0.032*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
P3	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
P4	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P5	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P6	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P7	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P8	LOHT060310TR-M07 MP2501	0,80 *0.032*	0,60 *0.024*	0,60 *0.024*	0,65 *0.026*
P11	LOHT060310TR-M07 MP3501	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
P12	LOHT060310TR-M07 MP2501	0,65 *0.026*	0,42 *0.017*	0,42 *0.017*	0,48 *0.019*
M1	LOHT060310TR-ME06 MS2050	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,60 *0.024*
M2	LOHT060310TR-ME06 MS2050	0,80 *0.032*	0,48 *0.019*	0,48 *0.019*	0,55 *0.022*
M3	LOHT060310TR-ME06 MS2050	0,65 *0.026*	0,44 *0.017*	0,44 *0.017*	0,48 *0.019*
M4	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
M5	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
K1	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
K2	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
K3	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
K4	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
K5	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,50 *0.020*	0,50 *0.020*	0,55 *0.022*
K6	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
K7	LOHT060310TR-MD07 MK2050	0,80 *0.032*	0,50 *0.020*	0,50 *0.020*	0,55 *0.022*
S1	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
S2	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
S3	LOHT060310TR-ME06 MP3501	0,48 *0.019*	0,42 *0.017*	0,42 *0.017*	0,46 *0.018*
S11	LOHT060310TR-ME06 MS2050	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,55 *0.022*
S12	LOHT060310TR-ME06 MS2050	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,55 *0.022*
S13	LOHT060310TR-ME06 MS2050	0,48 *0.019*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*
H5	LOHW060310TR-D07 MH1000	0,50 *0.020*	0,42 *0.017*	0,42 *0.017*	0,48 *0.019*
H8	LOHW060310TR-D07 MH1000	0,44 *0.017*	0,36 *0.014*	0,36 *0.014*	0,40 *0.016*
H11	LOHT060310TR-MD07 MP1501	0,50 *0.020*	0,42 *0.017*	0,42 *0.017*	0,48 *0.019*
H12	LOHT060310TR-MD07 MP1501	0,44 *0.017*	0,36 *0.014*	0,36 *0.014*	0,40 *0.016*

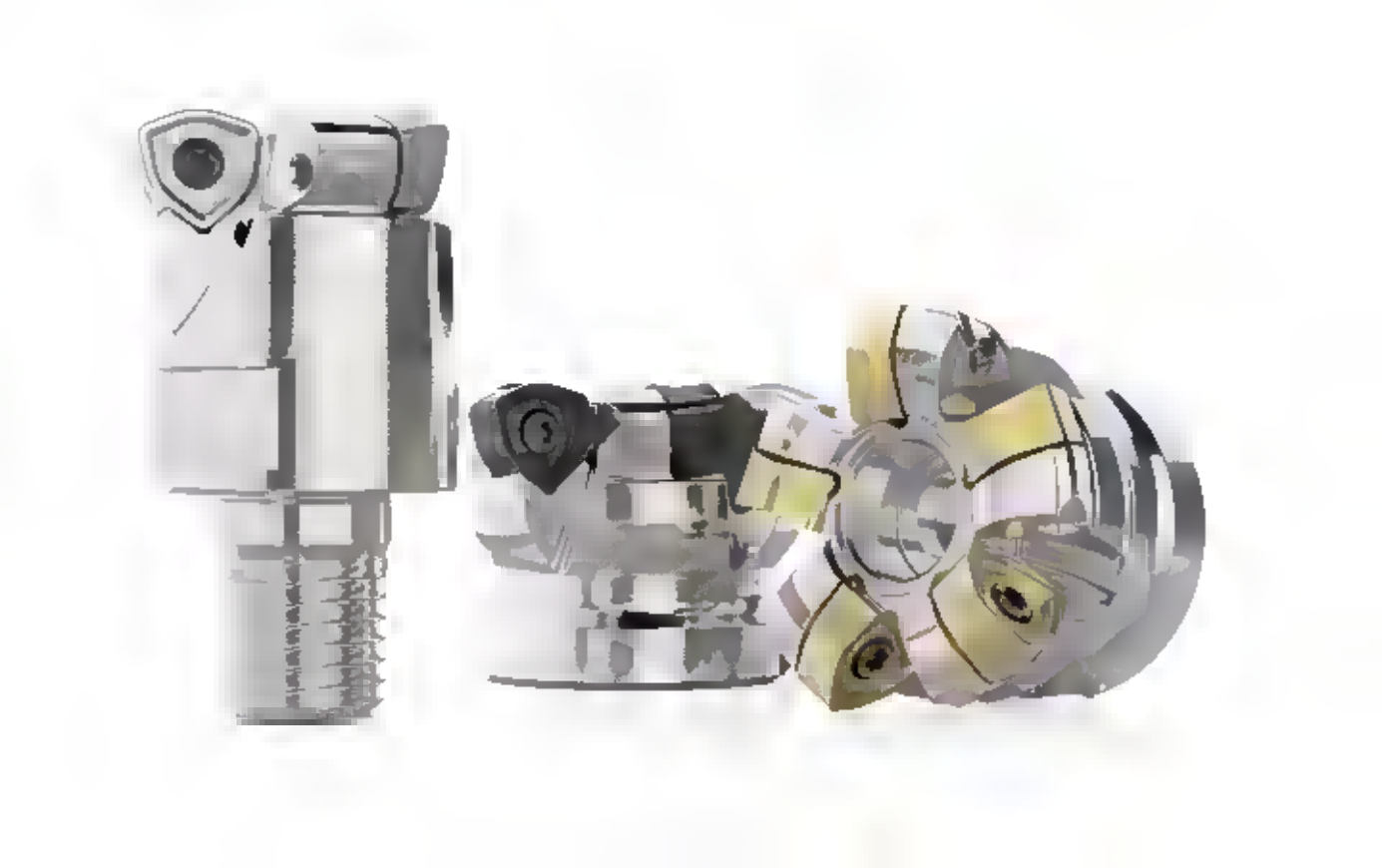
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-LO06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	250	280	335	240	270	320	230	260	310	210	235	285	270	305	365
	—	—	—	*820*	*920*	*1100*	*790*	*890*	*1050*	*750*	*850*	*1025*	*690*	*770*	*940*	*890*	*1000*	*1200*
P2	—	—	—	240	270	325	230	260	310	225	255	305	205	230	275	265	300	355
	—	—	—	*790*	*890*	*1075*	*750*	*850*	*1025*	*740*	*840*	*1000*	*670*	*750*	*900*	*870*	*980*	*1175*
P3	—	—	—	205	235	285	200	225	275	195	220	265	175	200	240	230	255	315
	—	—	—	*670*	*770*	*940*	*660*	*740*	*900*	*640*	*720*	*870*	*570*	*660*	*790*	*750*	*840*	*1025*
P4	—	—	—	185	205	250	175	200	240	170	190	235	155	175	215	200	225	275
	—	—	—	*610*	*670*	*820*	*570*	*660*	*790*	*560*	*620*	*770*	*510*	*570*	*710*	*660*	*740*	*900*
P5	—	—	—	180	200	240	170	195	230	165	190	225	150	170	205	195	220	265
	—	—	—	*590*	*660*	*790*	*560*	*640*	*750*	*540*	*620*	*740*	*490*	*560*	*670*	*640*	*720*	*870*
P6	210	240	285	200	225	270	195	215	260	185	210	250	170	190	230	220	250	295
	690	*790*	*940*	*660*	*740*	*890*	*640*	*710*	*850*	*610*	*690*	*820*	*560*	*620*	*750*	*720*	*820*	*970*
P7	200	225	270	190	215	255	180	205	245	175	200	235	160	180	215	210	235	280
	660	*740*	*890*	*620*	*710*	*840*	*590*	*670*	*800*	*570*	*660*	*770*	*520*	*590*	*710*	*690*	*770*	*920*
P8	185	205	255	175	195	240	170	190	230	160	185	225	150	165	205	190	215	265
	610	*670*	*840*	*570*	*640*	*790*	*560*	*620*	*750*	*520*	*610*	*740*	*490*	*540*	*670*	*620*	*710*	*870*
P11	195	220	260	185	205	245	175	200	235	170	195	230	155	175	210	200	225	270
	640	*720*	*850*	*610*	*670*	*800*	*570*	*660*	*770*	*560*	*640*	*750*	*510*	*570*	*690*	*660*	*740*	*890*
P12	125	140	170	120	135	160	115	130	155	110	125	150	100	115	135	130	145	175
	410	*460*	*560*	*395*	*445*	*520*	*375*	*425*	*510*	*360*	*410*	*490*	*330*	*375*	*445*	*425*	*475*	*570*
M1	—	—	—	—	—	—	175	195	235	180	205	245	165	185	220	190	215	255
	—	—	—	—	—	—	*570*	*640*	*770*	*590*	*670*	*800*	*540*	*610*	*720*	*620*	*710*	*840*
M2	—	—	—	—	—	—	145	160	195	150	170	200	135	155	185	155	175	210
	—	—	—	—	—	—	*475*	*520*	*640*	*490*	*560*	*660*	*445*	*510*	*610*	*510*	*570*	*690*
M3	—	—	—	—	—	—	115	130	155	120	135	160	110	125	145	125	140	170
	—	—	—	—	—	—	*375*	*425*	*510*	*395*	*445*	*520*	*360*	*410*	*475*	*410*	*460*	*560*
M4	—	—	—	—	—	—	90	100	120	95	105	125	85	95	115	100	110	130
	—	—	—	—	—	—	*295*	*330*	*395*	*310*	*345*	*410*	*280*	*310*	*375*	*330*	*360*	*425*
M5	—	—	—	—	—	—	75	85	100	80	90	105	70	80	95	85	90	110
	—	—	—	—	—	—	*245*	*280*	*330*	*260*	*295*	*345*	*230*	*260*	*310*	*280*	*295*	*360*
K1	200	225	270	260	295	350	185	205	245	—	—	—	160	180	220	—	—	—
	660	*740*	*890*	*850*	*970*	*1150*	*610*	*670*	*800*	—	—	—	*520*	*590*	*720*	—	—	—
K2	180	200	240	230	260	310	165	185	220	—	—	—	145	160	195	—	—	—
	590	*660*	*790*	*750*	*850*	*1025*	*540*	*610*	*720*	—	—	—	*475*	*520*	*640*	—	—	—
K3	150	170	205	195	220	260	140	155	185	—	—	—	120	135	165	—	—	—
	490	*560*	*670*	*640*	*720*	*850*	*460*	*510*	*610*	—	—	—	*395*	*445*	*540*	—	—	—
K4	145	165	195	185	210	250	130	150	175	—	—	—	115	130	155	—	—	—
	475	*540*	*640*	*610*	*690*	*820*	*425*	*490*	*570*	—	—	—	*375*	*425*	*510*	—	—	—
K5	90	100	120	115	130	150	80	90	110	—	—	—	70	80	95	—	—	—
	295	*330*	*395*	*375*	*425*	*490*	*260*	*295*	*360*	—	—	—	*230*	*260*	*310*	—	—	—
K6	125	145	170	165	185	220	115	130	155	—	—	—	100	115	135	—	—	—
	410	*475*	*560*	*540*	*610*	*720*	*375*	*425*	*510*	—	—	—	*330*	*375*	*445*	—	—	—
K7	115	125	150	145	165	195	105	115	140	—	—	—	90	100	120	—	—	—
	375	*410*	*490*	*475*	*540*	*640*	*345*	*375*	*460*	—	—	—	*295*	*330*	*395*	—	—	—
S1	—	—	—	—	—	—	42	47	55	44	49	60	40	45	55	48	55	65
	—	—	—	—	—	—	*140*	*155*	*180*	*145*	*160*	*195*	*130*	*150*	*180*	*155*	*180*	*215*
S2	—	—	—	—	—	—	34	38	45	36	40	47	32	36	43	39	43	50
	—	—	—	—	—	—	*110*	*125*	*150*	*120*	*130*	*155*	*105*	*120*	*140*	*130*	*140*	*165*
S3	—	—	—	—	—	—	30	33	40	31	35	42	28	32	38	34	38	46
	—	—	—	—	—	—	*100*	*110*	*130*	*100*	*115*	*140*	*90*	*105*	*125*	*110*	*125*	*150*
S11	—	—	—	—	—	—	60	65	80	60	70	80	55	65	75	65	75	90
	—	—	—	—	—	—	*195*	*215*	*260*	*195*	*230*	*260*	*180*	*215*	*245*	*215*	*245*	*295*
S12	—	—	—	—	—	—	41	46	55	42	48	55	38	44	50	46	55	65
	—	—	—	—	—	—	*135*	*150*	*180*	*140*	*155*	*180*	*125*	*145*	*165*	*150*	*180*	*215*
S13	—	—	—	—	—	—	24	26	32	25	28	33	23	25	30	27	30	36
	—	—	—	—	—	—	*80*	*85*	*105*	*80*	*90*	*110*	*75*	*80*	*100*	*90*	*100*	*120*
H5	44	49	60	—	—	—	37	42	50	—	—	—	35	39	47	—	—	—
	145	*160*	*195*	—	—	—	*120*	*140*	*165*	—	—	—	*115*	*130*	*155*	—	—	—
H8	47	50	60	—	—	—	40	44	55	—	—	—	37	42	50	—	—	—
	155	*165*	*195*	—	—	—	*130*	*145*	*180*	—	—	—	*120*	*140*	*165*	—	—	—
H11	55	60	75	—	—	—	47	55	65	—	—	—	45	50	60	50	60	70
	180	*195*	*245*	—	—	—	*155*	*180*	*215*	—	—	—	*150*	*165*	*195*	*165*	*195*	*230*
H12	—	—	—	—	—	—	75	85	100	—	—	—	65	75	90	85	95	115
	—	—	—	—	—	—	*245*	*280*	*330*	—	—	—	*215*	*245*	*295*	*280*	*310*	*375*

R217/220.21-LO06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	360 *1175*	395 *1300*	455 *1500*	390 *1275*	425 *1400*	490 *1600*	300 *980*	340 *1125*	405 *1325*	350 *1150*	380 *1250*	440 *1450*	185 *610*	205 *670*	250 *820*
P2	355 *1175*	385 *1275*	445 *1450*	380 *1250*	410 *1350*	480 *1575*	295 *970*	330 *1075*	395 *1300*	340 *1125*	370 *1225*	430 *1400*	180 *590*	200 *660*	245 *800*
P3	305 *1000*	330 *1075*	390 *1275*	325 *1075*	355 *1175*	420 *1375*	255 *840*	285 *940*	350 *1150*	290 *950*	315 *1025*	375 *1225*	155 *510*	175 *570*	210 *690*
P4	265 *870*	290 *950*	340 *1125*	290 *950*	310 *1025*	370 *1225*	225 *740*	250 *820*	305 *1000*	255 *840*	280 *920*	330 *1075*	140 *460*	155 *510*	190 *620*
P5	260 *850*	285 *940*	325 *1075*	285 *940*	305 *1000*	355 *1175*	220 *720*	245 *800*	290 *950*	255 *840*	275 *900*	315 *1025*	135 *445*	150 *490*	180 *590*
P6	295 *970*	320 *1050*	365 *1200*	315 *1025*	345 *1125*	395 *1300*	245 *800*	275 *900*	330 *1075*	285 *940*	305 *1000*	355 *1175*	150 *490*	170 *560*	205 *670*
P7	275 *900*	300 *980*	345 *1125*	300 *980*	325 *1075*	375 *1225*	230 *750*	260 *850*	310 *1025*	270 *890*	290 *950*	335 *1100*	140 *460*	160 *520*	190 *620*
P8	255 *840*	275 *900*	325 *1075*	275 *900*	300 *980*	355 *1175*	215 *710*	240 *790*	290 *950*	245 *800*	265 *870*	315 *1025*	130 *425*	150 *490*	175 *570*
P11	270 *890*	290 *950*	335 *1100*	290 *950*	315 *1025*	365 *1200*	225 *740*	255 *840*	300 *980*	260 *850*	280 *920*	325 *1075*	140 *460*	155 *510*	185 *610*
P12	175 *570*	190 *620*	215 *710*	190 *620*	205 *670*	235 *770*	145 *475*	165 *540*	195 *640*	170 *560*	185 *610*	210 *690*	90 *295*	100 *330*	120 *395*
M1	— —	— —	— —	195 *640*	220 *720*	260 *850*	210 *690*	235 *770*	285 *940*	180 *590*	205 *670*	245 *800*	155 *510*	170 *560*	210 *690*
M2	— —	— —	— —	160 *520*	180 *590*	215 *710*	175 *570*	195 *640*	235 *770*	150 *490*	170 *560*	200 *660*	130 *425*	145 *475*	175 *570*
M3	— —	— —	— —	130 *425*	145 *475*	175 *570*	140 *460*	160 *520*	190 *620*	120 *395*	135 *445*	160 *520*	105 *345*	115 *375*	140 *460*
M4	— —	— —	— —	100 *330*	115 *375*	135 *445*	110 *360*	125 *410*	145 *475*	95 *310*	105 *345*	125 *410*	80 *260*	90 *295*	110 *360*
M5	— —	— —	— —	85 *280*	95 *310*	115 *375*	90 *295*	100 *330*	125 *410*	80 *260*	90 *295*	105 *345*	65 *215*	75 *245*	90 *295*
K1	355 *1175*	385 *1275*	445 *1450*	385 *1275*	415 *1350*	485 *1600*	235 *770*	260 *850*	315 *1025*	345 *1125*	370 *1225*	430 *1400*	— —	— —	— —
K2	315 *1025*	345 *1125*	395 *1300*	340 *1125*	370 *1225*	425 *1400*	205 *670*	235 *770*	280 *920*	305 *1000*	330 *1075*	385 *1275*	— —	— —	— —
K3	270 *890*	290 *950*	335 *1100*	290 *950*	315 *1025*	360 *1175*	175 *570*	195 *640*	235 *770*	260 *850*	280 *920*	325 *1075*	— —	— —	— —
K4	255 *840*	275 *900*	320 *1050*	275 *900*	300 *980*	345 *1125*	165 *540*	190 *620*	225 *740*	245 *800*	265 *870*	310 *1025*	— —	— —	— —
K5	155 *510*	170 *560*	195 *640*	170 *560*	185 *610*	210 *690*	100 *330*	115 *375*	135 *445*	150 *490*	165 *540*	190 *620*	— —	— —	— —
K6	225 *740*	245 *800*	280 *920*	245 *800*	265 *870*	305 *1000*	145 *475*	165 *540*	200 *660*	220 *720*	235 *770*	270 *890*	— —	— —	— —
K7	200 *660*	215 *710*	245 *800*	215 *710*	235 *770*	270 *890*	130 *425*	145 *475*	175 *570*	195 *640*	210 *690*	240 *790*	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	44 *145*	49 *160*	60 *195*	25 *80*	27 *90*	33 *110*
S2	— —	— —	— —	— —	— —	— —	43 *140*	48 *155*	60 *195*	36 *120*	40 *130*	47 *155*	20 *65*	22 *70*	27 *90*
S3	— —	— —	— —	— —	— —	— —	38 *125*	43 *140*	50 *165*	31 *100*	35 *115*	42 *140*	17 *55*	20 *65*	23 *75*
S11	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	100 *330*	60 *195*	70 *230*	80 *260*	34 *110*	39 *130*	46 *150*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	42 *140*	48 *155*	55 *180*	32 *105*	36 *120*	42 *140*
S13	— —	— —	— —	— —	— —	— —	30 *100*	34 *110*	40 *130*	25 *80*	28 *90*	33 *110*	18 *60*	21 *70*	25 *80*
H5	47 *155*	55 *180*	65 *215*	— —	— —	— —	46 *150*	50 *165*	60 *195*	40 *130*	45 *150*	55 *180*	— —	— —	— —
H8	50 *165*	55 *180*	65 *215*	— —	— —	— —	49 *160*	55 *180*	65 *215*	43 *140*	48 *155*	55 *180*	— —	— —	— —
H11	60 *195*	70 *230*	80 *260*	— —	— —	— —	60 *195*	65 *215*	80 *260*	50 *165*	60 *195*	70 *230*	— —	— —	— —
H12	90 *295*	100 *330*	120 *395*	— —	— —	— —	95 *310*	110 *360*	130 *425*	75 *245*	85 *280*	100 *330*	— —	— —	— —

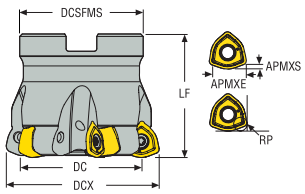


R217/220.21 HIGH FEED 6

High feed 6, for 218.21 insert type, 6-cutting edge, double sided inserts.
This familly consists of shell end mill bodies with fixed pockets and very strong negative inserts with six cutting edges.

- Cutter range 40-160 mm (1.5 - 6 inch)
- Max depth of cut 1.8 mm
- First choice for ISO P & K materials for medium-size machines

R220.21-R230 – Metric

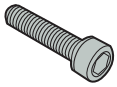
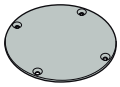




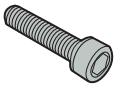
- For insert selection and cutting data recommendations, see page(s) 562-564
- For complete insert programme, see page(s) 857
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm	kg		
R217.21-2040.RE-R230.3A	03136708	Combimaster	25,6	40,0	3	1,8	10,0	–	M20	36,5	45,0	3,32	1,4	65,6	78,0	0,4	12100	218.21-..
R220.21-0050-R230.4A	02826551	Arbor	35,6	50,0	4	1,8	10,0	22,0	–	42,0	40,0	3,32	0,9	85,6	98,0	0,4	12100	218.21-..
R220.21-0050-R230.5A	02826550	Arbor	35,6	50,0	5	1,8	10,0	22,0	–	42,0	40,0	3,32	0,9	85,6	98,0	0,4	12100	218.21-..
R220.21-0052-R230.5A	02826552	Arbor	37,6	52,0	5	1,8	10,0	22,0	–	42,0	40,0	3,32	0,9	89,6	102,0	0,4	11900	218.21-..
R220.21-0063-R230.5A	02826553	Arbor	48,3	63,0	5	1,8	10,0	27,0	–	50,0	50,0	3,32	0,6	111,3	124,0	0,6	10800	218.21-..
R220.21-0063-R230.6A	02826554	Arbor	48,3	63,0	6	1,8	10,0	27,0	–	50,0	50,0	3,32	0,6	111,3	124,0	0,6	10800	218.21-..
R220.21-0066-R230.6A	02826555	Arbor	51,3	66,0	6	1,8	10,0	27,0	–	62,0	50,0	3,32	0,6	117,3	130,0	0,9	10600	218.21-..
R220.21-0080-R230.6A	02826556	Arbor	65,6	80,0	6	1,8	10,0	27,0	–	62,0	50,0	3,32	0,4	145,6	158,0	1,0	9600	218.21-..
R220.21-0080-R230.7A	02826557	Arbor	65,6	80,0	7	1,8	10,0	27,0	–	62,0	50,0	3,32	0,4	145,6	158,0	1,1	9600	218.21-..
R220.21-0084-R230.8A	02826558	Arbor	69,6	84,0	8	1,8	10,0	32,0	–	77,0	50,0	3,32	0,4	153,6	166,0	1,4	9400	218.21-..
R220.21-0100-R230.7A	02950391	Arbor	85,6	100,0	7	1,8	10,0	32,0	–	77,0	50,0	3,3	0,3	185,6	198,0	1,6	8600	218.21-..
R220.21-0100-R230.9A	02826559	Arbor	85,6	100,0	9	1,8	10,0	32,0	–	77,0	50,0	3,32	0,3	185,6	198,0	1,6	8600	218.21-..
R220.21-0125-R230.9A	02826560	Arbor	110,2	125,0	9	1,8	10,0	40,0	–	90,0	63,0	3,32	0,2	235,2	248,0	2,9	7700	218.21-..
R220.21-8160-R230.10A	02826561	Arbor	145,2	160,0	10	1,8	10,0	40,0	–	90,0	63,0	3,32	0,1	305,2	318,0	4,0	6800	218.21-..

Spare Parts, included in delivery

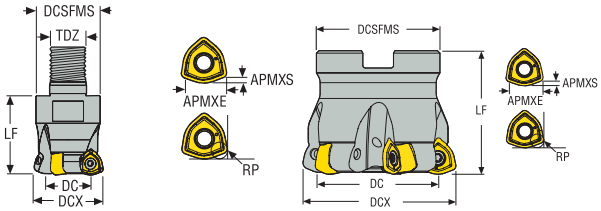
For cutter	Arbor screw	Insert key	Insert screw	Lid	Lid screw
					
R217.21-2040	–	H4B-T15P	C04011-T15P	–	–
R220.21-0050	220.17-692	H4B-T15P	C04011-T15P	–	–
R220.21-0063-0066	MC6S12X35	H4B-T15P	C04011-T15P	–	–
R220.21-0080	MC6S12X35	H4B-T15PL	C04011-T15P	–	–
R220.21-0084-0100	MLC6S16X35	H4B-T15PL	C04011-T15P	–	–
R220.21-0125	MLC6S20X40	H4B-T15PL	C04011-T15P	–	–
R220.21-8160	–	H4B-T15PL	C04011-T15P	SC160-53	MF6S4X10

Accessories

For cutter	Arbor screw	Insert clamping torque	Torque key
			
R217/220.21-2040-0125	–	3.5NM	T00-15P35
R220.21-8160	MC6S12X40	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R220.21-R230 – inch

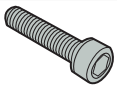




- For insert selection and cutting data recommendations, see page(s) 562-564
- For complete insert programme, see page(s) 857
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch	lbs		
R220.21-02.00-R230-4A	02842027	Arbor	1.421	2.000	4	0.071	0.394	0.750	–	1.654	1.575	0.131	0,9	3.421	3.921	0.660	12100	218.21-..
R220.21-02.00-R230-5A	02842026	Arbor	1.421	2.000	5	0.071	0.394	0.750	–	1.654	1.575	0.131	0,9	3.421	3.921	0.880	12100	218.21-..
R220.21-02.50-R230-5A	02842028	Arbor	1.921	2.500	5	0.071	0.394	0.750	–	1.850	1.575	0.131	0,6	4.421	4.921	1.100	9600	218.21-..
R220.21-02.50-R230-6A	02842029	Arbor	1.921	2.500	6	0.071	0.394	0.750	–	1.850	1.575	0.131	0,6	4.421	4.921	1.100	9600	218.21-..
R220.21-03.00-R230-5A	02842030	Arbor	2.429	2.996	5	0.071	0.394	1.000	–	2.441	1.969	0.131	0,5	5.425	5.913	1.980	9800	218.21-..
R220.21-03.00-R230-6A	02842031	Arbor	2.429	2.996	6	0.071	0.394	1.000	–	2.441	1.969	0.131	0,5	5.425	5.913	2.430	9800	218.21-..
R220.21-04.00-R230-7A	03067226	Arbor	3.433	4.000	7	0.071	0.394	1.500	–	3.543	1.969	0.130	0,3	7.433	7.921	3.970	8500	218.21-..

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-02.00-02.50	UC6S3/8UNFX1-1/4	H4B-T15P	C04011-T15P
R220.21-03.00	UC6S1/2UNFX1-1/4	H4B-T15P	C04011-T15P
R220.21-04.00	ULC6S3/4UNFX11/2	H4B-T15PL	C04011-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.21-..	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R217/220.21-R230 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	218.21-230TR-06-M15 MP3501	1,6 *0.065*	1,3 *0.050*	1,3 *0.050*	1,5 *0.060*
P2	218.21-230TR-06-M15 MP3501	1,6 *0.065*	1,3 *0.050*	1,3 *0.050*	1,5 *0.060*
P3	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
P4	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
P5	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
P6	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
P7	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
P8	218.21-230TR-06-M15 MP2501	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
P11	218.21-230TR-06-M15 MP3501	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
P12	218.21-230TR-06-M15 MP2501	1,3 *0.050*	0,85 *0.034*	0,85 *0.034*	0,95 *0.038*
M1	218.21-230TR-06-ME13 MS2050	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
M2	218.21-230TR-06-ME13 MS2050	1,6 *0.065*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
M3	218.21-230TR-06-ME13 MS2050	1,3 *0.050*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
M4	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 *0.040*	1,0 *0.040*	1,1 *0.044*
M5	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 *0.040*	1,0 *0.040*	1,1 *0.044*
K1	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,5 *0.060*	1,5 *0.060*	1,7 *0.065*
K2	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 *0.055*	1,4 *0.055*	1,6 *0.065*
K3	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 *0.055*	1,4 *0.055*	1,6 *0.065*
K4	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 *0.055*	1,4 *0.055*	1,6 *0.065*
K5	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
K6	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,4 *0.055*	1,4 *0.055*	1,6 *0.065*
K7	218.21-230TR-06-MD17 MK2050	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
S1	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 *0.040*	1,0 *0.040*	1,1 *0.044*
S2	218.21-230TR-06-M15 MP3501	0,95 *0.038*	1,0 *0.040*	1,0 *0.040*	1,1 *0.044*
S3	218.21-230TR-06-M15 MP3501	0,95 *0.038*	0,90 *0.036*	0,90 *0.036*	1,0 *0.040*
S11	218.21-230TR-06-ME13 MS2050	1,1 *0.044*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
S12	218.21-230TR-06-ME13 MS2050	1,1 *0.044*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
S13	218.21-230TR-06-ME13 MS2050	0,95 *0.038*	0,85 *0.034*	0,85 *0.034*	0,95 *0.038*
H5	218.21-230TR-06-MD17 MP3000	1,0 *0.040*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
H8	218.21-230TR-06-MD17 MP3000	0,90 *0.036*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
H11	218.21-230TR-06-MD17 MP1501	1,0 *0.040*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
H12	218.21-230TR-06-MD17 MP1501	0,90 *0.036*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*

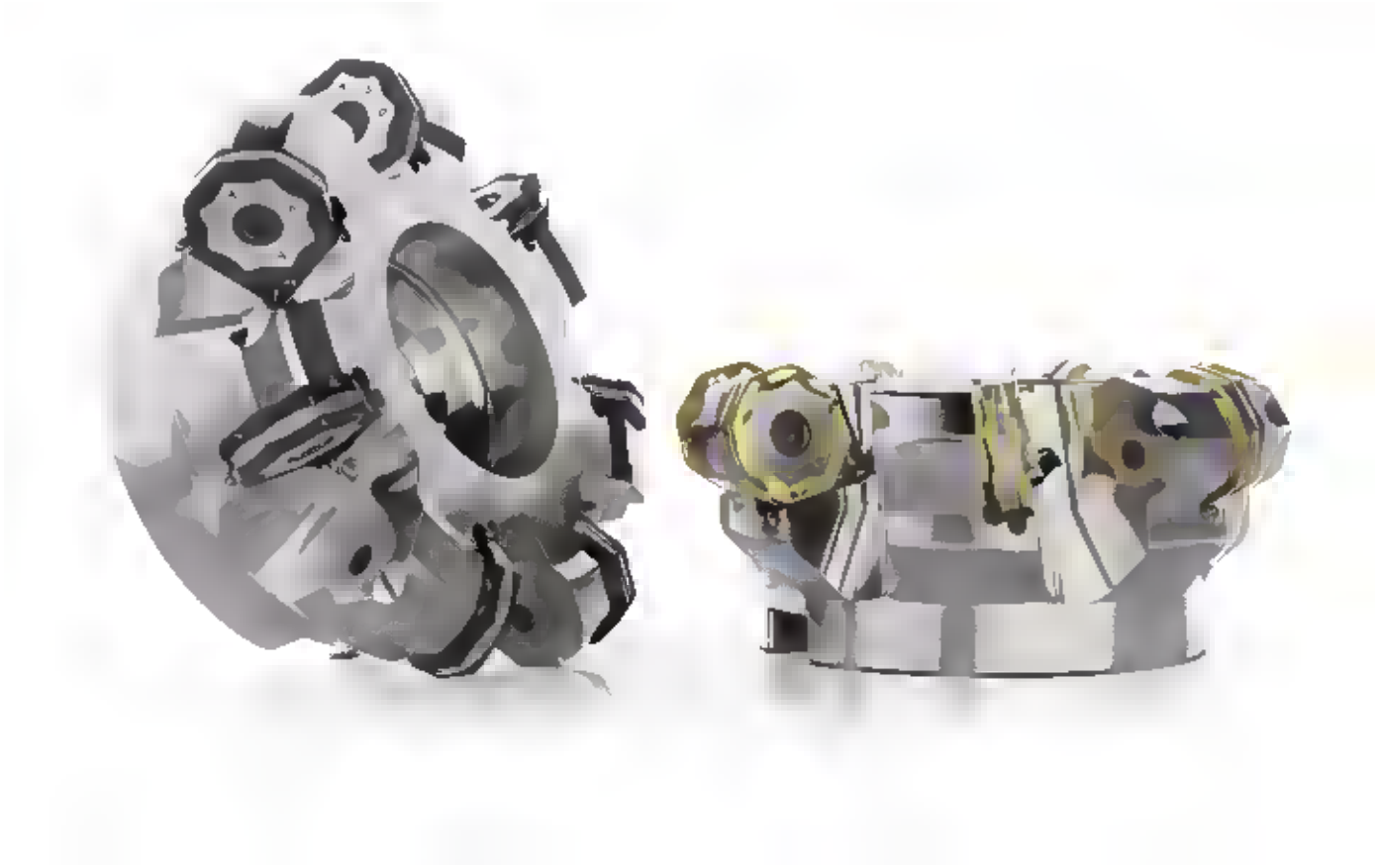
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-R230 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	190 *620*	215 *710*	260 *850*	180 *590*	205 *670*	250 *820*	195 *640*	225 *740*	270 *890*	165 *540*	185 *610*	225 *740*	215 *710*	240 *790*	295 *970*
P2	185 *610*	210 *690*	255 *840*	175 *570*	200 *660*	245 *800*	190 *620*	220 *720*	260 *850*	160 *520*	180 *590*	220 *720*	205 *670*	235 *770*	285 *940*
P3	160 *520*	185 *610*	225 *740*	155 *510*	175 *570*	215 *710*	165 *540*	185 *610*	230 *750*	140 *460*	160 *520*	195 *640*	185 *610*	210 *690*	250 *820*
P4	140 *460*	160 *520*	195 *640*	135 *445*	155 *510*	190 *620*	150 *490*	170 *560*	205 *670*	125 *410*	140 *460*	170 *560*	160 *520*	185 *610*	220 *720*
P5	140 *460*	160 *520*	190 *620*	135 *445*	150 *490*	180 *590*	145 *475*	165 *540*	195 *640*	120 *395*	135 *445*	165 *540*	155 *510*	175 *570*	210 *690*
P6	155 *510*	180 *590*	215 *710*	150 *490*	170 *560*	210 *690*	160 *520*	185 *610*	220 *720*	135 *445*	150 *490*	185 *610*	175 *570*	195 *640*	240 *790*
P7	150 *490*	170 *560*	205 *670*	140 *460*	160 *520*	195 *640*	150 *490*	170 *560*	205 *670*	125 *410*	145 *475*	175 *570*	165 *540*	185 *610*	225 *740*
P8	135 *445*	155 *510*	190 *620*	130 *425*	150 *490*	180 *590*	140 *460*	160 *520*	195 *640*	120 *395*	135 *445*	165 *540*	155 *510*	175 *570*	210 *690*
P11	145 *475*	165 *540*	200 *660*	140 *460*	155 *510*	190 *620*	145 *475*	170 *560*	200 *660*	120 *395*	140 *460*	170 *560*	160 *520*	180 *590*	220 *720*
P12	95 *310*	110 *360*	130 *425*	90 *295*	105 *345*	125 *410*	95 *310*	110 *360*	135 *445*	80 *260*	95 *310*	115 *375*	105 *345*	120 *395*	145 *475*
M1	— —	— —	— —	130 *425*	150 *490*	185 *610*	155 *510*	175 *570*	210 *690*	130 *425*	145 *475*	180 *590*	150 *490*	170 *560*	205 *670*
M2	— —	— —	— —	110 *360*	125 *410*	150 *490*	130 *425*	145 *475*	175 *570*	105 *345*	120 *395*	145 *475*	125 *410*	140 *460*	170 *560*
M3	— —	— —	— —	90 *295*	105 *345*	125 *410*	105 *345*	120 *395*	145 *475*	90 *295*	100 *330*	120 *395*	100 *330*	115 *375*	140 *460*
M4	— —	— —	— —	70 *230*	80 *260*	100 *330*	80 *260*	90 *295*	110 *360*	70 *230*	75 *245*	95 *310*	80 *260*	90 *295*	110 *360*
M5	— —	— —	— —	60 *195*	65 *215*	80 *260*	70 *230*	75 *245*	95 *310*	55 *180*	65 *215*	80 *260*	65 *215*	75 *245*	90 *295*
K1	200 *660*	225 *740*	275 *900*	140 *460*	160 *520*	195 *640*	— —	— —	— —	125 *410*	145 *475*	175 *570*	— —	— —	— —
K2	180 *590*	205 *670*	245 *800*	125 *410*	145 *475*	170 *560*	— —	— —	— —	115 *375*	130 *425*	155 *510*	— —	— —	— —
K3	155 *510*	175 *570*	205 *670*	110 *360*	120 *395*	145 *475*	— —	— —	— —	95 *310*	110 *360*	130 *425*	— —	— —	— —
K4	145 *475*	165 *540*	195 *640*	105 *345*	115 *375*	140 *460*	— —	— —	— —	90 *295*	105 *345*	125 *410*	— —	— —	— —
K5	90 *295*	100 *330*	120 *395*	65 *215*	70 *230*	85 *280*	— —	— —	— —	55 *180*	65 *215*	80 *260*	— —	— —	— —
K6	130 *425*	145 *475*	175 *570*	90 *295*	105 *345*	120 *395*	— —	— —	— —	80 *260*	90 *295*	110 *360*	— —	— —	— —
K7	115 *375*	130 *425*	155 *510*	80 *260*	90 *295*	110 *360*	— —	— —	— —	70 *230*	80 *260*	100 *330*	— —	— —	— —
S1	— —	— —	— —	33 *110*	37 *120*	46 *150*	38 *125*	43 *140*	50 *165*	32 *105*	36 *120*	44 *145*	38 *125*	43 *140*	55 *180*
S2	— —	— —	— —	27 *90*	30 *100*	37 *120*	31 *100*	35 *115*	42 *140*	26 *85*	29 *95*	35 *115*	31 *100*	35 *115*	43 *140*
S3	— —	— —	— —	24 *80*	26 *85*	33 *110*	27 *90*	30 *100*	37 *120*	23 *75*	26 *85*	31 *100*	28 *90*	31 *100*	37 *120*
S11	— —	— —	— —	46 *150*	50 *165*	65 *215*	55 *180*	60 *195*	70 *230*	44 *145*	50 *165*	60 *195*	55 *180*	60 *195*	75 *245*
S12	— —	— —	— —	32 *105*	36 *120*	44 *145*	37 *120*	41 *135*	50 *165*	30 *100*	35 *115*	43 *140*	37 *120*	42 *140*	50 *165*
S13	— —	— —	— —	19 *60*	21 *70*	26 *85*	21 *70*	24 *80*	29 *95*	18 *60*	20 *65*	25 *80*	22 *70*	24 *80*	30 *100*
H5	— —	— —	— —	30 *100*	34 *110*	40 *130*	— —	— —	— —	29 *95*	32 *105*	38 *125*	— —	— —	— —
H8	— —	— —	— —	32 *105*	36 *120*	44 *145*	— —	— —	— —	31 *100*	35 *115*	42 *140*	— —	— —	— —
H11	— —	— —	— —	38 *125*	43 *140*	50 *165*	— —	— —	— —	36 *120*	41 *135*	49 *160*	43 *140*	48 *155*	55 *180*
H12	— —	— —	— —	60 *195*	70 *230*	85 *280*	— —	— —	— —	55 *180*	60 *195*	75 *245*	70 *230*	80 *260*	100 *330*

R217/220.21-R230 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	255 *840*	280 *920*	345 *1125*	285 *940*	310 *1025*	375 *1225*	235 *770*	270 *890*	325 *1075*	250 *820*	270 *890*	330 *1075*	145 *475*	165 *540*	200 *660*
P2	250 *820*	275 *900*	335 *1100*	275 *900*	300 *980*	365 *1200*	230 *750*	260 *850*	320 *1050*	240 *790*	265 *870*	320 *1050*	140 *460*	160 *520*	195 *640*
P3	220 *720*	245 *800*	295 *970*	245 *800*	270 *890*	325 *1075*	205 *670*	230 *750*	280 *920*	215 *710*	235 *770*	285 *940*	120 *395*	140 *460*	170 *560*
P4	195 *640*	215 *710*	260 *850*	220 *720*	240 *790*	285 *940*	180 *590*	205 *670*	245 *800*	190 *620*	210 *690*	250 *820*	110 *360*	125 *410*	150 *490*
P5	195 *640*	210 *690*	250 *820*	210 *690*	225 *740*	275 *900*	170 *560*	195 *640*	235 *770*	180 *590*	200 *660*	240 *790*	105 *345*	120 *395*	145 *475*
P6	215 *710*	240 *790*	285 *940*	235 *770*	255 *840*	305 *1000*	190 *620*	220 *720*	265 *870*	205 *670*	225 *740*	270 *890*	120 *395*	135 *445*	160 *520*
P7	205 *670*	225 *740*	270 *890*	220 *720*	240 *790*	290 *950*	180 *590*	205 *670*	250 *820*	195 *640*	210 *690*	255 *840*	110 *360*	125 *410*	150 *490*
P8	185 *610*	205 *670*	250 *820*	210 *690*	225 *740*	275 *900*	170 *560*	195 *640*	235 *770*	180 *590*	200 *660*	240 *790*	100 *330*	115 *375*	145 *475*
P11	200 *660*	220 *720*	265 *870*	215 *710*	235 *770*	280 *920*	175 *570*	200 *660*	240 *790*	190 *620*	205 *670*	250 *820*	110 *360*	125 *410*	150 *490*
P12	140 *460*	150 *490*	175 *570*	150 *490*	165 *540*	195 *640*	120 *395*	135 *445*	160 *520*	135 *445*	145 *475*	175 *570*	70 *230*	80 *260*	100 *330*
M1	— —	— —	— —	150 *490*	175 *570*	210 *690*	165 *540*	185 *610*	230 *750*	140 *460*	160 *520*	195 *640*	120 *395*	140 *460*	165 *540*
M2	— —	— —	— —	125 *410*	145 *475*	175 *570*	135 *445*	155 *510*	190 *620*	120 *395*	135 *445*	160 *520*	100 *330*	115 *375*	135 *445*
M3	— —	— —	— —	105 *345*	115 *375*	145 *475*	115 *375*	125 *410*	155 *510*	95 *310*	110 *360*	135 *445*	80 *260*	95 *310*	115 *375*
M4	— —	— —	— —	80 *260*	90 *295*	110 *360*	90 *295*	100 *330*	120 *395*	75 *245*	85 *280*	105 *345*	65 *215*	70 *230*	90 *295*
M5	— —	— —	— —	65 *215*	75 *245*	95 *310*	75 *245*	80 *260*	100 *330*	65 *215*	70 *230*	85 *280*	55 *180*	60 *195*	75 *245*
K1	250 *820*	275 *900*	340 *1125*	280 *920*	305 *1000*	370 *1225*	180 *590*	205 *670*	250 *820*	245 *800*	265 *870*	325 *1075*	— —	— —	— —
K2	235 *770*	255 *840*	300 *980*	250 *820*	275 *900*	330 *1075*	165 *540*	185 *610*	225 *740*	220 *720*	240 *790*	290 *950*	— —	— —	— —
K3	200 *660*	215 *710*	255 *840*	215 *710*	230 *750*	280 *920*	140 *460*	155 *510*	190 *620*	185 *610*	205 *670*	245 *800*	— —	— —	— —
K4	190 *620*	205 *670*	245 *800*	205 *670*	220 *720*	265 *870*	130 *425*	150 *490*	180 *590*	180 *590*	195 *640*	235 *770*	— —	— —	— —
K5	115 *375*	130 *425*	155 *510*	125 *410*	140 *460*	170 *560*	80 *260*	90 *295*	115 *375*	110 *360*	120 *395*	150 *490*	— —	— —	— —
K6	165 *540*	180 *590*	215 *710*	180 *590*	195 *640*	235 *770*	115 *375*	130 *425*	160 *520*	155 *510*	170 *560*	205 *670*	— —	— —	— —
K7	150 *490*	165 *540*	195 *640*	160 *520*	175 *570*	215 *710*	105 *345*	115 *375*	145 *475*	140 *460*	155 *510*	190 *620*	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	43 *140*	48 *155*	60 *195*	35 *115*	40 *130*	48 *155*	20 *65*	22 *70*	27 *90*
S2	— —	— —	— —	— —	— —	— —	34 *110*	39 *130*	48 *155*	28 *90*	32 *105*	39 *130*	16 *50*	18 *60*	22 *70*
S3	— —	— —	— —	— —	— —	— —	31 *100*	35 *115*	42 *140*	25 *80*	28 *90*	34 *110*	14 *46*	16 *50*	19 *60*
S11	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	85 *280*	48 *155*	55 *180*	70 *230*	27 *90*	31 *100*	37 *120*
S12	— —	— —	— —	— —	— —	— —	41 *135*	47 *155*	55 *180*	33 *110*	39 *130*	47 *155*	25 *80*	28 *90*	34 *110*
S13	— —	— —	— —	— —	— —	— —	24 *80*	27 *90*	33 *110*	20 *65*	22 *70*	27 *90*	15 *49*	17 *55*	20 *65*
H5	38 *125*	43 *140*	50 *165*	— —	— —	— —	37 *120*	42 *140*	50 *165*	33 *110*	37 *120*	44 *145*	— —	— —	— —
H8	41 *135*	46 *150*	55 *180*	— —	— —	— —	40 *130*	45 *150*	55 *180*	35 *115*	40 *130*	48 *155*	— —	— —	— —
H11	48 *155*	55 *180*	65 *215*	— —	— —	— —	47 *155*	55 *180*	65 *215*	42 *140*	47 *155*	55 *180*	— —	— —	— —
H12	75 *245*	80 *260*	100 *330*	— —	— —	— —	80 *260*	90 *295*	110 *360*	65 *215*	70 *230*	85 *280*	— —	— —	— —



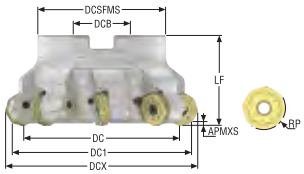
R220.21 (ON09) HIGH FEED

High feed double octomill insert cutters. ON09 inserts have 16 cutting edges, making them the most cost-effective choice for face milling applications using a high feed strategy.
HSS pins securely position inserts in the fixed pockets of the cutter and decrease the time required for indexing.

- Cutter range 80-160 mm (3 - 6 inch)
- Max depth of cut 2 mm (.078 inch)
- Facing applications only

R220.21-ON09 – Metric

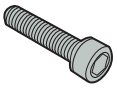
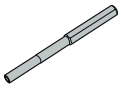




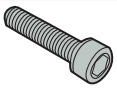
- For insert selection and cutting data recommendations, see page(s) 568-569
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DC1	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	Weight	RPMX	Insert
			mm	mm	mm		mm	mm	mm	mm	mm	mm	kg		
R220.21-0080-ON09-6A	02848781	Arbor	65,35	80,0	89,9	6	2,0	7,0	27,0	62,0	50,0	10,28	1,0	4400	ON..09
R220.21-0100-ON09-7A	02848782	Arbor	85,35	100,0	109,9	7	2,0	7,0	32,0	77,0	50,0	10,28	1,5	3900	ON..09
R220.21-0125-ON09-8A	02848783	Arbor	110,35	125,0	134,9	8	2,0	7,0	40,0	90,0	63,0	10,28	2,9	3500	ON..09
R220.21-8160-ON09-10	02848784	Arbor	145,35	160,0	169,9	10	2,0	7,0	40,0	90,0	63,0	10,28	4,2	3100	ON..09

Spare Parts, included in delivery

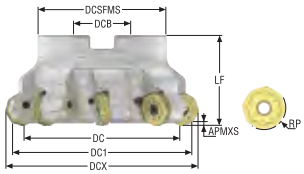
For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-0080	MC6S12X35	H6B-T20PL	C05013-T20P
R220.21-0100-0125	–	H6B-T20PL	C05013-T20P
R220.21-8160	–	H6B-T20PL	C05013-T20P

Accessories

For cutter	Arbor screw	Insert clamping torque	Torque key
			
R220.21-0080-0125	–	5.0NM	T00-20P50
R220.21-8160	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.21-ON09 – inch

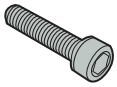
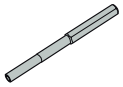




- For insert selection and cutting data recommendations, see page(s) 568-569
- For complete insert programme, see page(s) 816
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DC1	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	Weight	RPMX	Insert
			inch	inch	inch		inch	inch	inch	inch	inch	inch	lbs		
R220.21-03.00-ON09-6A	02848785	Arbor	2.423	3.000	3.389	6	0.079	0.276	1.000	2.441	1.969	0.405	1.980	4400	ON..09
R220.21-06.00-ON09-10	02848788	Arbor	5.423	6.000	6.389	10	0.079	0.276	2.000	4.331	2.480	0.405	8.380	3200	ON..09

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-03.00	UC6S1/2UNFX1-1/4	H6B-T20P	C05013-T20P
R220.21-06.00	–	H6B-T20PL	C05013-T20P

Accessories

For cutter	Arbor screw	Insert clamping torque	Torque key
			
R220.21-03.00	–	44.3IN.LBS	T00-20P50
R220.21-06.00	58215080	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R220.21-ON09 – Insert selection – mm/*Inch*

SMG		a_p	f_z	
			70%	30%
P1	ONMU090512TN-ME16 MP3501	2,0 *0.080*	0,75 *0.030*	0,85 *0.034*
P2	ONMU090512TN-ME16 MP3501	2,0 *0.080*	0,75 *0.030*	0,85 *0.034*
P3	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
P4	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
P5	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
P6	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 *0.028*	0,75 *0.030*
P7	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 *0.028*	0,75 *0.030*
P8	ONMU090512TN-ME16 MP2501	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
P11	ONMU090512TN-ME16 MP3501	2,0 *0.080*	0,70 *0.028*	0,75 *0.030*
P12	ONMU090512TN-ME16 MP2501	1,6 *0.060*	0,46 *0.018*	0,50 *0.020*
M1	ONMU090512TN-ME16 MS2050	2,0 *0.080*	0,75 *0.030*	0,85 *0.034*
M2	ONMU090512TN-ME16 MS2050	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
M3	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,55 *0.022*	0,60 *0.024*
M4	ONMU090512TN-ME16 MP3501	1,6 *0.060*	0,48 *0.019*	0,55 *0.022*
M5	ONMU090512TN-ME16 MP3501	1,6 *0.060*	0,48 *0.019*	0,55 *0.022*
K1	ONMU090512TN-ME16 MK2050	2,0 *0.080*	0,75 *0.030*	0,85 *0.034*
K2	ONMU090512TN-ME16 MK2050	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
K3	ONMU090512TN-ME16 MK2050	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
K4	ONMU090512TN-ME16 MK2050	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
K5	ONMU090512TN-ME16 MK2050	2,0 *0.080*	0,60 *0.024*	0,70 *0.028*
K6	ONMU090512TN-ME16 MK2050	2,0 *0.080*	0,70 *0.028*	0,80 *0.032*
K7	ONMU090512TN-ME16 MK2050	2,0 *0.080*	0,60 *0.024*	0,70 *0.028*
S1	ONMU090512TN-ME16 MS2500	1,6 *0.060*	0,48 *0.019*	0,55 *0.022*
S2	ONMU090512TN-ME16 MS2500	1,6 *0.060*	0,48 *0.019*	0,55 *0.022*
S3	ONMU090512TN-ME16 MS2500	1,6 *0.060*	0,44 *0.017*	0,50 *0.020*
S11	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,55 *0.022*	0,60 *0.024*
S12	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,55 *0.022*	0,60 *0.024*
S13	ONMU090512TN-ME16 MS2050	1,6 *0.060*	0,48 *0.019*	0,55 *0.022*

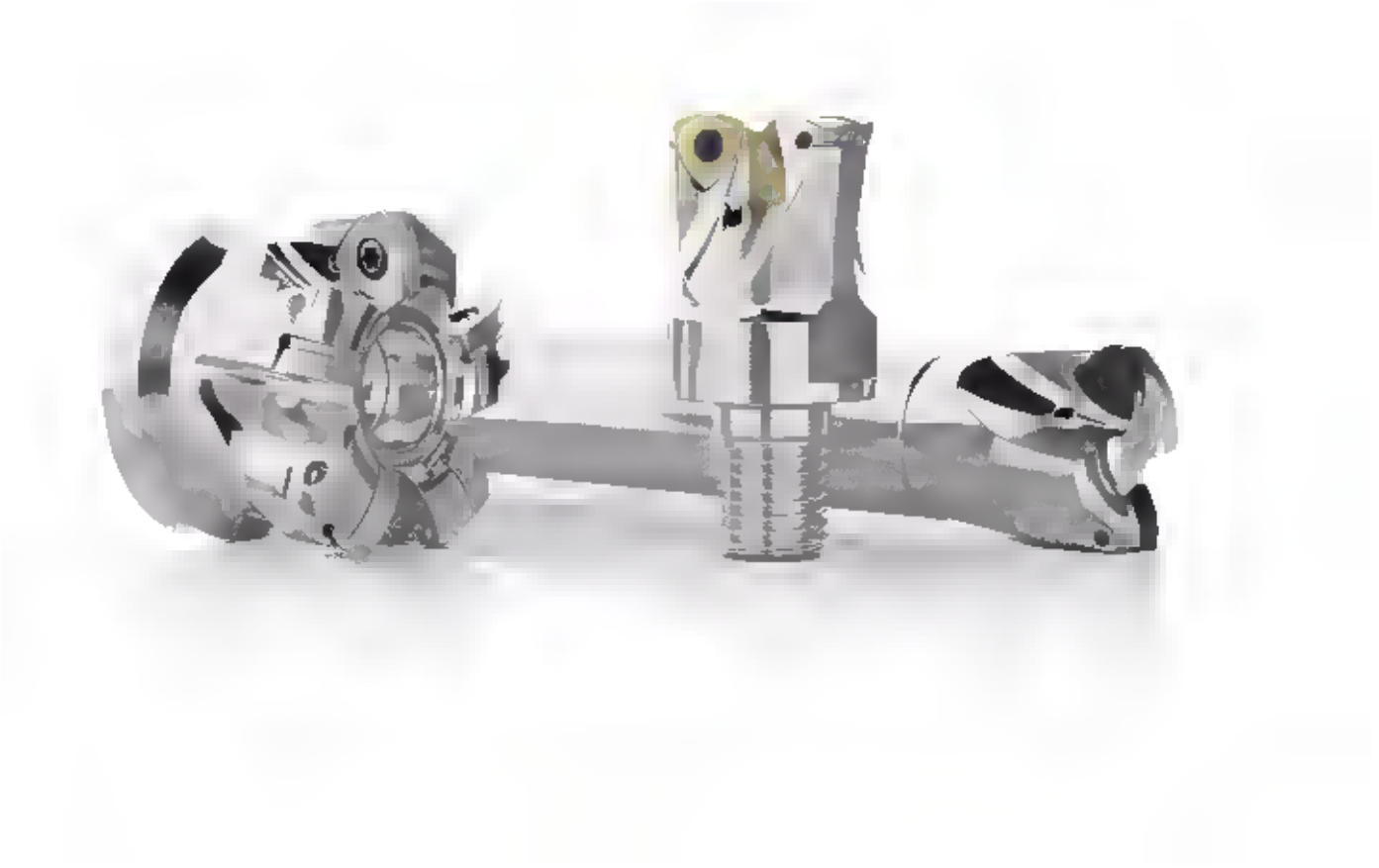
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-ON09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M			MP2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	270 *890*	305 *1000*	370 *1225*	260 *850*	295 *970*	355 *1175*	230 *750*	260 *850*	315 *1025*	210 *690*	235 *770*	285 *940*	270 *890*	305 *1000*	370 *1225*
P2	265 *870*	295 *970*	360 *1175*	255 *840*	285 *940*	345 *1125*	225 *740*	250 *820*	305 *1000*	205 *670*	230 *750*	275 *900*	265 *870*	295 *970*	360 *1175*
P3	230 *750*	260 *850*	315 *1025*	225 *740*	250 *820*	305 *1000*	195 *640*	220 *720*	270 *890*	180 *590*	200 *660*	245 *800*	230 *750*	260 *850*	315 *1025*
P4	205 *670*	230 *750*	280 *920*	195 *640*	220 *720*	265 *870*	175 *570*	195 *640*	235 *770*	155 *510*	175 *570*	215 *710*	205 *670*	230 *750*	280 *920*
P5	195 *640*	220 *720*	270 *890*	190 *620*	215 *710*	260 *850*	165 *540*	185 *610*	230 *750*	155 *510*	175 *570*	210 *690*	195 *640*	220 *720*	270 *890*
P6	225 *740*	250 *820*	305 *1000*	215 *710*	240 *790*	290 *950*	190 *620*	215 *710*	255 *840*	170 *560*	195 *640*	235 *770*	225 *740*	250 *820*	305 *1000*
P7	210 *690*	240 *790*	285 *940*	205 *670*	230 *750*	275 *900*	180 *590*	200 *660*	245 *800*	165 *540*	185 *610*	220 *720*	210 *690*	240 *790*	285 *940*
P8	195 *640*	220 *720*	265 *870*	185 *610*	210 *690*	255 *840*	165 *540*	185 *610*	225 *740*	150 *490*	170 *560*	205 *670*	195 *640*	220 *720*	265 *870*
P11	205 *670*	230 *750*	280 *920*	195 *640*	220 *720*	270 *890*	175 *570*	195 *640*	235 *770*	160 *520*	180 *590*	215 *710*	205 *670*	230 *750*	280 *920*
P12	135 *445*	150 *490*	185 *610*	130 *425*	145 *475*	175 *570*	115 *375*	125 *410*	155 *510*	100 *330*	115 *375*	140 *460*	135 *445*	150 *490*	185 *610*
M1	— —	— —	— —	190 *620*	215 *710*	260 *850*	180 *590*	205 *670*	245 *800*	165 *540*	185 *610*	225 *740*	190 *620*	210 *690*	260 *850*
M2	— —	— —	— —	160 *520*	180 *590*	215 *710*	150 *490*	165 *540*	205 *670*	140 *460*	155 *510*	185 *610*	155 *510*	175 *570*	215 *710*
M3	— —	— —	— —	125 *410*	145 *475*	175 *570*	120 *395*	135 *445*	165 *540*	110 *360*	125 *410*	150 *490*	125 *410*	140 *460*	175 *570*
M4	— —	— —	— —	100 *330*	110 *360*	135 *445*	95 *310*	105 *345*	130 *425*	85 *280*	95 *310*	115 *375*	100 *330*	110 *360*	135 *445*
M5	— —	— —	— —	85 *280*	95 *310*	115 *375*	80 *260*	90 *295*	105 *345*	70 *230*	80 *260*	95 *310*	80 *260*	95 *310*	110 *360*
K1	285 *940*	320 *1050*	390 *1275*	200 *660*	225 *740*	275 *900*	— —	— —	— —	160 *520*	180 *590*	220 *720*	— —	— —	— —
K2	250 *820*	285 *940*	350 *1150*	180 *590*	205 *670*	245 *800*	— —	— —	— —	145 *475*	165 *540*	200 *660*	— —	— —	— —
K3	215 *710*	240 *790*	295 *970*	155 *510*	175 *570*	210 *690*	— —	— —	— —	125 *410*	140 *460*	165 *540*	— —	— —	— —
K4	205 *670*	230 *750*	285 *940*	145 *475*	165 *540*	200 *660*	— —	— —	— —	120 *395*	130 *425*	160 *520*	— —	— —	— —
K5	125 *410*	145 *475*	170 *560*	90 *295*	100 *330*	120 *395*	— —	— —	— —	70 *230*	80 *260*	95 *310*	— —	— —	— —
K6	180 *590*	200 *660*	250 *820*	130 *425*	145 *475*	175 *570*	— —	— —	— —	105 *345*	115 *375*	140 *460*	— —	— —	— —
K7	165 *540*	185 *610*	220 *720*	115 *375*	130 *425*	155 *510*	— —	— —	— —	90 *295*	105 *345*	125 *410*	— —	— —	— —

R220.21-ON09 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	395	425	510	385	415	495	300	340	410	340	365	440	180	205	250
	—	—	—	*1300*	*1400*	*1675*	*1275*	*1350*	*1625*	*980*	*1125*	*1350*	*1125*	*1200*	*1450*	*590*	*670*	*820*
P2	—	—	—	385	415	490	375	405	480	290	330	400	330	360	430	175	200	240
	—	—	—	*1275*	*1350*	*1600*	*1225*	*1325*	*1575*	*950*	*1075*	*1300*	*1075*	*1175*	*1400*	*570*	*660*	*790*
P3	—	—	—	340	365	430	330	355	420	255	290	350	295	315	375	155	175	210
	—	—	—	*1125*	*1200*	*1400*	*1075*	*1175*	*1375*	*840*	*950*	*1150*	*970*	*1025*	*1225*	*510*	*570*	*690*
P4	—	—	—	300	325	380	290	315	370	225	255	310	260	280	330	135	155	190
	—	—	—	*980*	*1075*	*1250*	*950*	*1025*	*1225*	*740*	*840*	*1025*	*850*	*920*	*1075*	*445*	*510*	*620*
P5	—	—	—	285	310	370	275	300	360	215	245	300	245	265	325	130	150	180
	—	—	—	*940*	*1025*	*1225*	*900*	*980*	*1175*	*710*	*800*	*980*	*800*	*870*	*1075*	*425*	*490*	*590*
P6	—	—	—	325	355	415	320	345	405	250	280	335	285	310	365	150	165	200
	—	—	—	*1075*	*1175*	*1350*	*1050*	*1125*	*1325*	*820*	*920*	*1100*	*940*	*1025*	*1200*	*490*	*540*	*660*
P7	—	—	—	310	335	390	300	325	385	235	265	320	270	290	345	140	160	190
	—	—	—	*1025*	*1100*	*1275*	*980*	*1075*	*1275*	*770*	*870*	*1050*	*890*	*950*	*1125*	*460*	*520*	*620*
P8	—	—	—	285	310	365	275	300	355	215	245	295	245	265	315	130	145	175
	—	—	—	*940*	*1025*	*1200*	*900*	*980*	*1175*	*710*	*800*	*970*	*800*	*870*	*1025*	*425*	*475*	*570*
P11	—	—	—	300	325	380	295	315	375	230	255	310	260	280	335	135	155	185
	—	—	—	*980*	*1075*	*1250*	*970*	*1025*	*1225*	*750*	*840*	*1025*	*850*	*920*	*1100*	*445*	*510*	*610*
P12	—	—	—	195	210	250	190	210	245	150	165	205	170	185	220	85	100	120
	—	—	—	*640*	*690*	*820*	*620*	*690*	*800*	*490*	*540*	*670*	*560*	*610*	*720*	*280*	*330*	*395*
M1	—	—	—	—	—	—	195	215	265	210	235	285	180	205	245	150	170	205
	—	—	—	—	—	—	*640*	*710*	*870*	*690*	*770*	*940*	*590*	*670*	*800*	*490*	*560*	*670*
M2	—	—	—	—	—	—	160	180	220	175	195	240	150	165	205	125	145	170
	—	—	—	—	—	—	*520*	*590*	*720*	*570*	*640*	*790*	*490*	*540*	*670*	*410*	*475*	*560*
M3	—	—	—	—	—	—	130	145	180	140	160	195	120	135	165	100	115	140
	—	—	—	—	—	—	*425*	*475*	*590*	*460*	*520*	*640*	*395*	*445*	*540*	*330*	*375*	*460*
M4	—	—	—	—	—	—	100	115	140	110	125	150	95	105	130	80	90	110
	—	—	—	—	—	—	*330*	*375*	*460*	*360*	*410*	*490*	*310*	*345*	*425*	*260*	*295*	*360*
M5	—	—	—	—	—	—	85	95	115	90	105	125	80	90	105	65	75	90
	—	—	—	—	—	—	*280*	*310*	*375*	*295*	*345*	*410*	*260*	*295*	*345*	*215*	*245*	*295*
K1	315	350	430	385	420	495	375	405	485	230	260	315	335	360	430	—	—	—
	1025	*1150*	*1400*	*1275*	*1375*	*1625*	*1225*	*1325*	*1600*	*750*	*850*	*1025*	*1100*	*1175*	*1400*	—	—	—
K2	280	315	385	345	370	445	335	360	440	205	230	285	300	320	390	—	—	—
	920	*1025*	*1275*	*1125*	*1225*	*1450*	*1100*	*1175*	*1450*	*670*	*750*	*940*	*980*	*1050*	*1275*	—	—	—
K3	235	265	325	290	315	380	285	305	370	175	195	240	250	270	330	—	—	—
	770	*870*	*1075*	*950*	*1025*	*1250*	*940*	*1000*	*1225*	*570*	*640*	*790*	*820*	*890*	*1075*	—	—	—
K4	225	255	310	275	300	360	270	295	355	165	185	230	240	260	315	—	—	—
	740	*840*	*1025*	*900*	*980*	*1175*	*890*	*970*	*1175*	*540*	*610*	*750*	*790*	*850*	*1025*	—	—	—
K5	140	155	190	175	190	220	170	185	215	105	115	140	150	165	190	—	—	—
	460	*510*	*620*	*570*	*620*	*720*	*560*	*610*	*710*	*345*	*375*	*460*	*490*	*540*	*620*	—	—	—
K6	200	225	270	245	265	320	240	260	310	145	165	205	210	230	280	—	—	—
	660	*740*	*890*	*800*	*870*	*1050*	*790*	*850*	*1025*	*475*	*540*	*670*	*690*	*750*	*920*	—	—	—
K7	180	200	240	225	240	280	220	235	275	130	150	180	195	210	245	—	—	—
	590	*660*	*790*	*740*	*790*	*920*	*720*	*770*	*900*	*425*	*490*	*590*	*640*	*690*	*800*	—	—	—

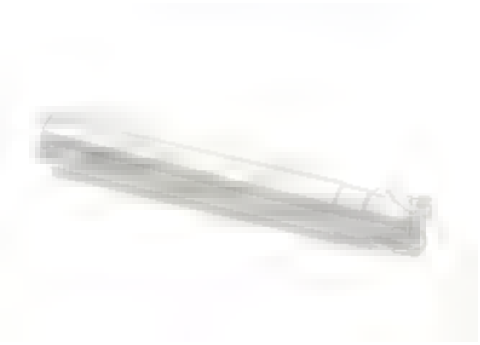


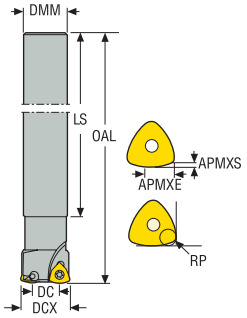
R217/220.21 HIGH FEED

High feed mills for general purpose applications, 3-cutting edge, single sided inserts.
218.19 insert range include a wide selection of cutting geometries and grades for many different materials.

- Cutter range 16-100 mm (.625-4 inch)
- Suitable for long overhangs and/or unstable conditions
- Small-to-medium sized CNC machines with high rpms and high feed rates
- Also works for machines that run lower rpms and feed rates

R217.21 – Metric





- For insert selection and cutting data recommendations, see page(s) 578-588
- For complete insert programme, see page(s) 855
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm		kg	
R217.21-1416.0-R080.2A	02554443	Cylindrical	9,25	16,0	2	0,63	5,0	14,0	127,0	150,0	1,0	6,1	25,25	30,0	53400	0,2	218.19-080
R217.21-1820.0-R100.2A	02554439	Cylindrical	11,4	20,0	2	0,74	7,0	18,0	132,0	160,0	1,47	5,7	31,4	38,0	32600	0,4	218.19-100
R217.21-2025.0-R100.2A	02616308	Cylindrical	16,46	25,0	2	0,74	7,0	20,0	140,0	170,0	1,47	3,48	41,46	48,0	29100	0,5	218.19-100
R217.21-2525.0-R100.3A	02616320	Cylindrical	16,46	25,0	3	0,74	7,0	25,0	135,0	170,0	1,47	3,48	41,46	48,0	29100	0,7	218.19-100
R217.21-2532.0-R125.2A	02616323	Cylindrical	21,16	32,0	2	1,0	9,0	25,0	161,0	195,0	1,74	3,67	53,16	62,0	19700	0,8	218.19-125
R217.21-3232.0-R125.3A	02616325	Cylindrical	21,16	32,0	3	1,0	9,0	32,0	155,0	195,0	1,74	3,67	53,16	62,0	19700	1,2	218.19-125

Spare Parts, included in delivery

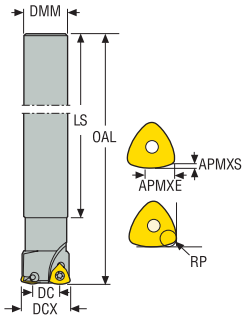
For cutter	Insert key	Insert screw
		
R217.21-R080	H4B-T07P	C02205-T07P
R217.21-R100	H4B-T08P	C02506-T08P
R217.21-R125	H4B-T09P	C03007-T09P

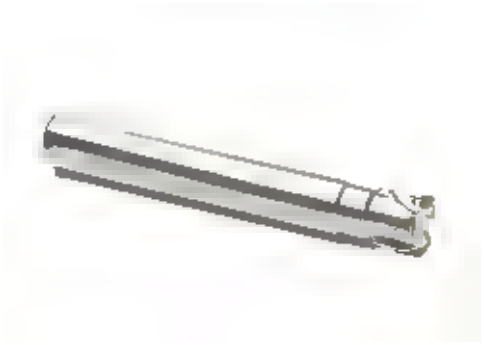
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-R080	0.9NM	T00-07P09
R217.21-R100	1.2NM	T00-08P12
R217.21-R125	2.0NM	T00-09P20

Torque and fixed keys, see page 872

R217.21 – inch





- For insert selection and cutting data recommendations, see page(s) 578-588
- For complete insert programme, see page(s) 855
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DMM	LS	OAL	RP	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.21-00.750-0-R100.2A	02559353	Cylindrical	0.410	0.750	2	0.029	0.276	0.750	5.250	6.500	0.058	6,45	1.160	1.421	32600	0.880	218.19-100
R217.21-00.750-0-R100.2HA	02548132	Cylindrical	0.357	0.750	2	0.043	0.276	0.750	5.250	6.500	0.071	4,5	1.107	1.421	32600	0.880	218.19-100
R217.21-01.00-0-R100.3A	02559354	Cylindrical	0.660	1.000	3	0.029	0.276	1.000	5.512	7.000	0.058	3,38	1.660	1.921	29100	1.540	218.19-100
R217.21-01.25-0-R125-3A	02553726	Cylindrical	0.823	1.250	3	0.039	0.354	1.250	5.906	7.500	0.069	3,73	2.073	2.421	19700	2.430	218.19-125
R217.21-01.25-0-R160-2HA	02553730	Cylindrical	0.583	1.250	2	0.080	0.433	1.250	5.906	7.500	0.121	3,37	1.833	2.421	16200	2.430	218.19-160
R217.21-01.50-0-R160-3HA	02553733	Cylindrical	0.591	1.500	3	0.080	0.433	1.500	5.906	8.000	0.120	3,09	2.091	2.921	17600	3.530	218.19-160

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.21-R100	H4B-T08P	C02506-T08P
R217.21-R125	H4B-T09P	C03007-T09P
R217.21-R160	H4B-T15P	C03510-T15P

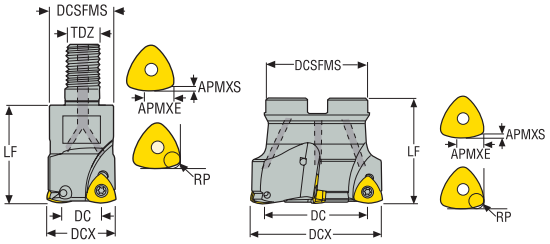
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-R100	10.6IN.LBS	T00-08P12
R217.21-R125	17.7IN.LBS	T00-09P20
R217.21-R160	26.6IN.LBS	T00-15P30

Torque and fixed keys, see page 872

R217.21 – Metric



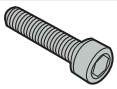


- For insert selection and cutting data recommendations, see page(s) 578-588
- For complete insert programme, see page(s) 855
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm		mm	mm	mm		mm	mm	kg		
R217.21-0816.RE-R080.2	00030707	Combimaster	9,25	16,0	2	0,6	5,0	–	M8	13,5	23,0	1,0	6,1	25,25	30,0	0,1	53400	218.19-080
R217.21-1020.RE-R100.2A	00030708	Combimaster	11,45	20,0	2	0,7	7,0	–	M10	18,5	28,0	1,47	5,71	31,45	38,0	0,1	32600	218.19-100
R217.21-1020.RE-R100.2HA	02546332	Combimaster	10,44	20,0	2	1,0	7,0	–	M10	18,5	28,0	1,7	4,32	30,44	38,0	0,1	32600	218.19-100
R217.21-1225.RE-R100.3A	00030710	Combimaster	16,46	25,0	3	0,7	7,0	–	M12	23,0	35,0	1,47	3,48	41,46	48,0	0,2	29100	218.19-100
R217.21-1225.RE-R125.2HA	02502370	Combimaster	12,36	25,0	2	1,5	9,0	–	M12	23,0	35,0	2,18	4,25	37,36	48,0	0,2	29100	218.19-125
R217.21-1632.RE-R125.3A	00030714	Combimaster	21,21	32,0	3	1,0	9,0	–	M16	30,0	40,0	1,74	3,7	53,21	62,0	0,3	19700	218.19-125
R217.21-1632.RE-R160.2HA	02546333	Combimaster	16,09	32,0	2	1,8	11,0	–	M16	30,0	40,0	2,87	3,76	48,09	62,0	0,2	16200	218.19-160
R217.21-1635.RE-R125.3A	00030715	Combimaster	24,16	35,0	3	1,0	9,0	–	M16	30,0	40,0	1,74	3,1	59,16	68,0	0,3	18800	218.19-125
R217.21-1640.RE-R125.4A	00039503	Combimaster	29,25	40,0	4	1,0	9,0	–	M16	30,0	40,0	1,74	2,47	69,25	78,0	0,3	17600	218.19-125
R217.21-1640.RE-R160.3HA	02546335	Combimaster	23,99	40,0	3	1,8	11,0	–	M16	30,0	40,0	2,87	2,18	63,99	78,0	0,3	14500	218.19-160
R220.21-0040-R125.4A	00030717	Arbor	29,2	40,0	4	1,0	9,0	16,0	–	35,0	40,0	1,75	2,47	69,2	78,0	0,3	17600	218.19-125
R220.21-0042-R125.4A	00030720	Arbor	31,2	42,0	4	1,0	9,0	16,0	–	35,0	40,0	1,75	2,28	73,2	82,0	0,3	17200	218.19-125
R220.21-0050-R160.4A	00030723	Arbor	34,17	50,0	4	1,8	11,0	22,0	–	47,0	40,0	2,85	1,47	84,17	98,0	0,4	12900	218.19-160
R220.21-0050-R160.5A	03136664	Arbor	33,7	50,0	5	1,8	11,0	22,0	–	47,0	40,0	3,01	0,9	83,7	98,0	0,4	12900	218.19-160
R220.21-0052-R160.4A	02425827	Arbor	36,19	52,0	4	1,8	11,0	22,0	–	47,0	40,0	2,85	1,38	88,19	102,0	0,4	12700	218.19-160
R220.21-0052-R160.5A	03136665	Arbor	35,7	52,0	5	1,8	11,0	22,0	–	47,0	40,0	3,03	0,8	87,7	102,0	0,4	12700	218.19-160
R220.21-0063-R160.4A	00030724	Arbor	47,2	63,0	4	1,8	11,0	27,0	–	50,0	50,0	2,85	1,0	110,2	124,0	0,6	11500	218.19-160
R220.21-0063-R160.5A	00030726	Arbor	47,2	63,0	5	1,8	11,0	27,0	–	50,0	50,0	2,85	1,0	110,2	124,0	0,6	11500	218.19-160
R220.21-0063-R160.6A	03136666	Arbor	47,9	63,0	6	1,8	11,0	27,0	–	50,0	50,0	3,0	0,6	110,9	124,0	0,6	11500	218.19-160
R220.21-0066-R160.5A	02409011	Arbor	50,21	66,0	5	1,8	11,0	27,0	–	50,0	50,0	2,85	0,95	116,21	130,0	0,5	11200	218.19-160
R220.21-0066-R160.6A	03136667	Arbor	50,9	66,0	6	1,8	11,0	27,0	–	62,0	50,0	3,0	0,5	116,9	130,0	0,8	11200	218.19-160
R220.21-0080-R160.6A	02530950	Arbor	64,15	80,0	6	1,8	11,0	27,0	–	62,0	50,0	2,85	0,73	144,15	158,0	1,0	10200	218.19-160
R220.21-0080-R160.7A	03136668	Arbor	63,6	80,0	7	1,8	11,0	27,0	–	62,0	50,0	3,0	0,4	143,6	158,0	1,1	10200	218.19-160
R220.21-0084-R160.6A	02969095	Arbor	68,0	84,0	6	1,8	11,0	32,0	–	77,0	50,0	2,85	0,7	152,0	166,0	1,4	10000	218.19-160
R220.21-0100-R160.7A	02530946	Arbor	84,13	100,0	7	1,8	11,0	32,0	–	77,0	50,0	2,85	0,54	184,13	198,0	1,6	9700	218.19-160
R220.21-0100-R160.9A	03136671	Arbor	83,6	100,0	9	1,8	11,0	32,0	–	77,0	50,0	3,0	0,3	183,6	198,0	1,8	9700	218.19-160

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-R080	–	H4B-T07P	C02205-T07P
R217.21-R100	–	H4B-T08P	C02506-T08P
R217.21-R125	–	H4B-T09P	C03007-T09P
R217.21-R160	–	H4B-T15P	C03510-T15P
R220.21-0040-0042	220.17-689	H4B-T09P	C03007-T09P
R220.21-0050-0052	220.17-692	H4B-T15P	C03510-T15P
R220.21-0063	MC6S12X35	H4B-T15P	C03510-T15P
R220.21-0080	MC6S12X35	H4B-T15PL	C03510-T15P
R220.21-0084	950E1645	H4B-T15PL	C03510-T15P
R220.21-0100	MC6S16X35	H4B-T15PL	C03510-T15P
R220.21-0100.9A	950E1645	H4B-T15PL	C03510-T15P

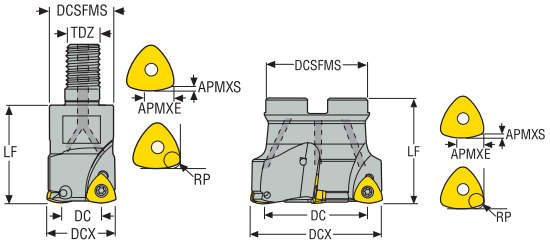
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.21-R080	0.9NM	T00-07P09
R217.21-R100	1.2NM	T00-08P12
R217.21-R125	2.0NM	T00-09P20
R217.21-R160	3.0NM	T00-15P30
R220.21-0040-0042	2.0NM	T00-09P20
R220.21-0050-0100	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R217/220.21 – Inch



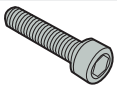


- For insert selection and cutting data recommendations, see page(s) 578-588
- For complete insert programme, see page(s) 855
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	TDZ	DCSFMS	LF	RP	RMPX°	C min	C max	Weight	RPMX	Insert
			inch	inch		inch	inch	inch		inch	inch	inch		inch	inch	lbs		
R217.21-00.750-10RE-R100-2A	00098320	Combimaster	0.414	0.750	2	0.028	0.276	–	M10	0.728	1.100	0.058	6,45	1.164	1.421	0.220	32600	218.19-100
R217.21-00.750-10RE-R100-2HA	02548133	Combimaster	0.357	0.750	2	0.043	0.276	–	M10	0.728	1.100	0.071	4,5	1.107	1.421	0.220	32600	218.19-100
R217.21-01.00-12RE-R100-3A	00098330	Combimaster	0.663	1.000	3	0.028	0.276	–	M12	0.906	1.400	0.058	3,38	1.663	1.921	0.440	29100	218.19-100
R217.21-01.25-16RE-R160-2HA	02548129	Combimaster	0.543	1.250	2	0.079	0.433	–	M16	1.181	1.600	0.121	3,37	1.793	2.421	0.660	16200	218.19-160
R217.21-01.25-16RE-R125-3A	00098351	Combimaster	0.823	1.250	3	0.039	0.354	–	M16	1.181	1.600	0.069	3,73	2.073	2.421	0.660	19700	218.19-125
R217.21-01.50-16RE-R160-3HA	02548130	Combimaster	0.791	1.498	3	0.079	0.433	–	M16	1.181	1.600	0.121	1,96	2.289	2.917	0.660	14500	218.19-160
R217.21-01.50-16RE-R125-4A	02435615	Combimaster	1.002	1.500	4	0.059	0.354	–	M16	1.181	1.600	0.086	1,69	2.502	2.921	0.660	17600	218.19-125
R220.21-01.50-R125-4A	00098850	Arbor	1.002	1.500	4	0.060	0.354	0.500	–	1.378	1.600	0.087	1,69	2.502	2.921	0.440	17600	218.19-125
R220.21-02.00-R160-4A	00098952	Arbor	1.346	2.000	4	0.079	0.433	0.750	–	1.850	1.600	0.119	1,17	3.346	3.921	0.880	12900	218.19-160
R220.21-02.00-R160-5A	02789050	Arbor	1.327	2.000	5	0.079	0.433	0.750	–	1.850	1.600	0.119	1,17	3.327	3.921	0.660	12900	218.19-160
R220.21-02.50-R160-5A	00099029	Arbor	1.843	2.500	5	0.079	0.433	0.750	–	2.350	2.000	0.119	0,83	4.343	4.921	1.320	11500	218.19-160
R220.21-02.50-R160-6A	02825654	Arbor	1.827	2.500	6	0.079	0.433	0.750	–	2.350	2.000	0.119	0,83	4.327	4.921	1.540	11500	218.19-160
R220.21-03.00-R160-6A	02427189	Arbor	2.280	3.000	6	0.098	0.433	1.000	–	2.441	2.000	0.138	0,39	5.280	5.921	2.200	10200	218.19-160
R220.21-03.00-R160-7A	02828389	Arbor	2.348	3.000	7	0.079	0.433	1.000	–	2.441	2.000	0.119	0,39	5.348	5.921	2.430	10200	218.19-160
R220.21-04.00-R160-7A	02427191	Arbor	3.286	4.000	7	0.098	0.433	1.500	–	3.543	2.000	0.138	0,27	7.286	7.921	4.190	9100	218.19-160
R220.21-04.00-R160-9A	02810684	Arbor	3.348	4.000	9	0.083	0.433	1.500	–	3.543	2.000	0.119	0,27	7.348	7.921	4.630	9100	218.19-160

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.21-0.75/1.00/0.75HA	–	H4B-T08P	C02506-T08P
R217.21-1.25HA/1.50HA	–	H4B-T15P	C03510-T15P
R217.21-1.25/1.50/1.00HA	–	H4B-T09P	C03007-T09P
R220.21-01.50	UC6S1/4UNFX1	H4B-T09P	C03007-T09P
R220.21-02.00	UC6S3/8UNFX1	H4B-T15P	C03510-T15P
R220.21-02.00.5A	UC6S3/8UNFX1	1/4HEX-T15PX50	C03508-T15P
R220.21-02.50	UC6S3/8UNFX11/2	H4B-T15P	C03510-T15P
R220.21-02.50.5A	UC6S3/8UNFX11/2	H4B-T15P	C03508-T15P
R220.21-03.00	UC6S1/2UNFX1-1/4	H4B-T15P	C03510-T15P
R220.21-03.00.7A	UC6S1/2UNFX1-1/4	H4B-T15P	C03508-T15P
R220.21-04.00	UC6S3/4UNFX1-1/4	H4B-T15PL	C03510-T15P
R220.21-04.00.9A	UC6S3/4UNFX1-1/4	H4B-T15PL	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217.21-0.75 / 1.00 / 0.75HA	–	10.6IN.LBS	T00-08P12
R217.21-1.25HA-1.50HA	–	26.6IN.LBS	T00-15P30
R217.21-1.25-1.50	–	17.7IN.LBS	T00-09P20
R220.21-01.50	–	17.7IN.LBS	T00-09P20
R220.21-02.00-04.00	–	26.6IN.LBS	T00-15P30
R220.21-02.00-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	26.6IN.LBS	T00-15P30

Torque and fixed keys, see page 872

R217.21-080 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-080T-M04 MP2501	0,55 *0.022*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
P2	218.19-080T-M04 MP2501	0,55 *0.022*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
P3	218.19-080T-M04 MP2501	0,55 *0.022*	0,48 *0.019*	0,48 *0.019*	0,60 *0.026*
P4	218.19-080T-M04 MP2501	0,55 *0.022*	0,48 *0.019*	0,48 *0.019*	0,60 *0.024*
P5	218.19-080T-M04 MP2501	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
P6	218.19-080T-M04 MP2501	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
P7	218.19-080T-M04 MP2501	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
P8	218.19-080T-M04 MP2501	0,55 *0.022*	0,48 *0.019*	0,48 *0.019*	0,60 *0.026*
P11	218.19-080T-M04 F40M	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
P12	218.19-080T-M04 MP2501	0,44 *0.017*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
M1	218.19-080T-M04 F40M	0,55 *0.022*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
M2	218.19-080T-M04 F40M	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
M3	218.19-080T-M04 F40M	0,44 *0.017*	0,40 *0.016*	0,40 *0.016*	0,50 *0.020*
M4	218.19-080T-M04 F40M	0,32 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
M5	218.19-080T-M04 F40M	0,32 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
K1	218.19-080T-MD04 F15M	0,55 *0.022*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
K2	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
K3	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
K4	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
K5	218.19-080T-MD04 F15M	0,55 *0.022*	0,42 *0.017*	0,42 *0.017*	0,55 *0.022*
K6	218.19-080T-MD04 F15M	0,55 *0.022*	0,46 *0.018*	0,46 *0.018*	0,60 *0.024*
K7	218.19-080T-MD04 F15M	0,55 *0.022*	0,42 *0.017*	0,42 *0.017*	0,55 *0.022*
S1	218.19-080T-M04 F40M	0,32 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
S2	218.19-080T-M04 F40M	0,32 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
S3	218.19-080T-M04 F40M	0,32 *0.013*	0,32 *0.013*	0,32 *0.013*	0,40 *0.016*
S11	218.19-080T-M04 F40M	0,38 *0.015*	0,40 *0.016*	0,40 *0.016*	0,50 *0.020*
S12	218.19-080T-M04 F40M	0,38 *0.015*	0,40 *0.016*	0,40 *0.016*	0,50 *0.020*
S13	218.19-080T-M04 F40M	0,32 *0.013*	0,34 *0.013*	0,34 *0.013*	0,42 *0.017*
H5	218.19-080T-MD04 F15M	0,34 *0.013*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*
H8	218.19-080T-MD04 F15M	0,30 *0.012*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*
H11	218.19-080T-MD04 F15M	0,34 *0.013*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*
H12	218.19-080T-MD04 F15M	0,30 *0.012*	0,22 *0.0085*	0,22 *0.0085*	0,28 *0.011*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.21-080 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M			F30M			F40M			MP2501			MS2500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	310 *1025*	380 *1250*	440 *1450*	285 *940*	350 *1150*	405 *1325*	270 *890*	330 *1075*	385 *1275*	510 *1675*	580 *1900*	640 *2100*	375 *1225*	455 *1500*	520 *1700*
P2	305 *1000*	360 *1175*	420 *1375*	280 *920*	330 *1075*	385 *1275*	265 *870*	315 *1025*	365 *1200*	490 *1600*	560 *1825*	620 *2025*	365 *1200*	430 *1400*	500 *1650*
P3	260 *850*	315 *1025*	365 *1200*	240 *790*	290 *950*	335 *1100*	230 *750*	280 *920*	320 *1050*	425 *1400*	485 *1600*	540 *1775*	310 *1025*	380 *1250*	440 *1450*
P4	230 *750*	280 *920*	325 *1075*	215 *710*	260 *850*	295 *970*	205 *670*	245 *800*	285 *940*	375 *1225*	430 *1400*	475 *1550*	280 *920*	340 *1125*	385 *1275*
P5	220 *720*	270 *890*	315 *1025*	205 *670*	250 *820*	290 *950*	195 *640*	235 *770*	275 *900*	360 *1175*	410 *1350*	455 *1500*	265 *870*	325 *1075*	375 *1225*
P6	250 *820*	300 *980*	350 *1150*	230 *750*	280 *920*	325 *1075*	215 *710*	265 *870*	310 *1025*	405 *1325*	460 *1500*	510 *1675*	300 *980*	365 *1200*	425 *1400*
P7	235 *770*	285 *940*	335 *1100*	215 *710*	260 *850*	305 *1000*	205 *670*	250 *820*	290 *950*	380 *1250*	435 *1425*	485 *1600*	280 *920*	340 *1125*	400 *1300*
P8	220 *720*	265 *870*	310 *1025*	200 *660*	245 *800*	285 *940*	190 *620*	235 *770*	270 *890*	355 *1175*	410 *1350*	450 *1475*	265 *870*	320 *1050*	370 *1225*
P11	230 *750*	275 *900*	325 *1075*	210 *690*	255 *840*	295 *970*	200 *660*	245 *800*	285 *940*	370 *1225*	425 *1400*	470 *1550*	275 *900*	330 *1075*	390 *1275*
P12	— —	— —	— —	135 *445*	165 *540*	190 *620*	130 *425*	155 *510*	180 *590*	230 *750*	260 *850*	285 *940*	180 *590*	215 *710*	245 *800*
M1	— —	— —	— —	225 *740*	265 *870*	310 *1025*	215 *710*	255 *840*	295 *970*	250 *820*	300 *980*	350 *1150*	260 *850*	310 *1025*	360 *1175*
M2	— —	— —	— —	185 *610*	225 *740*	260 *850*	175 *570*	210 *690*	245 *800*	205 *670*	250 *820*	290 *950*	210 *690*	260 *850*	300 *980*
M3	— —	— —	— —	150 *490*	180 *590*	205 *670*	140 *460*	170 *560*	200 *660*	165 *540*	200 *660*	235 *770*	175 *570*	205 *670*	240 *790*
M4	— —	— —	— —	120 *395*	140 *460*	160 *520*	110 *360*	130 *425*	150 *490*	130 *425*	155 *510*	180 *590*	135 *445*	160 *520*	185 *610*
M5	— —	— —	— —	100 *330*	115 *375*	135 *445*	95 *310*	110 *360*	125 *410*	110 *360*	130 *425*	150 *490*	115 *375*	135 *445*	155 *510*
K1	240 *790*	285 *940*	330 *1075*	220 *720*	260 *850*	305 *1000*	210 *690*	250 *820*	290 *950*	495 *1625*	560 *1825*	620 *2025*	— —	— —	— —
K2	210 *690*	255 *840*	300 *980*	195 *640*	235 *770*	275 *900*	185 *610*	225 *740*	260 *850*	435 *1425*	500 *1650*	550 *1800*	— —	— —	— —
K3	180 *590*	215 *710*	250 *820*	165 *540*	200 *660*	230 *750*	155 *510*	190 *620*	220 *720*	365 *1200*	420 *1375*	465 *1525*	— —	— —	— —
K4	170 *560*	205 *670*	240 *790*	155 *510*	190 *620*	220 *720*	150 *490*	180 *590*	210 *690*	350 *1150*	400 *1300*	445 *1450*	— —	— —	— —
K5	105 *345*	125 *410*	145 *475*	95 *310*	115 *375*	135 *445*	90 *295*	110 *360*	130 *425*	215 *710*	245 *800*	270 *890*	— —	— —	— —
K6	150 *490*	180 *590*	210 *690*	135 *445*	165 *540*	195 *640*	130 *425*	160 *520*	185 *610*	310 *1025*	355 *1175*	395 *1300*	— —	— —	— —
K7	135 *445*	160 *520*	185 *610*	125 *410*	150 *490*	170 *560*	115 *375*	140 *460*	165 *540*	275 *900*	315 *1025*	345 *1125*	— —	— —	— —
N1	— —	— —	— —	1625 *5325*	2000 *6550*	2300 *7550*	1550 *5075*	1900 *6225*	2200 *7225*	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	660 *2175*	800 *2625*	930 *3050*	630 *2075*	770 *2525*	880 *2875*	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	440 *1450*	540 *1775*	620 *2025*	420 *1375*	510 *1675*	590 *1925*	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	500 *1650*	610 *2000*	710 *2325*	480 *1575*	580 *1900*	670 *2200*	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	65 *215*	80 *260*	90 *295*
S2	— —	— —	— —	— —	— —	— —	42 *140*	50 *165*	55 *180*	— —	— —	— —	55 *180*	65 *215*	75 *245*
S3	— —	— —	— —	— —	— —	— —	37 *120*	44 *145*	50 *165*	— —	— —	— —	47 *155*	55 *180*	65 *215*
S11	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	100 *330*	— —	— —	— —	95 *310*	110 *360*	130 *425*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	65 *215*	75 *245*	90 *295*
S13	— —	— —	— —	— —	— —	— —	29 *95*	35 *115*	40 *130*	— —	— —	— —	37 *120*	44 *145*	50 *165*
H5	50 *165*	60 *195*	70 *230*	48 *155*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	55 *180*	65 *215*	75 *245*	50 *165*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	65 *215*	80 *260*	90 *295*	60 *195*	70 *230*	85 *280*	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	100 *330*	115 *375*	135 *445*	90 *295*	110 *360*	125 *410*	— —	— —	— —	— —	— —	— —	120 *395*	140 *460*	160 *520*

R217.21-100 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-100T-M06 MP3501	0,65 *0.026*	0,80 *0.032*	0,80 *0.032*	1,0 *0.040*
P2	218.19-100T-M06 MP3501	0,65 *0.026*	0,80 *0.032*	0,80 *0.032*	1,1 *0.044*
P3	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 *0.030*	0,80 *0.032*	1,0 *0.040*
P4	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 *0.030*	0,75 *0.030*	1,0 *0.040*
P5	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 *0.030*	0,75 *0.030*	0,95 *0.038*
P6	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 *0.030*	0,75 *0.030*	0,95 *0.038*
P7	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 *0.030*	0,75 *0.030*	0,95 *0.038*
P8	218.19-100T-M06 MP2501	0,65 *0.026*	0,75 *0.030*	0,80 *0.032*	1,0 *0.040*
P11	218.19-100T-M06 MP3501	0,65 *0.026*	0,75 *0.030*	0,75 *0.030*	0,95 *0.038*
P12	218.19-100T-M06 MP2501	0,50 *0.020*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
M1	218.19-100T-M06 MS2050	0,65 *0.026*	0,80 *0.032*	0,80 *0.032*	1,1 *0.044*
M2	218.19-100T-M06 MS2050	0,65 *0.026*	0,75 *0.030*	0,75 *0.030*	0,95 *0.038*
M3	218.19-100T-M06 MS2050	0,50 *0.020*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
M4	218.19-100T-M06 MP3501	0,38 *0.015*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
M5	218.19-100T-M06 MP3501	0,38 *0.015*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
K1	218.19-100T-MD08 MP2501	0,65 *0.026*	1,1 *0.044*	1,1 *0.044*	1,4 *0.055*
K2	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
K3	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
K4	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
K5	218.19-100T-MD08 MP2501	0,65 *0.026*	0,90 *0.036*	0,90 *0.036*	1,2 *0.048*
K6	218.19-100T-MD08 MP2501	0,65 *0.026*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
K7	218.19-100T-MD08 MP2501	0,65 *0.026*	0,90 *0.036*	0,90 *0.036*	1,2 *0.048*
S1	218.19-100T-M06 MS2500	0,38 *0.015*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
S2	218.19-100T-M06 MS2500	0,38 *0.015*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
S3	218.19-100T-M06 MS2500	0,38 *0.015*	0,48 *0.019*	0,48 *0.019*	0,60 *0.024*
S11	218.19-100T-M06 MS2050	0,44 *0.017*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
S12	218.19-100T-M06 MS2050	0,44 *0.017*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
S13	218.19-100T-M06 MS2050	0,38 *0.015*	0,50 *0.020*	0,50 *0.020*	0,65 *0.026*
H5	218.19-100T-MD08 MH1000	0,40 *0.016*	0,60 *0.024*	0,60 *0.024*	0,70 *0.030*
H8	218.19-100T-MD08 MH1000	0,34 *0.013*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*
H11	218.19-100T-M06 MP3000	0,40 *0.016*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*
H12	218.19-100T-M06 MP3000	0,34 *0.013*	0,34 *0.013*	0,34 *0.013*	0,40 *0.017*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.21-100 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			F15M			F25M			F30M			MP3000		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	245	290	345	225	265	320	250	295	345	295	350	410
	—	—	—	*800*	*950*	*1125*	*740*	*870*	*1050*	*820*	*970*	*1125*	*970*	*1150*	*1350*
P2	—	—	—	240	285	340	220	260	310	240	285	335	285	340	395
	—	—	—	*790*	*940*	*1125*	*720*	*850*	*1025*	*790*	*940*	*1100*	*940*	*1125*	*1300*
P3	—	—	—	210	250	290	195	230	265	210	250	290	250	295	345
	—	—	—	*690*	*820*	*950*	*640*	*750*	*870*	*690*	*820*	*950*	*820*	*970*	*1125*
P4	—	—	—	185	220	260	170	200	240	185	220	260	220	260	310
	—	—	—	*610*	*720*	*850*	*560*	*660*	*790*	*610*	*720*	*850*	*720*	*850*	*1025*
P5	215	255	300	180	210	250	165	195	230	175	210	250	210	250	295
	710	*840*	*980*	*590*	*690*	*820*	*540*	*640*	*750*	*570*	*690*	*820*	*690*	*820*	*970*
P6	245	290	340	205	240	280	185	220	255	200	235	280	235	280	330
	800	*950*	*1125*	*670*	*790*	*920*	*610*	*720*	*840*	*660*	*770*	*920*	*770*	*920*	*1075*
P7	230	275	320	190	225	265	175	205	245	190	220	265	225	265	315
	750	*900*	*1050*	*620*	*740*	*870*	*570*	*670*	*800*	*620*	*720*	*870*	*740*	*870*	*1025*
P8	215	255	295	180	210	245	165	195	225	175	210	245	210	250	290
	710	*840*	*970*	*590*	*690*	*800*	*540*	*640*	*740*	*570*	*690*	*800*	*690*	*820*	*950*
P11	225	265	310	185	220	255	170	200	235	185	215	255	215	255	305
	740	*870*	*1025*	*610*	*720*	*840*	*560*	*660*	*770*	*610*	*710*	*840*	*710*	*840*	*1000*
P12	150	175	205	—	—	—	115	130	155	125	145	165	145	170	195
	490	*570*	*670*	—	—	—	*375*	*425*	*510*	*410*	*475*	*540*	*475*	*560*	*640*
M1	—	—	—	—	—	—	—	—	—	195	230	270	215	255	295
	—	—	—	—	—	—	—	—	—	*640*	*750*	*890*	*710*	*840*	*970*
M2	—	—	—	—	—	—	—	—	—	160	190	225	175	210	245
	—	—	—	—	—	—	—	—	—	*520*	*620*	*740*	*570*	*690*	*800*
M3	—	—	—	—	—	—	—	—	—	135	155	180	145	170	200
	—	—	—	—	—	—	—	—	—	*445*	*510*	*590*	*475*	*560*	*660*
M4	—	—	—	—	—	—	—	—	—	105	120	140	115	135	155
	—	—	—	—	—	—	—	—	—	*345*	*395*	*460*	*375*	*445*	*510*
M5	—	—	—	—	—	—	—	—	—	90	100	115	95	110	130
	—	—	—	—	—	—	—	—	—	*295*	*330*	*375*	*310*	*360*	*425*
K1	230	270	325	190	225	265	175	205	245	190	225	265	225	270	315
	750	*890*	*1075*	*620*	*740*	*870*	*570*	*670*	*800*	*620*	*740*	*870*	*740*	*890*	*1025*
K2	205	240	285	170	200	235	155	185	215	170	200	235	200	235	280
	670	*790*	*940*	*560*	*660*	*770*	*510*	*610*	*710*	*560*	*660*	*770*	*660*	*770*	*920*
K3	175	205	240	145	170	200	130	155	185	145	170	200	170	200	235
	570	*670*	*790*	*475*	*560*	*660*	*425*	*510*	*610*	*475*	*560*	*660*	*560*	*660*	*770*
K4	165	195	230	135	160	190	125	150	175	135	160	190	160	190	225
	540	*640*	*750*	*445*	*520*	*620*	*410*	*490*	*570*	*445*	*520*	*620*	*520*	*620*	*740*
K5	100	120	140	85	100	115	75	90	105	85	100	115	100	120	140
	330	*395*	*460*	*280*	*330*	*375*	*245*	*295*	*345*	*280*	*330*	*375*	*330*	*395*	*460*
K6	145	170	205	120	140	170	110	130	155	120	140	170	145	170	200
	475	*560*	*670*	*395*	*460*	*560*	*360*	*425*	*510*	*395*	*460*	*560*	*475*	*560*	*660*
K7	130	155	180	105	125	150	100	115	135	110	125	150	130	150	180
	425	*510*	*590*	*345*	*410*	*490*	*330*	*375*	*445*	*360*	*410*	*490*	*425*	*490*	*590*
N1	—	—	—	—	—	—	—	—	—	1425	1675	1950	—	—	—
	—	—	—	—	—	—	—	—	—	*4675*	*5500*	*6400*	—	—	—
N2	—	—	—	—	—	—	—	—	—	570	680	790	—	—	—
	—	—	—	—	—	—	—	—	—	*1875*	*2225*	*2600*	—	—	—
N3	—	—	—	—	—	—	—	—	—	380	450	520	—	—	—
	—	—	—	—	—	—	—	—	—	*1250*	*1475*	*1700*	—	—	—
N11	—	—	—	—	—	—	—	—	—	435	520	600	—	—	—
	—	—	—	—	—	—	—	—	—	*1425*	*1700*	*1975*	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H5	55	60	75	44	50	60	—	—	—	43	50	60	48	55	65
	180	*195*	*245*	*145*	*165*	*195*	—	—	—	*140*	*165*	*195*	*155*	*180*	*215*
H8	55	65	75	47	55	65	—	—	—	46	55	60	50	60	70
	180	*215*	*245*	*155*	*180*	*215*	—	—	—	*150*	*180*	*195*	*165*	*195*	*230*
H11	65	80	95	55	65	75	—	—	—	55	65	75	60	70	85
	215	*260*	*310*	*180*	*215*	*245*	—	—	—	*180*	*215*	*245*	*195*	*230*	*280*
H12	100	120	140	85	100	115	—	—	—	85	95	110	100	115	135
	330	*395*	*460*	*280*	*330*	*375*	—	—	—	*280*	*310*	*360*	*330*	*375*	*445*

R217.21-100 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050			F40M			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	260 *850*	305 *1000*	360 *1175*	235 *770*	280 *920*	325 *1075*	440 *1450*	495 *1625*	560 *1825*	340 *1125*	400 *1300*	470 *1550*	395 *1300*	445 *1450*	510 *1675*
P2	255 *840*	300 *980*	350 *1150*	230 *750*	270 *890*	320 *1050*	430 *1400*	485 *1600*	550 *1800*	330 *1075*	390 *1275*	460 *1500*	385 *1275*	435 *1425*	490 *1600*
P3	220 *720*	260 *850*	305 *1000*	200 *660*	240 *790*	275 *900*	375 *1225*	425 *1400*	480 *1575*	290 *950*	340 *1125*	400 *1300*	335 *1100*	380 *1250*	430 *1400*
P4	195 *640*	230 *750*	270 *890*	175 *570*	210 *690*	250 *820*	330 *1075*	375 *1225*	425 *1400*	255 *840*	300 *980*	355 *1175*	295 *970*	335 *1100*	385 *1275*
P5	185 *610*	220 *720*	260 *850*	170 *560*	200 *660*	235 *770*	315 *1025*	355 *1175*	405 *1325*	245 *800*	290 *950*	340 *1125*	285 *940*	320 *1050*	365 *1200*
P6	210 *690*	245 *800*	290 *950*	190 *620*	225 *740*	265 *870*	355 *1175*	400 *1300*	455 *1500*	275 *900*	325 *1075*	380 *1250*	320 *1050*	360 *1175*	410 *1350*
P7	195 *640*	235 *770*	275 *900*	180 *590*	210 *690*	250 *820*	335 *1100*	380 *1250*	430 *1400*	260 *850*	305 *1000*	360 *1175*	300 *980*	340 *1125*	385 *1275*
P8	185 *610*	220 *720*	255 *840*	170 *560*	200 *660*	235 *770*	315 *1025*	355 *1175*	400 *1300*	245 *800*	290 *950*	335 *1100*	285 *940*	320 *1050*	360 *1175*
P11	190 *620*	225 *740*	270 *890*	175 *570*	205 *670*	245 *800*	325 *1075*	365 *1200*	420 *1375*	250 *820*	295 *970*	350 *1150*	290 *950*	330 *1075*	375 *1225*
P12	130 *425*	150 *490*	175 *570*	115 *375*	135 *445*	155 *510*	215 *710*	240 *790*	265 *870*	170 *560*	195 *640*	225 *740*	195 *640*	215 *710*	240 *790*
M1	205 *670*	240 *790*	280 *920*	185 *610*	220 *720*	255 *840*	220 *720*	260 *850*	300 *980*	235 *770*	280 *920*	330 *1075*	205 *670*	240 *790*	280 *920*
M2	165 *540*	200 *660*	235 *770*	150 *490*	180 *590*	215 *710*	180 *590*	210 *690*	250 *820*	195 *640*	230 *750*	270 *890*	165 *540*	200 *660*	235 *770*
M3	140 *460*	160 *520*	190 *620*	125 *410*	150 *490*	170 *560*	150 *490*	175 *570*	200 *660*	160 *520*	190 *620*	220 *720*	140 *460*	160 *520*	190 *620*
M4	110 *360*	125 *410*	145 *475*	100 *330*	115 *375*	135 *445*	120 *395*	135 *445*	160 *520*	130 *425*	145 *475*	170 *560*	110 *360*	125 *410*	145 *475*
M5	90 *295*	105 *345*	125 *410*	85 *280*	95 *310*	110 *360*	100 *330*	115 *375*	130 *425*	105 *345*	125 *410*	145 *475*	90 *295*	105 *345*	125 *410*
K1	— —	— —	— —	180 *590*	215 *710*	250 *820*	435 *1425*	490 *1600*	550 *1800*	260 *850*	310 *1025*	365 *1200*	390 *1275*	435 *1425*	495 *1625*
K2	— —	— —	— —	160 *520*	190 *620*	225 *740*	380 *1250*	430 *1400*	490 *1600*	230 *750*	275 *900*	325 *1075*	345 *1125*	385 *1275*	440 *1450*
K3	— —	— —	— —	135 *445*	160 *520*	190 *620*	325 *1075*	365 *1200*	415 *1350*	195 *640*	230 *750*	275 *900*	290 *950*	325 *1075*	375 *1225*
K4	— —	— —	— —	130 *425*	155 *510*	180 *590*	310 *1025*	350 *1150*	395 *1300*	185 *610*	220 *720*	260 *850*	275 *900*	310 *1025*	355 *1175*
K5	— —	— —	— —	80 *260*	95 *310*	110 *360*	190 *620*	215 *710*	240 *790*	115 *375*	135 *445*	160 *520*	170 *560*	195 *640*	220 *720*
K6	— —	— —	— —	115 *375*	135 *445*	160 *520*	270 *890*	305 *1000*	350 *1150*	165 *540*	195 *640*	230 *750*	245 *800*	275 *900*	315 *1025*
K7	— —	— —	— —	105 *345*	120 *395*	140 *460*	245 *800*	275 *900*	310 *1025*	150 *490*	175 *570*	205 *670*	220 *720*	245 *800*	280 *920*
N1	— —	— —	— —	1350 *4425*	1600 *5250*	1850 *6075*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	550 *1800*	640 *2100*	750 *2450*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	365 *1200*	430 *1400*	500 *1650*	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	415 *1350*	490 *1600*	570 *1875*	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	50 *165*	60 *195*	70 *230*	47 *155*	55 *180*	60 *195*	— —	— —	— —	65 *215*	70 *230*	85 *280*	50 *165*	60 *195*	70 *230*
S2	41 *135*	47 *155*	55 *180*	38 *125*	43 *140*	50 *165*	— —	— —	— —	50 *165*	60 *195*	65 *215*	41 *135*	47 *155*	55 *180*
S3	37 *120*	42 *140*	49 *160*	33 *110*	38 *125*	44 *145*	— —	— —	— —	44 *145*	50 *165*	60 *195*	37 *120*	42 *140*	49 *160*
S11	70 *230*	85 *280*	95 *310*	65 *215*	75 *245*	85 *280*	— —	— —	— —	85 *280*	100 *330*	115 *375*	70 *230*	85 *280*	95 *310*
S12	50 *165*	55 *180*	65 *215*	45 *150*	50 *165*	60 *195*	— —	— —	— —	60 *195*	70 *230*	80 *260*	50 *165*	55 *180*	65 *215*
S13	29 *95*	33 *110*	39 *130*	26 *85*	30 *100*	35 *115*	— —	— —	— —	35 *115*	40 *130*	47 *155*	29 *95*	33 *110*	39 *130*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —

R217/220.21-125 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-125T-T3-M07 MP3501	0,90 *0.036*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P2	218.19-125T-T3-M07 MP3501	0,90 *0.036*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P3	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P4	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P5	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,80 *0.032*	0,80 *0.032*	1,0 *0.040*
P6	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,80 *0.032*	0,80 *0.032*	1,0 *0.040*
P7	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,80 *0.032*	0,80 *0.032*	1,0 *0.040*
P8	218.19-125T-T3-M07 MP2501	0,90 *0.036*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P11	218.19-125T-T3-M07 MP3501	0,90 *0.036*	0,80 *0.032*	0,80 *0.032*	1,0 *0.040*
P12	218.19-125T-T3-M07 MP2501	0,70 *0.028*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
M1	218.19-125T-T3-M07 MS2050	0,90 *0.036*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
M2	218.19-125T-T3-M07 MS2050	0,90 *0.036*	0,80 *0.032*	0,80 *0.032*	1,0 *0.040*
M3	218.19-125T-T3-M07 MS2050	0,70 *0.028*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
M4	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
M5	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
K1	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	1,0 *0.040*	1,0 *0.040*	1,3 *0.050*
K2	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 *0.038*	0,95 *0.038*	1,1 *0.048*
K3	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 *0.038*	0,95 *0.038*	1,1 *0.048*
K4	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 *0.038*	0,95 *0.038*	1,1 *0.048*
K5	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
K6	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,95 *0.038*	0,95 *0.038*	1,1 *0.048*
K7	218.19-125T-T3-MD08 MP3000	0,90 *0.036*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
S1	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S2	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
S3	218.19-125T-T3-M07 MP3501	0,55 *0.022*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
S11	218.19-125T-T3-M07 MS2050	0,65 *0.026*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
S12	218.19-125T-T3-M07 MS2050	0,65 *0.026*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
S13	218.19-125T-T3-M07 MS2050	0,55 *0.022*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
H5	218.19-125T-T3-MD10 MH1000	0,55 *0.022*	0,75 *0.030*	0,75 *0.030*	0,85 *0.034*
H8	218.19-125T-T3-MD10 MH1000	0,50 *0.020*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*
H11	218.19-125T-T3-MD08 MP3000	0,55 *0.022*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
H12	218.19-125T-T3-MD08 MP3000	0,50 *0.020*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-125 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			F15M			F25M			F30M			MP3000			MS2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	225	260	310	205	235	285	235	270	330	280	325	390	245	285	345
	—	—	—	*740*	*850*	*1025*	*670*	*770*	*940*	*770*	*890*	*1075*	*920*	*1075*	*1275*	*800*	*940*	*1125*
P2	—	—	—	215	250	305	200	230	280	230	265	310	270	315	370	240	275	325
	—	—	—	*710*	*820*	*1000*	*660*	*750*	*920*	*750*	*870*	*1025*	*890*	*1025*	*1225*	*790*	*900*	*1075*
P3	—	—	—	190	220	265	175	205	245	200	230	275	235	275	330	210	240	290
	—	—	—	*620*	*720*	*870*	*570*	*670*	*800*	*660*	*750*	*900*	*770*	*900*	*1075*	*690*	*790*	*950*
P4	—	—	—	170	195	235	155	180	215	175	205	245	210	240	290	185	215	255
	—	—	—	*560*	*640*	*770*	*510*	*590*	*710*	*570*	*670*	*800*	*690*	*790*	*950*	*610*	*710*	*840*
P5	195	225	270	160	185	225	150	170	205	170	200	235	205	235	280	180	205	245
	640	*740*	*890*	*520*	*610*	*740*	*490*	*560*	*670*	*560*	*660*	*770*	*670*	*770*	*920*	*590*	*670*	*800*
P6	220	255	305	180	210	250	165	190	230	190	220	265	230	265	315	200	230	275
	720	*840*	*1000*	*590*	*690*	*820*	*540*	*620*	*750*	*620*	*720*	*870*	*750*	*870*	*1025*	*660*	*750*	*900*
P7	205	240	285	170	195	235	155	180	215	180	210	250	215	250	295	190	220	260
	670	*790*	*940*	*560*	*640*	*770*	*510*	*590*	*710*	*590*	*690*	*820*	*710*	*820*	*970*	*620*	*720*	*850*
P8	195	225	270	160	185	225	150	170	205	170	195	230	200	230	275	175	205	245
	640	*740*	*890*	*520*	*610*	*740*	*490*	*560*	*670*	*560*	*640*	*750*	*660*	*750*	*900*	*570*	*670*	*800*
P11	200	230	280	165	190	230	150	175	210	175	205	240	210	240	290	185	215	255
	660	*750*	*920*	*540*	*620*	*750*	*490*	*570*	*690*	*570*	*670*	*790*	*690*	*790*	*950*	*610*	*710*	*840*
P12	135	155	185	—	—	—	105	120	140	115	135	160	140	160	190	120	140	165
	445	*510*	*610*	—	—	—	*345*	*395*	*460*	*375*	*445*	*520*	*460*	*520*	*620*	*395*	*460*	*540*
M1	—	—	—	—	—	—	—	—	—	185	215	250	205	235	280	195	225	265
	—	—	—	—	—	—	—	—	—	*610*	*710*	*820*	*670*	*770*	*920*	*640*	*740*	*870*
M2	—	—	—	—	—	—	—	—	—	155	180	210	170	195	235	160	185	220
	—	—	—	—	—	—	—	—	—	*510*	*590*	*690*	*560*	*640*	*770*	*520*	*610*	*720*
M3	—	—	—	—	—	—	—	—	—	125	145	170	140	160	190	130	150	180
	—	—	—	—	—	—	—	—	—	*410*	*475*	*560*	*460*	*520*	*620*	*425*	*490*	*590*
M4	—	—	—	—	—	—	—	—	—	100	115	130	110	125	145	105	120	140
	—	—	—	—	—	—	—	—	—	*330*	*375*	*425*	*360*	*410*	*475*	*345*	*395*	*460*
M5	—	—	—	—	—	—	—	—	—	85	95	110	95	105	120	90	100	115
	—	—	—	—	—	—	—	—	—	*280*	*310*	*360*	*310*	*345*	*395*	*295*	*330*	*375*
K1	210	240	290	170	200	240	160	180	220	180	210	245	215	250	295	—	—	—
	690	*790*	*950*	*560*	*660*	*790*	*520*	*590*	*720*	*590*	*690*	*800*	*710*	*820*	*970*	—	—	—
K2	185	215	255	155	175	210	140	160	195	160	190	225	195	225	265	—	—	—
	610	*710*	*840*	*510*	*570*	*690*	*460*	*520*	*640*	*520*	*620*	*740*	*640*	*740*	*870*	—	—	—
K3	155	180	215	130	150	180	120	135	165	135	160	190	165	190	225	—	—	—
	510	*590*	*710*	*425*	*490*	*590*	*395*	*445*	*540*	*445*	*520*	*620*	*540*	*620*	*740*	—	—	—
K4	150	175	205	125	145	170	115	130	155	130	150	180	155	180	215	—	—	—
	490	*570*	*670*	*410*	*475*	*560*	*375*	*425*	*510*	*425*	*490*	*590*	*510*	*590*	*710*	—	—	—
K5	95	110	130	80	90	105	70	80	100	80	90	110	95	110	130	—	—	—
	310	*360*	*425*	*260*	*295*	*345*	*230*	*260*	*330*	*260*	*295*	*360*	*310*	*360*	*425*	—	—	—
K6	130	150	185	110	125	150	100	115	140	115	135	160	135	160	190	—	—	—
	425	*490*	*610*	*360*	*410*	*490*	*330*	*375*	*460*	*375*	*445*	*520*	*445*	*520*	*620*	—	—	—
K7	120	140	165	100	115	135	90	105	125	100	120	140	120	140	170	—	—	—
	395	*460*	*540*	*330*	*375*	*445*	*295*	*345*	*410*	*330*	*395*	*460*	*395*	*460*	*560*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	47	55	60	50	60	70	49	55	65
	—	—	—	—	—	—	—	—	—	*155*	*180*	*195*	*165*	*195*	*230*	*160*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	38	43	49	42	47	55	40	45	50
	—	—	—	—	—	—	—	—	—	*125*	*140*	*160*	*140*	*155*	*180*	*130*	*150*	*165*
S3	—	—	—	—	—	—	—	—	—	33	37	43	36	41	48	34	39	45
	—	—	—	—	—	—	—	—	—	*110*	*120*	*140*	*120*	*135*	*155*	*110*	*130*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	75	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*180*	*215*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	31	36
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*120*
H5	48	55	65	40	46	55	—	—	—	41	47	55	46	55	60	—	—	—
	155	*180*	*215*	*130*	*150*	*180*	—	—	—	*135*	*155*	*180*	*150*	*180*	*195*	—	—	—
H8	55	60	70	44	50	60	—	—	—	44	50	60	49	55	65	—	—	—
	180	*195*	*230*	*145*	*165*	*195*	—	—	—	*145*	*165*	*195*	*160*	*180*	*215*	—	—	—
H11	60	70	85	50	60	70	—	—	—	55	60	70	60	65	80	—	—	—
	195	*230*	*280*	*165*	*195*	*230*	—	—	—	*180*	*195*	*230*	*195*	*215*	*260*	—	—	—
H12	95	110	125	80	90	105	—	—	—	80	90	105	95	105	125	—	—	—
	310	*360*	*410*	*260*	*295*	*345*	—	—	—	*260*	*295*	*345*	*310*	*345*	*410*	—	—	—

R217/220.21-125 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	225 *740*	260 *850*	315 *1025*	350 *1150*	385 *1275*	455 *1500*	415 *1350*	460 *1500*	540 *1775*	320 *1050*	370 *1225*	450 *1475*	370 *1225*	410 *1350*	485 *1600*	180 *590*	210 *690*	255 *840*
P2	215 *710*	250 *820*	295 *970*	340 *1125*	375 *1225*	445 *1450*	405 *1325*	450 *1475*	510 *1675*	315 *1025*	360 *1175*	430 *1400*	360 *1175*	400 *1300*	460 *1500*	175 *570*	205 *670*	240 *790*
P3	190 *620*	220 *720*	265 *870*	300 *980*	335 *1100*	390 *1275*	355 *1175*	395 *1300*	455 *1500*	275 *900*	315 *1025*	380 *1250*	315 *1025*	350 *1150*	405 *1325*	155 *510*	180 *590*	215 *710*
P4	165 *540*	195 *640*	230 *750*	265 *870*	295 *970*	345 *1125*	310 *1025*	345 *1125*	400 *1300*	240 *790*	280 *920*	335 *1100*	280 *920*	310 *1025*	360 *1175*	135 *445*	155 *510*	185 *610*
P5	165 *540*	190 *620*	225 *740*	250 *820*	280 *920*	330 *1075*	305 *1000*	335 *1100*	390 *1275*	235 *770*	270 *890*	325 *1075*	270 *890*	300 *980*	345 *1125*	130 *425*	150 *490*	180 *590*
P6	180 *590*	210 *690*	250 *820*	285 *940*	315 *1025*	370 *1225*	340 *1125*	380 *1250*	435 *1425*	265 *870*	305 *1000*	360 *1175*	305 *1000*	340 *1125*	390 *1275*	150 *490*	170 *560*	205 *670*
P7	170 *560*	200 *660*	235 *770*	265 *870*	295 *970*	350 *1150*	320 *1050*	355 *1175*	410 *1350*	250 *820*	285 *940*	340 *1125*	285 *940*	320 *1050*	370 *1225*	140 *460*	160 *520*	190 *620*
P8	160 *520*	185 *610*	220 *720*	250 *820*	280 *920*	330 *1075*	295 *970*	330 *1075*	380 *1250*	230 *750*	265 *870*	320 *1050*	265 *870*	295 *970*	340 *1125*	130 *425*	150 *490*	180 *590*
P11	165 *540*	195 *640*	230 *750*	260 *850*	290 *950*	340 *1125*	310 *1025*	345 *1125*	400 *1300*	240 *790*	280 *920*	330 *1075*	280 *920*	310 *1025*	360 *1175*	135 *445*	155 *510*	185 *610*
P12	110 *360*	125 *410*	150 *490*	180 *590*	195 *640*	225 *740*	205 *670*	225 *740*	255 *840*	160 *520*	180 *590*	220 *720*	185 *610*	205 *670*	230 *750*	90 *295*	100 *330*	120 *395*
M1	175 *570*	205 *670*	240 *790*	— —	— —	— —	205 *670*	240 *790*	285 *940*	225 *740*	260 *850*	305 *1000*	195 *640*	225 *740*	265 *870*	150 *490*	175 *570*	205 *670*
M2	145 *475*	170 *560*	200 *660*	— —	— —	— —	175 *570*	200 *660*	240 *790*	185 *610*	215 *710*	260 *850*	160 *520*	185 *610*	220 *720*	125 *410*	145 *475*	175 *570*
M3	120 *395*	135 *445*	160 *520*	— —	— —	— —	140 *460*	160 *520*	190 *620*	155 *510*	175 *570*	205 *670*	130 *425*	150 *490*	180 *590*	105 *345*	120 *395*	140 *460*
M4	95 *310*	110 *360*	125 *410*	— —	— —	— —	115 *375*	130 *425*	150 *490*	125 *410*	140 *460*	160 *520*	105 *345*	120 *395*	140 *460*	85 *280*	95 *310*	110 *360*
M5	80 *260*	90 *295*	105 *345*	— —	— —	— —	95 *310*	105 *345*	125 *410*	105 *345*	115 *375*	135 *445*	90 *295*	100 *330*	115 *375*	70 *230*	80 *260*	90 *295*
K1	170 *560*	200 *660*	235 *770*	340 *1125*	380 *1250*	450 *1475*	405 *1325*	450 *1475*	520 *1700*	250 *820*	285 *940*	340 *1125*	365 *1200*	405 *1325*	465 *1525*	— —	— —	— —
K2	155 *510*	180 *590*	215 *710*	305 *1000*	340 *1125*	400 *1300*	365 *1200*	405 *1325*	470 *1550*	220 *720*	255 *840*	305 *1000*	330 *1075*	365 *1200*	420 *1375*	— —	— —	— —
K3	130 *425*	150 *490*	180 *590*	260 *850*	285 *940*	335 *1100*	310 *1025*	345 *1125*	395 *1300*	190 *620*	220 *720*	260 *850*	275 *900*	310 *1025*	355 *1175*	— —	— —	— —
K4	125 *410*	145 *475*	170 *560*	245 *800*	275 *900*	320 *1050*	295 *970*	330 *1075*	380 *1250*	180 *590*	210 *690*	245 *800*	265 *870*	295 *970*	340 *1125*	— —	— —	— —
K5	75 *245*	85 *280*	105 *345*	155 *510*	175 *570*	200 *660*	180 *590*	200 *660*	230 *750*	110 *360*	125 *410*	150 *490*	160 *520*	180 *590*	210 *690*	— —	— —	— —
K6	110 *360*	125 *410*	150 *490*	215 *710*	240 *790*	285 *940*	260 *850*	290 *950*	335 *1100*	160 *520*	185 *610*	220 *720*	235 *770*	260 *850*	300 *980*	— —	— —	— —
K7	95 *310*	110 *360*	135 *445*	200 *660*	220 *720*	255 *840*	230 *750*	255 *840*	295 *970*	140 *460*	160 *520*	195 *640*	205 *670*	230 *750*	265 *870*	— —	— —	— —
N1	1275 *4175*	1475 *4850*	1725 *5650*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	520 *1700*	600 *1975*	700 *2300*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	345 *1125*	400 *1300*	465 *1525*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	395 *1300*	455 *1500*	530 *1750*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	45 *150*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	80 *260*	49 *160*	55 *180*	65 *215*	25 *80*	29 *95*	33 *110*
S2	36 *120*	41 *135*	47 *155*	— —	— —	— —	— —	— —	— —	48 *155*	55 *180*	65 *215*	40 *130*	45 *150*	50 *165*	20 *65*	23 *75*	27 *90*
S3	31 *100*	35 *115*	41 *135*	— —	— —	— —	— —	— —	— —	42 *140*	47 *155*	55 *180*	34 *110*	39 *130*	45 *150*	18 *60*	20 *65*	23 *75*
S11	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	— —	— —	80 *260*	95 *310*	110 *360*	65 *215*	75 *245*	90 *295*	35 *115*	39 *130*	47 *155*
S12	42 *140*	48 *155*	55 *180*	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	47 *155*	55 *180*	65 *215*	32 *105*	36 *120*	43 *140*
S13	25 *80*	28 *90*	33 *110*	— —	— —	— —	— —	— —	— —	34 *110*	38 *125*	44 *145*	28 *90*	31 *100*	36 *120*	19 *60*	21 *70*	25 *80*
H5	39 *130*	45 *150*	55 *180*	50 *165*	55 *180*	70 *230*	— —	— —	— —	50 *165*	60 *195*	70 *230*	45 *150*	50 *165*	60 *195*	— —	— —	— —
H8	42 *140*	48 *155*	55 *180*	55 *180*	60 *195*	70 *230*	— —	— —	— —	55 *180*	60 *195*	75 *245*	48 *155*	55 *180*	65 *215*	— —	— —	— —
H11	50 *165*	60 *195*	70 *230*	65 *215*	70 *230*	85 *280*	— —	— —	— —	65 *215*	75 *245*	90 *295*	60 *195*	65 *215*	80 *260*	— —	— —	— —
H12	75 *245*	85 *280*	100 *330*	95 *310*	110 *360*	130 *425*	— —	— —	— —	110 *360*	125 *410*	145 *475*	85 *280*	100 *330*	115 *375*	— —	— —	— —

R217/220.21-160 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	218.19-160T-04-M08 MP3501	1,6 *0.065*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P2	218.19-160T-04-M08 MP3501	1,6 *0.065*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P3	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P4	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P5	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P6	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P7	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P8	218.19-160T-04-M11 MP2501	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
P11	218.19-160T-04-M08 MP3501	1,6 *0.065*	0,75 *0.030*	0,75 *0.030*	0,95 *0.038*
P12	218.19-160T-04-M11 MP2501	1,3 *0.050*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
M1	218.19-160T-04-M08 MS2050	1,6 *0.065*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
M2	218.19-160T-04-M08 MS2050	1,6 *0.065*	0,80 *0.032*	0,80 *0.032*	0,95 *0.038*
M3	218.19-160T-04-M08 MS2050	1,3 *0.050*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
M4	218.19-160T-04-M08 MP3501	0,95 *0.038*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
M5	218.19-160T-04-M08 MP3501	0,95 *0.038*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
K1	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,2 *0.048*	1,2 *0.048*	1,4 *0.055*
K2	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K3	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K4	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K5	218.19-160T-04-MD11 MK2050	1,6 *0.065*	0,95 *0.038*	0,95 *0.038*	1,2 *0.048*
K6	218.19-160T-04-MD11 MK2050	1,6 *0.065*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K7	218.19-160T-04-MD11 MK2050	1,6 *0.065*	0,95 *0.038*	0,95 *0.038*	1,2 *0.048*
N1	218.19-160-04-E07 H25	1,6 *0.065*	0,95 *0.038*	0,95 *0.038*	1,2 *0.044*
N2	218.19-160-04-E07 H25	1,6 *0.065*	0,95 *0.038*	0,95 *0.038*	1,2 *0.044*
N3	218.19-160-04-E07 H25	1,6 *0.065*	0,95 *0.038*	0,95 *0.038*	1,2 *0.044*
N11	218.19-160-04-E07 H25	1,6 *0.065*	0,95 *0.038*	0,95 *0.038*	1,2 *0.044*
S1	218.19-160T-04-M08 MS2500	0,95 *0.038*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
S2	218.19-160T-04-M08 MS2500	0,95 *0.038*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
S3	218.19-160T-04-M08 MS2500	0,95 *0.038*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
S11	218.19-160T-04-M08 MS2050	1,1 *0.044*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
S12	218.19-160T-04-M08 MS2050	1,1 *0.044*	0,75 *0.030*	0,75 *0.030*	0,90 *0.036*
S13	218.19-160T-04-M08 MS2050	0,95 *0.038*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
H5	218.19-160T-04-MD11 MH1000	1,0 *0.040*	0,80 *0.032*	0,80 *0.032*	0,95 *0.038*
H8	218.19-160T-04-MD11 MH1000	0,90 *0.036*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
H11	218.19-160T-04-MD09 MP3000	1,0 *0.040*	0,65 *0.026*	0,65 *0.026*	0,75 *0.030*
H12	218.19-160T-04-MD09 MP3000	0,90 *0.036*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*

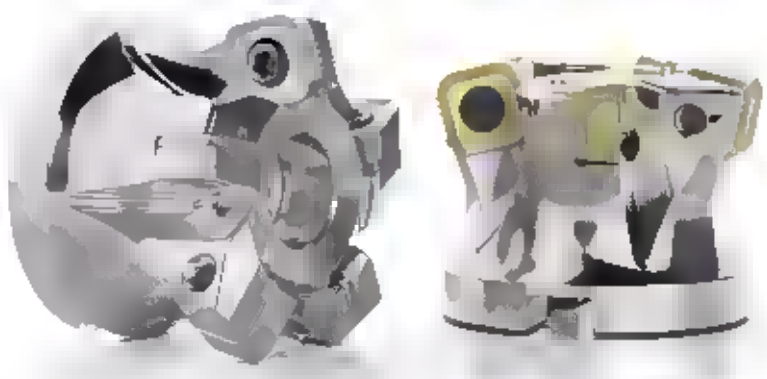
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.21-160 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000			F15M			MK2050			F25M			F30M			MP3000			MS2050		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	—	—	—	215	255	305	235	275	330	235	280	335	225	265	320	245	285	335	235	280	335
	—	—	—	*710*	*840*	*1000*	*770*	*900*	*1075*	*770*	*920*	*1100*	*740*	*870*	*1050*	*800*	*940*	*1100*	*770*	*920*	*1100*
P2	—	—	—	210	245	300	230	265	320	230	270	325	220	260	310	230	275	325	230	270	325
	—	—	—	*690*	*800*	*980*	*750*	*870*	*1050*	*750*	*890*	*1075*	*720*	*850*	*1025*	*750*	*900*	*1075*	*750*	*890*	*1075*
P3	—	—	—	185	220	255	200	235	275	205	240	280	195	225	265	205	240	290	205	240	280
	—	—	—	*610*	*720*	*840*	*660*	*770*	*900*	*670*	*790*	*920*	*640*	*740*	*870*	*670*	*790*	*950*	*670*	*790*	*920*
P4	—	—	—	165	190	230	180	210	250	180	210	250	170	200	240	180	215	255	180	210	250
	—	—	—	*540*	*620*	*750*	*590*	*690*	*820*	*590*	*690*	*820*	*560*	*660*	*790*	*590*	*710*	*840*	*590*	*690*	*820*
P5	190	220	265	155	185	220	170	200	240	170	200	240	165	190	230	175	205	240	170	200	240
	620	*720*	*870*	*510*	*610*	*720*	*560*	*660*	*790*	*560*	*660*	*790*	*540*	*620*	*750*	*570*	*670*	*790*	*560*	*660*	*790*
P6	210	250	300	175	205	245	190	225	270	190	225	270	185	215	255	195	230	270	190	225	270
	690	*820*	*980*	*570*	*670*	*800*	*620*	*740*	*890*	*620*	*740*	*890*	*610*	*710*	*840*	*640*	*750*	*890*	*620*	*740*	*890*
P7	200	235	280	165	195	235	180	210	255	180	210	255	170	200	240	185	215	255	180	210	255
	660	*770*	*920*	*540*	*640*	*770*	*590*	*690*	*840*	*590*	*690*	*840*	*560*	*660*	*790*	*610*	*710*	*840*	*590*	*690*	*840*
P8	190	220	260	155	185	215	170	200	235	170	200	235	165	190	225	175	205	240	170	200	235
	620	*720*	*850*	*510*	*610*	*710*	*560*	*660*	*770*	*560*	*660*	*770*	*540*	*620*	*740*	*570*	*670*	*790*	*560*	*660*	*770*
P11	195	230	275	160	190	225	175	205	245	175	205	245	165	195	235	180	210	250	175	205	245
	640	*750*	*900*	*520*	*620*	*740*	*570*	*670*	*800*	*570*	*670*	*800*	*540*	*640*	*770*	*590*	*690*	*820*	*570*	*670*	*800*
P12	130	150	180	—	—	—	115	135	165	115	135	160	110	130	155	120	140	165	115	135	160
	425	*490*	*590*	—	—	—	*375*	*445*	*540*	*375*	*445*	*520*	*360*	*425*	*510*	*395*	*460*	*540*	*375*	*445*	*520*
M1	—	—	—	—	—	—	—	—	—	—	—	—	180	210	250	175	205	245	185	220	260
	—	—	—	—	—	—	—	—	—	—	—	—	*590*	*690*	*820*	*570*	*670*	*800*	*610*	*720*	*850*
M2	—	—	—	—	—	—	—	—	—	—	—	—	145	170	205	145	170	200	155	180	215
	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*560*	*670*	*475*	*560*	*660*	*510*	*590*	*710*
M3	—	—	—	—	—	—	—	—	—	—	—	—	120	140	165	120	140	165	125	145	175
	—	—	—	—	—	—	—	—	—	—	—	—	*395*	*460*	*540*	*395*	*460*	*540*	*410*	*475*	*570*
M4	—	—	—	—	—	—	—	—	—	—	—	—	95	110	130	95	105	130	100	115	135
	—	—	—	—	—	—	—	—	—	—	—	—	*310*	*360*	*425*	*310*	*345*	*425*	*330*	*375*	*445*
M5	—	—	—	—	—	—	—	—	—	—	—	—	80	90	110	75	90	105	80	95	115
	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*295*	*360*	*245*	*295*	*345*	*260*	*310*	*375*
K1	200	235	285	165	195	235	245	290	350	185	215	260	175	205	245	185	215	260	—	—	—
	660	*770*	*940*	*540*	*640*	*770*	*800*	*950*	*1150*	*610*	*710*	*850*	*570*	*670*	*800*	*610*	*710*	*850*	—	—	—
K2	180	210	255	150	175	210	220	255	310	160	190	225	155	180	215	165	195	230	—	—	—
	590	*690*	*840*	*490*	*570*	*690*	*720*	*840*	*1025*	*520*	*620*	*740*	*510*	*590*	*710*	*540*	*640*	*750*	—	—	—
K3	150	180	215	125	145	175	185	215	260	135	160	190	130	155	185	140	165	195	—	—	—
	490	*590*	*710*	*410*	*475*	*570*	*610*	*710*	*850*	*445*	*520*	*620*	*425*	*510*	*610*	*460*	*540*	*640*	—	—	—
K4	145	170	205	120	140	170	175	210	250	130	155	185	125	145	175	135	155	185	—	—	—
	475	*560*	*670*	*395*	*460*	*560*	*570*	*690*	*820*	*425*	*510*	*610*	*410*	*475*	*570*	*445*	*510*	*610*	—	—	—
K5	90	105	125	75	85	105	110	125	150	80	95	115	75	90	105	80	95	115	—	—	—
	295	*345*	*410*	*245*	*280*	*345*	*360*	*410*	*490*	*260*	*310*	*375*	*245*	*295*	*345*	*260*	*310*	*375*	—	—	—
K6	130	150	180	105	125	150	155	185	220	115	135	160	110	130	155	115	140	165	—	—	—
	425	*490*	*590*	*345*	*410*	*490*	*510*	*610*	*720*	*375*	*445*	*520*	*360*	*425*	*510*	*375*	*460*	*540*	—	—	—
K7	115	135	160	95	110	130	140	165	195	105	120	145	100	115	135	105	125	150	—	—	—
	375	*445*	*520*	*310*	*360*	*425*	*460*	*540*	*640*	*345*	*395*	*475*	*330*	*375*	*445*	*345*	*410*	*490*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1375	1600	1900	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*4500*	*5250*	*6225*	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	550	650	770	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1800*	*2125*	*2525*	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	370	435	510	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1225*	*1425*	*1675*	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	420	495	580	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1375*	*1625*	*1900*	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	44	50	60	43	50	60	46	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	*145*	*165*	*195*	*140*	*165*	*195*	*150*	*180*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	35	41	49	35	40	48	37	43	50
	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*135*	*160*	*115*	*130*	*155*	*120*	*140*	*165*
S3	—	—	—	—	—	—	—	—	—	—	—	—	31	36	43	31	36	42	32	38	45
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*120*	*140*	*100*	*120*	*140*	*105*	*125*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	60	70	85	65	75	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*230*	*280*	*215*	*245*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	48	60	44	50	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*155*	*195*	*145*	*165*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	28	34	26	30	36
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*80*	*90*	*110*	*85*	*100*	*120*
H5	45	50	60	37	43	50	—	—	—	40	46	55	38	44	50	39	45	55	—	—	—
	150	*165*	*195*	*120*	*140*	*165*	—	—	—	*130*	*150*	*180*	*125*	*145*	*165*	*130*	*150*	*180*	—	—	—
H8	48	55	65	40	46	55	—	—	—	43	50	60	41	48	55	42	48	55	—	—	—
	155	*180*	*215*	*130*	*150*	*180*	—	—	—	*140*	*165*	*195*	*135*	*155*	*180*	*140*	*155*	*180*	—	—	—
H11	55	65	80	48	55	65	—	—	—	50	60	70	48	55	65	49	55	65	—	—	—
	180	*215*	*260*	*155*	*180*	*215*	—	—	—	*165*	*195*	*230*	*155*	*180*	*215*	*160*	*180*	*215*	—	—	—
H12	85	100	120	70	85	100	—	—	—	75	90	105	75	85	100	80	95	110	—	—	—
	280	*330*	*395*	*230*	*280*	*330*	—	—	—	*245*	*295*	*345*	*245*	*280*	*330*	*260*	*310*	*360*	—	—	—

R217/220.21-160 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M			MP2050			MP1501			MP2501			MS2500			MP3501			MM4500		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	215	255	305	280	330	395	370	415	495	360	405	480	310	365	435	355	400	470	175	205	245
	710	*840*	*1000*	*920*	*1075*	*1300*	*1225*	*1350*	*1625*	*1175*	*1325*	*1575*	*1025*	*1200*	*1425*	*1175*	*1300*	*1550*	*570*	*670*	*800*
P2	210	245	295	270	320	385	360	405	480	350	390	470	305	355	425	345	390	455	170	200	240
	690	*800*	*970*	*890*	*1050*	*1275*	*1175*	*1325*	*1575*	*1150*	*1275*	*1550*	*1000*	*1175*	*1400*	*1125*	*1275*	*1500*	*560*	*660*	*790*
P3	185	215	255	240	280	330	320	360	415	310	350	405	265	310	365	305	340	390	150	175	205
	610	*710*	*840*	*790*	*920*	*1075*	*1050*	*1175*	*1350*	*1025*	*1150*	*1325*	*870*	*1025*	*1200*	*1000*	*1125*	*1275*	*490*	*570*	*670*
P4	160	190	225	210	245	295	285	320	375	275	310	365	235	275	325	270	300	350	130	155	185
	520	*620*	*740*	*690*	*800*	*970*	*940*	*1050*	*1225*	*900*	*1025*	*1200*	*770*	*900*	*1075*	*890*	*980*	*1150*	*425*	*510*	*610*
P5	155	180	215	200	235	280	270	305	360	260	295	350	225	260	310	255	285	335	125	145	175
	510	*590*	*710*	*660*	*770*	*920*	*890*	*1000*	*1175*	*850*	*970*	*1150*	*740*	*850*	*1025*	*840*	*940*	*1100*	*410*	*475*	*570*
P6	175	205	245	225	265	315	305	340	400	295	330	390	250	295	350	285	320	375	140	165	195
	570	*670*	*800*	*740*	*870*	*1025*	*1000*	*1125*	*1300*	*970*	*1075*	*1275*	*820*	*970*	*1150*	*940*	*1050*	*1225*	*460*	*540*	*640*
P7	165	190	230	215	250	300	285	325	380	275	310	370	235	275	330	270	305	355	135	155	185
	540	*620*	*750*	*710*	*820*	*980*	*940*	*1075*	*1250*	*900*	*1025*	*1225*	*770*	*900*	*1075*	*890*	*1000*	*1175*	*445*	*510*	*610*
P8	155	180	215	200	235	275	270	305	350	260	295	340	225	260	310	255	285	330	125	145	175
	510	*590*	*710*	*660*	*770*	*900*	*890*	*1000*	*1150*	*850*	*970*	*1125*	*740*	*850*	*1025*	*840*	*940*	*1075*	*410*	*475*	*570*
P11	160	185	225	205	240	290	280	315	370	270	305	360	230	270	320	265	295	345	130	150	180
	520	*610*	*740*	*670*	*790*	*950*	*920*	*1025*	*1225*	*890*	*1000*	*1175*	*750*	*890*	*1050*	*870*	*970*	*1125*	*425*	*490*	*590*
P12	105	125	145	135	160	190	190	210	245	185	205	240	150	180	210	175	200	225	85	100	120
	345	*410*	*475*	*445*	*520*	*620*	*620*	*690*	*800*	*610*	*670*	*790*	*490*	*590*	*690*	*570*	*660*	*740*	*280*	*330*	*395*
M1	170	200	240	195	230	275	—	—	—	185	215	260	215	255	305	185	220	260	145	170	205
	560	*660*	*790*	*640*	*750*	*900*	—	—	—	*610*	*710*	*850*	*710*	*840*	*1000*	*610*	*720*	*850*	*475*	*560*	*670*
M2	140	165	195	160	190	225	—	—	—	155	180	215	180	210	250	155	180	215	120	140	170
	460	*540*	*640*	*520*	*620*	*740*	—	—	—	*510*	*590*	*710*	*590*	*690*	*820*	*510*	*590*	*710*	*395*	*460*	*560*
M3	115	130	155	130	150	180	—	—	—	125	145	175	145	170	200	125	145	175	100	115	135
	375	*425*	*510*	*425*	*490*	*590*	—	—	—	*410*	*475*	*570*	*475*	*560*	*660*	*410*	*475*	*570*	*330*	*375*	*445*
M4	90	105	125	105	120	140	—	—	—	100	115	140	115	130	160	100	115	135	75	90	105
	295	*345*	*410*	*345*	*395*	*460*	—	—	—	*330*	*375*	*460*	*375*	*425*	*520*	*330*	*375*	*445*	*245*	*295*	*345*
M5	75	85	105	85	100	120	—	—	—	80	95	115	95	110	130	80	95	115	65	75	90
	245	*280*	*345*	*280*	*330*	*395*	—	—	—	*260*	*310*	*375*	*310*	*360*	*425*	*260*	*310*	*375*	*215*	*245*	*295*
K1	165	195	235	—	—	—	365	410	485	350	395	475	240	280	335	350	390	460	—	—	—
	540	*640*	*770*	—	—	—	*1200*	*1350*	*1600*	*1150*	*1300*	*1550*	*790*	*920*	*1100*	*1150*	*1275*	*1500*	—	—	—
K2	145	170	205	—	—	—	325	370	435	315	355	420	210	250	295	310	345	405	—	—	—
	475	*560*	*670*	—	—	—	*1075*	*1225*	*1425*	*1025*	*1175*	*1375*	*690*	*820*	*970*	*1025*	*1125*	*1325*	—	—	—
K3	125	145	175	—	—	—	275	310	365	270	300	355	180	210	250	260	295	345	—	—	—
	410	*475*	*570*	—	—	—	*900*	*1025*	*1200*	*890*	*980*	*1175*	*590*	*690*	*820*	*850*	*970*	*1125*	—	—	—
K4	120	140	165	—	—	—	265	295	350	255	290	340	170	200	240	250	280	325	—	—	—
	395	*460*	*540*	—	—	—	*870*	*970*	*1150*	*840*	*950*	*1125*	*560*	*660*	*790*	*820*	*920*	*1075*	—	—	—
K5	75	85	100	—	—	—	165	185	215	160	180	210	105	125	145	155	175	200	—	—	—
	245	*280*	*330*	—	—	—	*540*	*610*	*710*	*520*	*590*	*690*	*345*	*410*	*475*	*510*	*570*	*660*	—	—	—
K6	105	125	145	—	—	—	230	260	310	225	255	300	150	175	210	220	245	290	—	—	—
	345	*410*	*475*	—	—	—	*750*	*850*	*1025*	*740*	*840*	*980*	*490*	*570*	*690*	*720*	*800*	*950*	—	—	—
K7	95	110	130	—	—	—	210	235	275	205	230	265	135	160	190	200	225	260	—	—	—
	310	*360*	*425*	—	—	—	*690*	*770*	*900*	*670*	*750*	*870*	*445*	*520*	*620*	*660*	*740*	*850*	—	—	—
N1	1225	1425	1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	4025	*4675*	*5575*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	490	570	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1600	*1875*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	325	385	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1075	*1275*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	375	440	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1225	*1450*	*1750*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	42	48	60	50	60	70	—	—	—	—	—	—	55	65	75	46	55	65	24	27	33
	140	*155*	*195*	*165*	*195*	*230*	—	—	—	—	—	—	*180*	*215*	*245*	*150*	*180*	*215*	*80*	*90*	*110*
S2	33	39	46	40	47	55	—	—	—	—	—	—	45	50	60	37	43	50	19	22	26
	110	*130*	*150*	*130*	*155*	*180*	—	—	—	—	—	—	*150*	*165*	*195*	*120*	*140*	*165*	*60*	*70*	*85*
S3	29	34	41	36	41	49	—	—	—	—	—	—	39	46	55	32	38	45	17	19	23
	95	*110*	*135*	*120*	*135*	*160*	—	—	—	—	—	—	*130*	*150*	*180*	*105*	*125*	*150*	*55*	*60*	*75*
S11	60	65	80	70	80	95	—	—	—	—	—	—	75	90	105	65	75	90	33	38	45
	195	*215*	*260*	*230*	*260*	*310*	—	—	—	—	—	—	*245*	*295*	*345*	*215*	*245*	*295*	*110*	*125*	*150*
S12	40	46	55	48	55	65	—	—	—	—	—	—	55	60	75	44	50	60	30	35	42
	130	*150*	*180*	*155*	*180*	*215*	—	—	—	—	—	—	*180*	*195*	*245*	*145*	*165*	*195*	*100*	*115*	*140*
S13	23	27	32	28	33	39	—	—	—	—	—	—	31	36	43	26	30	36	18	20	24
	75	*90*	*105*	*90*	*110*	*130*	—	—	—	—	—	—	*100*	*120*	*140*	*85*	*100*	*120*	*60*	*65*	*80*
H5	36	42	50	—	—	—	50	60	70	—	—	—	47	55	65	42	48	55	—	—	—
	120	*140*	*165*	—	—	—	*165*	*195*	*230*	—	—	—	*155*	*180*	*215*	*140*	*155*	*180*	—	—	—
H8	39	45	55	—	—	—	55	65	75	—	—	—	50	60	70	45	50	60	—	—	—
	130	*150*	*180*	—	—	—	*180*	*215*	*245*	—	—	—	*165*	*195*	*230*	*150*	*165*	*195*	—	—	—
H11	46	55	65	55	60	75	65	75	90	—	—	—	60	70	85	55	60	75	—	—	—
	150	*180*	*215*	*180*	*195*	*245*	*215*	*245*	*295*	—	—	—	*195*	*230*	*280*	*180*	*195*	*245*	—	—	—
H12	70	80	95	90	105	125	100	115	135	—	—	—	100	115	135	80	95	110	—	—	—
	230	*260*	*310*	*295*	*345*	*410*	*330*	*375*	*445*	—	—	—	*330*	*375*	*445*	*260*	*310*	*360*	—	—	—



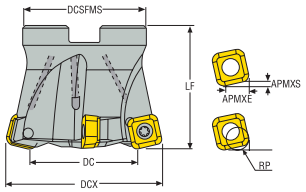
R220.21 (SC12) HIGH FEED

High feed mills for high-torque machines, for SCET12 inserts, 4-cutting edge, single sided. These cutter bodies with fixed pockets are optimised for strong horizontal machines. SCET120630T is our 6.35-mm thick insert range with a corner radius of 3.0 mm.

- Cutter range 50-160 mm (2 - 4 inch)
- Max depth of cut 1,5 mm (.059 inch)
- Heavy roughing operations
- Large, powerful machines

R220.21-SC – Metric

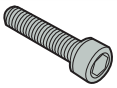
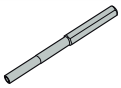




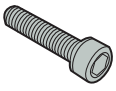
- For insert selection and cutting data recommendations, see page(s) 591-592
- For complete insert programme, see page(s) 821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	APMXE	DCB	DCSFMS	LF	RP	RMPX°	Cmin	Cmax	Weight	RPMX	Insert
			mm	mm		mm	mm	mm	mm	mm	mm		mm	mm	kg		
R220.21-0050-SC12.4A	02600275	Arbor	31,0	50,0	4	1,5	9,0	22,0	42,0	40,0	4,4	2,3	81,0	98,0	0,3	10700	SC..12
R220.21-0050-SC12.5A	03136672	Arbor	31,0	50,0	5	1,5	9,0	22,0	42,0	40,0	4,4	2,1	81,0	98,0	0,3	10700	SC..12
R220.21-0052-SC12.4A	02585965	Arbor	33,0	52,0	4	1,5	9,0	22,0	42,0	40,0	4,4	2,2	85,0	102,0	0,3	10500	SC..12
R220.21-0052-SC12.5A	03138188	Arbor	33,0	52,0	5	1,5	9,0	22,0	47,0	40,0	4,5	2,0	85,0	102,0	0,4	10500	SC..12
R220.21-0063-SC12.5A	02682416	Arbor	44,0	63,0	5	1,5	9,0	27,0	50,0	50,0	4,4	0,9	107,0	124,0	0,6	9600	SC..12
R220.21-0080-SC12.5A	02585971	Arbor	61,0	80,0	5	1,5	9,0	27,0	62,0	50,0	4,4	0,8	141,0	158,0	1,0	8500	SC..12
R220.21-0080-SC12.6A	02682419	Arbor	61,0	80,0	6	1,5	9,0	27,0	62,0	50,0	4,4	0,8	141,0	158,0	1,0	8500	SC..12
R220.21-0080-SC12.7A	03136674	Arbor	61,1	80,0	7	1,5	9,0	27,0	62,0	50,0	4,4	0,8	141,1	158,0	1,1	8500	SC..12
R220.21-0100-SC12.5A	02585973	Arbor	81,0	100,0	5	1,5	9,0	32,0	77,0	50,0	4,4	0,75	181,0	198,0	1,6	7600	SC..12
R220.21-0100-SC12.7A	02682422	Arbor	81,0	100,0	7	1,5	9,0	32,0	77,0	50,0	4,4	0,75	181,0	198,0	1,6	7600	SC..12
R220.21-0125-SC12.6A	02585974	Arbor	106,0	125,0	6	1,5	9,0	40,0	90,0	63,0	4,4	0,7	231,0	248,0	2,5	6800	SC..12
R220.21-8160-SC12.7	02585975	Arbor	141,0	160,0	7	1,5	9,0	40,0	90,0	63,0	4,4	0,7	–	–	3,8	6000	SC..12

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.21-0050-0052	220.17-692M	H6B-T20P	C45011-T20P
R220.21-0050-0052	220.17-692M	1/4HEX-T20PX50	C45011-T20P
R220.21-0063-0066	MC6S12X35	H6B-T20P	C45011-T20P
R220.21-0080	MC6S12X35	H6B-T20PL	C45011-T20P
R220.21-0100	MLC6S16X35	H6B-T20PL	C45011-T20P
R220.21-0125	–	H6B-T20PL	C45011-T20P
R220.21-8160	–	1/4HEX-T20PX90	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Adjustable Torque key 2	Arbor screw	Insert clamping torque	Torque key
					
R220.21-0050-0125	–	–	–	5.0NM	T00-20P50
R220.21-0050-0125	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	5.0NM	T00-20P50
R220.21-8160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.21-SC12 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			100%	70%	30%
P1	SCET120630T-M14 MP3501	1,5 *0.060*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P2	SCET120630T-M14 MP3501	1,5 *0.060*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
P3	SCET120630T-M14 MP2501	1,5 *0.060*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P4	SCET120630T-M14 MP2501	1,5 *0.060*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P5	SCET120630T-M14 MP2501	1,5 *0.060*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P6	SCET120630T-M14 MP2501	1,5 *0.060*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P7	SCET120630T-M14 MP2501	1,5 *0.060*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P8	SCET120630T-M14 MP2501	1,5 *0.060*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
P11	SCET120630T-M14 MP3501	1,5 *0.060*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
P12	SCET120630T-M14 MP2501	1,5 *0.060*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*
M1	SCET120630T-M14 MS2050	1,5 *0.060*	0,95 *0.038*	0,95 *0.038*	1,1 *0.044*
M2	SCET120630T-M14 MS2050	1,5 *0.060*	0,85 *0.034*	0,85 *0.034*	1,0 *0.040*
M3	SCET120630T-M14 MS2050	1,5 *0.060*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
M4	SCET120630T-M14 MP3501	1,5 *0.060*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
M5	SCET120630T-M14 MP3501	1,5 *0.060*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
K1	SCET120630T-MD16 MP1501	1,5 *0.060*	1,1 *0.044*	1,1 *0.044*	1,3 *0.050*
K2	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K3	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K4	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K5	SCET120630T-MD16 MP1501	1,5 *0.060*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
K6	SCET120630T-MD16 MP1501	1,5 *0.060*	1,0 *0.040*	1,0 *0.040*	1,2 *0.048*
K7	SCET120630T-MD16 MP1501	1,5 *0.060*	0,90 *0.036*	0,90 *0.036*	1,1 *0.044*
S1	SCET120630T-M14 MS2500	1,5 *0.060*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
S2	SCET120630T-M14 MS2500	1,5 *0.060*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
S3	SCET120630T-M14 MS2500	1,5 *0.060*	0,55 *0.022*	0,55 *0.022*	0,70 *0.028*
S11	SCET120630T-M14 MS2050	1,5 *0.060*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
S12	SCET120630T-M14 MS2050	1,5 *0.060*	0,70 *0.028*	0,70 *0.028*	0,85 *0.034*
S13	SCET120630T-M14 MS2050	1,5 *0.060*	0,60 *0.024*	0,60 *0.024*	0,75 *0.030*
H5	SCET120630T-MD16 MP3501	1,5 *0.060*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
H8	SCET120630T-MD16 MP3501	1,5 *0.060*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*
H11	SCET120630T-MD16 MP1501	1,5 *0.060*	0,70 *0.028*	0,70 *0.028*	0,80 *0.032*
H12	SCET120630T-MD16 MP1501	1,5 *0.060*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*

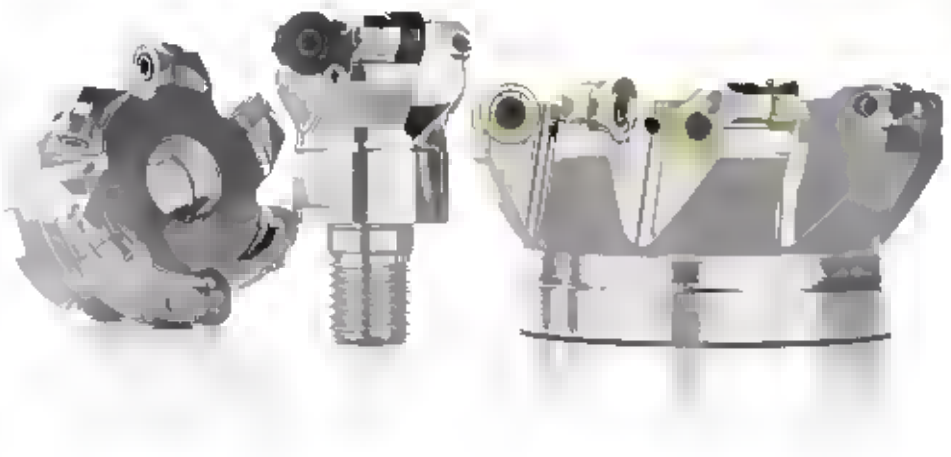
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R220.21-SC12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050			MP3000			MS2050			F40M		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	275 *900*	320 *1050*	390 *1275*	265 *870*	305 *1000*	375 *1225*	235 *770*	270 *890*	330 *1075*	215 *710*	245 *800*	300 *980*
P2	265 *870*	305 *1000*	370 *1225*	255 *840*	295 *970*	355 *1175*	225 *740*	260 *850*	315 *1025*	205 *670*	235 *770*	285 *940*
P3	230 *750*	265 *870*	330 *1075*	225 *740*	255 *840*	315 *1025*	195 *640*	225 *740*	280 *920*	180 *590*	205 *670*	250 *820*
P4	210 *690*	240 *790*	290 *950*	200 *660*	230 *750*	280 *920*	175 *570*	200 *660*	245 *800*	160 *520*	185 *610*	220 *720*
P5	200 *660*	230 *750*	285 *940*	190 *620*	220 *720*	275 *900*	170 *560*	195 *640*	240 *790*	155 *510*	175 *570*	220 *720*
P6	225 *740*	255 *840*	320 *1050*	215 *710*	245 *800*	305 *1000*	190 *620*	215 *710*	270 *890*	170 *560*	195 *640*	245 *800*
P7	210 *690*	240 *790*	300 *980*	200 *660*	230 *750*	290 *950*	180 *590*	205 *670*	255 *840*	160 *520*	185 *610*	230 *750*
P8	195 *640*	225 *740*	275 *900*	190 *620*	215 *710*	265 *870*	165 *540*	190 *620*	235 *770*	150 *490*	170 *560*	210 *690*
P11	205 *670*	235 *770*	290 *950*	195 *640*	225 *740*	280 *920*	175 *570*	200 *660*	245 *800*	155 *510*	180 *590*	225 *740*
P12	135 *445*	155 *510*	190 *620*	130 *425*	145 *475*	180 *590*	115 *375*	130 *425*	160 *520*	105 *345*	120 *395*	145 *475*
M1	— —	— —	— —	190 *620*	220 *720*	265 *870*	180 *590*	210 *690*	255 *840*	165 *540*	190 *620*	230 *750*
M2	— —	— —	— —	160 *520*	185 *610*	230 *750*	150 *490*	175 *570*	215 *710*	135 *445*	160 *520*	195 *640*
M3	— —	— —	— —	130 *425*	145 *475*	180 *590*	120 *395*	135 *445*	170 *560*	110 *360*	125 *410*	155 *510*
M4	— —	— —	— —	100 *330*	115 *375*	140 *460*	95 *310*	105 *345*	135 *445*	85 *280*	95 *310*	120 *395*
M5	— —	— —	— —	85 *280*	95 *310*	115 *375*	80 *260*	90 *295*	110 *360*	70 *230*	80 *260*	100 *330*
K1	285 *940*	330 *1075*	400 *1300*	200 *660*	230 *750*	285 *940*	— —	— —	— —	160 *520*	185 *610*	225 *740*
K2	255 *840*	295 *970*	365 *1200*	180 *590*	210 *690*	260 *850*	— —	— —	— —	145 *475*	165 *540*	205 *670*
K3	215 *710*	250 *820*	310 *1025*	155 *510*	175 *570*	220 *720*	— —	— —	— —	125 *410*	140 *460*	175 *570*
K4	205 *670*	240 *790*	295 *970*	145 *475*	170 *560*	210 *690*	— —	— —	— —	115 *375*	135 *445*	165 *540*
K5	130 *425*	145 *475*	180 *590*	90 *295*	105 *345*	125 *410*	— —	— —	— —	70 *230*	85 *280*	100 *330*
K6	185 *610*	210 *690*	260 *850*	130 *425*	150 *490*	185 *610*	— —	— —	— —	105 *345*	120 *395*	145 *475*
K7	165 *540*	190 *620*	230 *750*	115 *375*	135 *445*	160 *520*	— —	— —	— —	90 *295*	105 *345*	130 *425*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1175 *3850*	1350 *4425*	1675 *5500*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	475 *1550*	550 *1800*	670 *2200*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	320 *1050*	365 *1200*	450 *1475*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	415 *1350*	510 *1675*
S1	— —	— —	— —	46 *150*	55 *180*	65 *215*	44 *145*	50 *165*	60 *195*	40 *130*	45 *150*	55 *180*
S2	— —	— —	— —	37 *120*	42 *140*	55 *180*	35 *115*	40 *130*	50 *165*	32 *105*	37 *120*	45 *150*
S3	— —	— —	— —	33 *110*	37 *120*	46 *150*	31 *100*	36 *120*	44 *145*	28 *90*	32 *105*	40 *130*
S11	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	85 *280*	55 *180*	65 *215*	80 *260*
S12	— —	— —	— —	— —	— —	— —	42 *140*	48 *155*	60 *195*	38 *125*	44 *145*	55 *180*
S13	— —	— —	— —	— —	— —	— —	25 *80*	28 *90*	35 *115*	23 *75*	26 *85*	32 *105*
H5	— —	— —	— —	40 *130*	46 *150*	55 *180*	— —	— —	— —	34 *110*	39 *130*	48 *155*
H8	— —	— —	— —	43 *140*	49 *160*	60 *195*	— —	— —	— —	36 *120*	41 *135*	50 *165*
H11	— —	— —	— —	50 *165*	60 *195*	70 *230*	— —	— —	— —	44 *145*	50 *165*	60 *195*
H12	— —	— —	— —	80 *260*	95 *310*	115 *375*	— —	— —	— —	65 *215*	75 *245*	90 *295*
H21	— —	— —	— —	43 *140*	49 *160*	60 *195*	— —	— —	— —	36 *120*	41 *135*	50 *165*

R220.21-SC12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501			MP2501			MS2500			MP3501		
	100%	70%	30%	100%	70%	30%	100%	70%	30%	100%	70%	30%
P1	385 *1275*	425 *1400*	500 *1650*	370 *1225*	410 *1350*	490 *1600*	305 *1000*	355 *1175*	435 *1425*	350 *1150*	385 *1275*	465 *1525*
P2	375 *1225*	410 *1350*	490 *1600*	365 *1200*	400 *1300*	480 *1575*	295 *970*	340 *1125*	410 *1350*	335 *1100*	370 *1225*	440 *1450*
P3	320 *1050*	355 *1175*	435 *1425*	310 *1025*	345 *1125*	425 *1400*	255 *840*	295 *970*	365 *1200*	295 *970*	325 *1075*	390 *1275*
P4	295 *970*	325 *1075*	380 *1250*	285 *940*	315 *1025*	375 *1225*	230 *750*	265 *870*	320 *1050*	265 *870*	290 *950*	345 *1125*
P5	280 *920*	310 *1025*	365 *1200*	270 *890*	300 *980*	355 *1175*	220 *720*	250 *820*	315 *1025*	250 *820*	275 *900*	340 *1125*
P6	315 *1025*	345 *1125*	410 *1350*	305 *1000*	335 *1100*	400 *1300*	245 *800*	285 *940*	355 *1175*	285 *940*	310 *1025*	380 *1250*
P7	295 *970*	325 *1075*	385 *1275*	290 *950*	315 *1025*	375 *1225*	235 *770*	265 *870*	335 *1100*	265 *870*	295 *970*	360 *1175*
P8	270 *890*	300 *980*	365 *1200*	260 *850*	290 *950*	355 *1175*	215 *710*	250 *820*	305 *1000*	245 *800*	270 *890*	325 *1075*
P11	290 *950*	315 *1025*	375 *1225*	280 *920*	310 *1025*	365 *1200*	225 *740*	260 *850*	325 *1075*	260 *850*	285 *940*	350 *1150*
P12	190 *620*	205 *670*	245 *800*	185 *610*	200 *660*	240 *790*	150 *490*	170 *560*	210 *690*	175 *570*	190 *620*	225 *740*
M1	— —	— —	— —	190 *620*	215 *710*	265 *870*	210 *690*	240 *790*	295 *970*	180 *590*	210 *690*	255 *840*
M2	— —	— —	— —	155 *510*	180 *590*	220 *720*	175 *570*	200 *660*	250 *820*	150 *490*	175 *570*	215 *710*
M3	— —	— —	— —	125 *410*	140 *460*	180 *590*	140 *460*	160 *520*	200 *660*	120 *395*	135 *445*	170 *560*
M4	— —	— —	— —	95 *310*	110 *360*	140 *460*	110 *360*	125 *410*	155 *510*	95 *310*	105 *345*	135 *445*
M5	— —	— —	— —	80 *260*	90 *295*	115 *375*	90 *295*	105 *345*	130 *425*	80 *260*	90 *295*	110 *360*
K1	375 *1225*	415 *1350*	495 *1625*	365 *1200*	405 *1325*	485 *1600*	235 *770*	270 *890*	325 *1075*	335 *1100*	370 *1225*	445 *1450*
K2	340 *1125*	375 *1225*	440 *1450*	330 *1075*	360 *1175*	430 *1400*	210 *690*	240 *790*	300 *980*	305 *1000*	335 *1100*	410 *1350*
K3	285 *940*	315 *1025*	375 *1225*	280 *920*	305 *1000*	365 *1200*	175 *570*	205 *670*	255 *840*	260 *850*	285 *940*	345 *1125*
K4	275 *900*	300 *980*	355 *1175*	265 *870*	295 *970*	350 *1150*	170 *560*	195 *640*	240 *790*	245 *800*	270 *890*	330 *1075*
K5	165 *540*	185 *610*	220 *720*	160 *520*	180 *590*	215 *710*	105 *345*	120 *395*	145 *475*	155 *510*	170 *560*	200 *660*
K6	240 *790*	265 *870*	315 *1025*	235 *770*	260 *850*	305 *1000*	150 *490*	170 *560*	210 *690*	215 *710*	240 *790*	290 *950*
K7	210 *690*	240 *790*	280 *920*	205 *670*	230 *750*	275 *900*	135 *445*	155 *510*	185 *610*	195 *640*	215 *710*	255 *840*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	75 *245*	44 *145*	50 *165*	60 *195*
S2	— —	— —	— —	— —	— —	— —	43 *140*	49 *160*	60 *195*	35 *115*	40 *130*	50 *165*
S3	— —	— —	— —	— —	— —	— —	38 *125*	43 *140*	55 *180*	31 *100*	36 *120*	44 *145*
S11	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	105 *345*	60 *195*	70 *230*	85 *280*
S12	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	75 *245*	42 *140*	48 *155*	60 *195*
S13	— —	— —	— —	— —	— —	— —	30 *100*	34 *110*	42 *140*	25 *80*	28 *90*	35 *115*
H5	49 *160*	55 *180*	70 *230*	— —	— —	— —	45 *150*	50 *165*	65 *215*	40 *130*	45 *150*	55 *180*
H8	50 *165*	60 *195*	75 *245*	— —	— —	— —	47 *155*	55 *180*	65 *215*	42 *140*	48 *155*	60 *195*
H11	65 *215*	70 *230*	90 *295*	— —	— —	— —	55 *180*	65 *215*	80 *260*	50 *165*	55 *180*	70 *230*
H12	95 *310*	105 *345*	135 *445*	— —	— —	— —	95 *310*	105 *345*	135 *445*	75 *245*	85 *280*	105 *345*
H21	50 *165*	60 *195*	75 *245*	— —	— —	— —	47 *155*	55 *180*	65 *215*	42 *140*	48 *155*	60 *195*

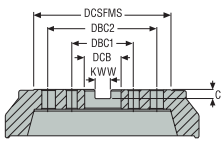


Code keys metric and inch

R	217	.	29	-	16	16	.	0	-	04	.	2	.	140	A
1	2		3		4	5		6		7		8		9	10

R	217	.	29I	-	01.00	-	0	-	06	.	2	A
1	2		3		4		6		7		8	9

1.	2.	3.
R = Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4.	**5. (Not for inch designation)**	**6.**
Shank diameter (connecting thread diameter for Combimaster)	Outer cutting diameter/ball nose type = cutting diameter	Shank type RE = Combimaster 0. = Cylindrical 3. = Weldon
7.	**8.**	**9.**
Max. axial cutting depth	No. of teeth	Setting length (for the shank for combimaster)
10.		
A = Through coolant supply E = Solid carbide shank		



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Cutter	Insert	Material suitability						Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm)								See page
		P	M	K	N	S	H						12	16	20	25	30	32	40	50	
R218.20	218.20-060	■	■	■	◩	■	-	6,0	■	□	◩	2	10								664, 665
	218.20-080	■	■	■	◩	■	◩	8,0	■	◩	◩	2		14							
	218.20-100	■	■	■	◩	■	◩	10,0	■	■	◩	2			18						
	218.20-125	■	■	■	◩	■	◩	12,5	■	■	◩	2				22					
	218.20-150	■	■	■	◩	■	◩	15,0	◩	■	◩	2					27				
	218.20-160	■	■	■	◩	■	◩	16,0	◩	■	◩	2						28			
	218.20-200	■	■	■	◩	■	-	20,0	□	■	◩	2							35		
	218.20-250	■	■	■	◩	■	-	25,0	□	■	◩	2								44	
R218.20 long cutting edge	218.20-150 / SPMT10	■	■	■	◩	■	◩	15,0	◩	■	◩	2/4					44				
	218.20-160 / SPMT10	■	■	■	◩	■	◩	16,0	◩	■	◩	2/4						54			
	218.20-200 / SC..12	■	■	■	◩	■	-	20,0	□	■	◩	2/4							60		
	218.20-250 / SC..12	■	■	■	◩	■	-	25,0	□	■	◩	2/4								70	

1st choice	■	High speed machine with low power/torque		x indicates the maximum depth of cut
Alternative choice	◩	Strong stable machine with rigid connecion		x
Possible choice	□	Unstable condition suitability		
Not recommended	-			

Selection – Metric

Cutter	Insert	Material suitability						Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm)							See page
		P	M	K	N	S	H						16	20	25	30	32	40	50	
R218.19	218.19-080/SPMX06	■	◩	■	◩	■	◩	8,0	■	◩	■	3/4	12 17							694
	218.19-100/SPMX07	■	◩	■	◩	■	◩	10,0	■	■	■	3/4		16 21						
	218.19-125/SPMX09	■	◩	■	◩	■	◩	16,0	■	■	■	3/4			26					
	218.19-160/SPMT10	■	◩	■	◩	■	◩	16,0	◩	■	■	3/4					31 38			
R218.19 HFA	218.19-125	■	■	■	◩	■	◩	12,5	■	■	■	3			12					696
	218.19-160	■	■	■	◩	■	◩	16,0	◩	■	■	3					16			
	218.19-200	■	■	■	◩	■	□	20,0	□	■	■	3						20		

1st choice	■	High speed machine with low power/torque		x indicates the maximum depth of cut	x
Alternative choice	◩	Strong stable machine with rigid connecion			
Possible choice	□	Unstable condition suitability			
Not recommended	-				

Selection – inch

Cutter	Insert	Material suitability						Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch)							See page
		P	M	K	N	S	H						0.50	0.63	0.75	1.00	1.25	1.50	2.00	
R218.20	218.20-0.250	■	■	■	◩	■	-	0.250	■	□	◩	2	0.433							664, 665
	218.20-080	■	■	■	◩	■	◩	0.315	■	◩	◩	2			0.669					
	218.20-0.375	■	■	■	◩	■	◩	0.375	■	■	◩	2					1.102			
	218.20-125	■	■	■	◩	■	◩	0.492	■	■	◩	2							1.732	
	218.20-160	■	■	■	◩	■	◩	0.630	◩	■	◩	2					2.126			
	218.20-0.750	■	■	■	◩	■	◩	0.750	◩	■	◩	2							2.756	
	218.20-250	■	■	■	◩	■	-		□	■	◩	2		0.551						
R218.20 long cutting edge	218.20-125 / SPMT10	■	■	■	◩	■	◩	0.630	◩	■	◩	2/4				0.866				
	218.20-160 / SPMT10	■	■	■	◩	■	◩		◩	■	◩	2/4						1.339		
	218.20-0.750 / SC..12	■	■	■	◩	■	-	0.750	□	■	◩	2/4				1.772				
	218.20-250 / SC..12	■	■	■	◩	■	-	0.984	□	■	◩	2/4						2.362		

1st choice	■	High speed machine with low power/torque		x indicates the maximum depth of cut
Alternative choice	◩	Strong stable machine with rigid connecion		x
Possible choice	□	Unstable condition suitability		
Not recommended	-			

Selection – Inch

Cutter	Insert	Material suitability						Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch)							See page
		P	M	K	N	S	H						0.50	0.63	0.75	1.00	1.25	1.50	2.00	
R218.19	218.19-100/SPMX07 	■	◩	■	◩	■	◩	0.394	■	■	■	3/4			0.835					694
	218.19-125/SPMX09 	■	◩	■	◩	■	◩	0.492	■	■	■	3/4				1.063				
R218.19 HFA	218.19-125 	■	■	■	◩	■	◩		■	■	■	3								696
	218.19-160 	■	■	■	◩	■	◩		◩	■	■	3								
	218.19-200 	■	■	■	◩	■	□		□	■	■	3								

1st choice	■	High speed machine with low power/torque		x indicates the maximum depth of cut	x
Alternative choice	◩	Strong stable machine with rigid connecion			
Possible choice	□	Unstable condition suitability			
Not recommended	-				

Selection – Metric

Insert	a_p max	a_p rec.	Material suitability									
			P	M	K	N	S	H				
Round 5	2,5	1	■	◩	■	□	■	■	■	◩	■	□
Round 6	3	1	■	■	■	■	◩	■	■	◩	■	□
Round 7	3,5	1,5	■	◩	■	■	◩	■	■	◩	■	□
Round 8	4	1,5	■	■	■	■	■	■	■	◩	■	◩
Round 10	5	2	■	■	■	■	■	■	■	■	■	◩
Round 12	6	3	■	■	■	■	■	■	□	■	■	◩
Round 16	8	5	■	■	■	-	■	◩	-	■	■	◩
Round 20	10	6	■	■	■	-	■	□	-	■	■	◩
Round 12 R217/220.28	6	3	■	■	■	□	■	◩	□	■	□	◩

■ 1st choice
□ Alternative choice
◩ Possible choice

High speed machine with low power/torque
Strong stable machine with rigid connecion
Not recommended -

Unstable condition suitability
Ramping ability
Plunging ability

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Metric

Insert	Applica-tion	Cutter diameter available (mm)/number of teeth																										See page
		10	12	15	16	20	25	27	32	35	40	42	44	50	52	63	66	80	83	84	92	100	112	125	137	160	200	250	
Round 5		2	3	4		5																							606
Round 6			2		3	4	5		6	7	8																		610
Round 7					3	4	5																						615
Round 8						2	3							5															618
					2	3	4		5		6			7															
Round 10											4			4		6													623
							2		4		5	5																	
					1	2	3	3	5	5	6	6		6	7	8													
Round 12										3	3		4	4	4	5		6		6			7		8				631
														5	5	6	6	7			7								
							2		3	4	4	5		6		7		8				9		11					
Round 16																4	5	5		5		6		6		7			641, 642
									2		3			4	4	5/6	6	7				8		10		10			
Round 20																		4	4			5		5		6			650
							1				2			3		4		5				6		7			8	9	
Round 12														5	5	6	7	8				10							656, 657
R217/220.28									3		4			6		8						12							

x — x indicates number of teeth (first choice)

x — x indicates number of teeth

Coarse pitch-troubleshooter for unstable conditions and long overhang

Normal pitch-alternative choice

Close pitch-basic choice for productivity

Selection – Inch

Insert	a_p max	a_p rec.	Material suitability									
			P	M	K	N	S	H				
Round 5	0.059	0.039	■	◩	■	□	■	■	■	◩	■	□
Round 6	0.118	0.04	■	■	■	■	◩	■	■	◩	■	□
Round 7	0.138	0.059	■	◩	■	■	◩	■	■	◩	■	□
Round 8	0.158	0.059	■	■	■	■	■	■	■	◩	■	◩
Round 10	0.197	0.079	■	■	■	■	■	■	■	■	■	◩
Round 12	0.236	0.118	■	■	■	■	■	■	□	■	■	◩
Round 16	0.315	0.197	■	■	■	-	■	◩	-	■	■	◩
Round 19	0.374	0.160	■	■	■	-	■	□	-	■	■	◩
Round 20	0.394	0.236	■	■	■	-	■	□	-	■	■	◩
Round 12 R217/220.28	0.236	0.118	■	■	■	□	■	◩	□	■	□	◩

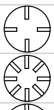
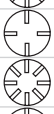
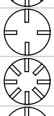
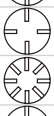
1st choice	■
Alternative choice	□
Possible choice	◩

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

a_p max = Maximum depth of cut possible
a_p rec. = Recommended depth of cut for optimal result

Selection – Inch

Insert	Application	Cutter diameter available (inch)/number of teeth										See page
		0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00	6.00	
Round 5												606
Round 6		4	5	6								610
Round 7												615
Round 8												618
Round 10			3	4	5	6						623
Round 12			2	3	4	(4/5)	(6/7)	(6/7)	(7/9)		8	631
Round 16						4	5	6	7			641, 642
Round 19							4	6	5	7		650
									5	9		650
Round 20						3	4	4	5			650
Round 12												
R217/220.28				3	4	(5/6)	7	8	(10/12)			656, 657

x — x indicates number of teeth (first choice)

x — x indicates number of teeth

 Coarse pitch-troubleshooter for unstable conditions and long overhang

 Normal pitch-alternative choice

 Close pitch-basic choice for productivity

Selection – Metric

Cutter	Insert	Material suitability						Corner radius (mm)				No. of cutting edges	Diameters (mm) available and max depth of cut (mm)									See page
		P	M	K	N	S	H						16	20	25	32	40	50	63	80	100	
R217/220.97	R217/220.97-XP08				■			0,4/0,8/ 1,6/2,0/ 2,4/3,1	■	■	■	2	2	2/3	3/4							714
	R217/220.97-XP12				■			0,4/0,8/ 2,0/2,4/ 3,1/4,0	■	■	■	2			2	2/3	3	4				718
	R217/220.97-VP22				■			0,5/0,8/ 1,6/2,0/ 2,4/3,1/ 4,0/4,8/6,3		■	■	2				2	2	2/3	3/4	4	5	722

1st choice	■	High speed machine with low power/torque		x indicates the maximum depth of cut
Alternative choice	◩	Strong stable machine with rigid connecion		
Possible choice	□	Unstable condition suitability		
Not recommended	-			

Selection – inch

Cutter	Insert	Material suitability						Corner radius (inch)				No. of cutting edges	Diameters (inch) available and max depth of cut (inch)									See page
		P	M	K	N	S	H						0.63	0.08	1.00	1.25	1.50	2.00	2.50	3.00	4.00	
R217/220.97	R217/220.97-XP08				■			0.016/0.031/ 0.063/0.079/ 0.094/0.122	■	■	■	2	2	2	3							714
	R217/220.97-XP12				■			0.016/0.031/ 0.079/0.094/ 0.122/0.157	■	■	■	2				2	2	(2/3)	4	4	5	718
	R217/220.97-VP22				■			0.020/0.031/ 0.063/0.079/ 0.094/0.122/		■	■	2			2	3	3	(3/4)				722

1st choice	■	High speed machine with low power/torque		x indicates the maximum depth of cut
Alternative choice	◩	Strong stable machine with rigid connecion		
Possible choice	□	Unstable condition suitability		
Not recommended	-			



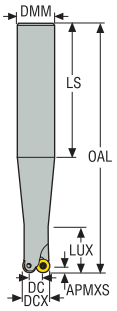
R217/220.29 ROUND INSERT CUTTERS

Our comprehensive range of round insert cutters, R217/220.29, is ideal for semi-finishing and roughing in all copy milling applications and materials.

- Insert size 05, cutter range 10-20mm
- Insert size 06, cutter range 12-40mm (0.75 - 1.25 inch)
- Insert size 07, cutter range 16-25mm
- Insert size 08, cutter range 16-50mm
- Insert size 3/4, cutter range (2.5 - 5 inch)
- Insert size 10, cutter range 16-63mm (1 - 2.0 inch)
- Insert size 12, cutter range 25-137mm (1 - 6 inch)
- Insert size 16, cutter range 32-160mm (2.0 - 4.0 inch)
- Insert size 20, cutter range 25-250mm (2 - 3 inch)

R217.29-025 – Metric





- For insert selection and cutting data recommendations, see page(s) 608-609
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1010.0-025.2.090E	02495669	Cylindrical	5,0	10,0	2	2,5	10,0	100,0	130,0	30,0	90,0	15,0	18,0	75000	0,2	RDH.0501

Spare Parts, included in delivery

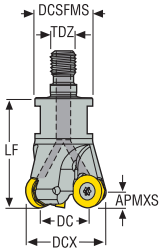
For cutter	Insert key	Insert screw
		
R217.29-..	H4B-T06P	C02035-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-..	0.5NM	T00-06P05

Torque and fixed keys, see page 872

R217.29-025 – Metric





- For insert selection and cutting data recommendations, see page(s) 608-609
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm		mm	mm		mm	mm		kg	
R217.29-0612.RE-025.3A	02642920	Combimaster	7,0	12,0	3	2,5	M6	11,0	18,0	13,9	19,0	22,0	65000	0,1	RDH.0501
R217.29-0812.RE-025.3A	02495672	Combimaster	7,0	12,0	3	2,5	M8	13,5	20,0	13,9	19,0	22,0	65000	0,1	RDH.0501
R217.29-0815.RE-025.4A	02495675	Combimaster	10,0	15,0	4	2,5	M8	13,5	20,0	8,4	25,0	28,0	60000	0,1	RDH.0501
R217.29-1020.RE-025.5A	02643352	Combimaster	15,0	20,0	5	2,5	M10	18,0	23,0	5,0	35,0	38,0	50000	0,1	RDH.0501

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-..	H4B-T06P	C02035-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-..	0.5NM	T00-06P05

Torque and fixed keys, see page 872

R217.29-025 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,18 *0.0070*
P2	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,18 *0.0070*
P3	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*	0,17 *0.0065*
P4	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,17 *0.0065*
P5	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
P6	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*	0,16 *0.0065*
P7	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*	0,16 *0.0065*
P8	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*	0,17 *0.0065*
P11	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*	0,16 *0.0065*
P12	RDHW0501M0-MD01 MP3000	0,80 *0.032*	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,12 *0.0048*
M1	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,18 *0.0070*
M2	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
M3	RDHW0501M0-MD01 F40M	0,80 *0.032*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
M4	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
M5	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
K1	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,18 *0.0070*
K2	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
K3	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
K4	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
K5	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,15 *0.0060*
K6	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
K7	RDHW0501M0-MD01 MP3000	1,0 *0.040*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,15 *0.0060*
N1	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
N2	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
N3	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
N11	RDHW0501M0-MD01 F40M	1,0 *0.040*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
S1	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
S2	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
S3	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,075 *0.0030*	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
S11	RDHW0501M0-MD01 F40M	0,70 *0.028*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S12	RDHW0501M0-MD01 F40M	0,70 *0.028*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
S13	RDHW0501M0-MD01 F40M	0,60 *0.024*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
H5	RDHW0501M0-MD01 MP3000	0,80 *0.032*	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,12 *0.0048*
H8	RDHW0501M0-MD01 MP3000	0,70 *0.028*	0,055 *0.0022*	0,055 *0.0022*	0,065 *0.0026*	0,10 *0.0040*
H11	RDHW0501M0-MD01 MP3000	0,80 *0.032*	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,12 *0.0048*
H12	RDHW0501M0-MD01 F40M	0,70 *0.028*	0,055 *0.0022*	0,055 *0.0022*	0,065 *0.0026*	0,10 *0.0040*
H21	RDHW0501M0-MD01 MP3000	0,70 *0.028*	0,055 *0.0022*	0,055 *0.0022*	0,065 *0.0026*	0,10 *0.0040*

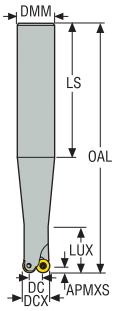
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-025 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP3000				F40M			
	100%	70%	30%	10%	100%	70%	30%	10%
P1	360 *1175*	415 *1350*	485 *1600*	570 *1875*	285 *940*	330 *1075*	390 *1275*	455 *1500*
P2	350 *1150*	400 *1300*	475 *1550*	550 *1800*	280 *920*	320 *1050*	380 *1250*	440 *1450*
P3	300 *980*	350 *1150*	410 *1350*	480 *1575*	240 *790*	280 *920*	330 *1075*	385 *1275*
P4	265 *870*	305 *1000*	360 *1175*	420 *1375*	215 *710*	245 *800*	290 *950*	340 *1125*
P5	255 *840*	295 *970*	350 *1150*	405 *1325*	205 *670*	235 *770*	280 *920*	325 *1075*
P6	290 *950*	335 *1100*	390 *1275*	460 *1500*	230 *750*	265 *870*	315 *1025*	365 *1200*
P7	270 *890*	315 *1025*	370 *1225*	435 *1425*	220 *720*	250 *820*	295 *970*	345 *1125*
P8	255 *840*	295 *970*	345 *1125*	405 *1325*	205 *670*	235 *770*	275 *900*	325 *1075*
P11	265 *870*	305 *1000*	360 *1175*	420 *1375*	210 *690*	245 *800*	285 *940*	335 *1100*
P12	165 *540*	190 *620*	225 *740*	260 *850*	135 *445*	155 *510*	180 *590*	210 *690*
M1	260 *850*	300 *980*	355 *1175*	410 *1350*	225 *740*	260 *850*	305 *1000*	355 *1175*
M2	215 *710*	250 *820*	290 *950*	335 *1100*	185 *610*	215 *710*	250 *820*	290 *950*
M3	170 *560*	195 *640*	230 *750*	265 *870*	145 *475*	165 *540*	200 *660*	230 *750*
M4	130 *425*	150 *490*	175 *570*	205 *670*	110 *360*	125 *410*	150 *490*	175 *570*
M5	105 *345*	125 *410*	145 *475*	170 *560*	95 *310*	105 *345*	125 *410*	145 *475*
K1	275 *900*	320 *1050*	375 *1225*	435 *1425*	220 *720*	255 *840*	300 *980*	350 *1150*
K2	245 *800*	280 *920*	330 *1075*	385 *1275*	195 *640*	225 *740*	265 *870*	305 *1000*
K3	205 *670*	240 *790*	280 *920*	325 *1075*	165 *540*	190 *620*	225 *740*	260 *850*
K4	195 *640*	225 *740*	265 *870*	310 *1025*	160 *520*	180 *590*	215 *710*	245 *800*
K5	120 *395*	135 *445*	160 *520*	190 *620*	95 *310*	110 *360*	130 *425*	150 *490*
K6	175 *570*	200 *660*	235 *770*	270 *890*	140 *460*	160 *520*	190 *620*	220 *720*
K7	150 *490*	175 *570*	205 *670*	240 *790*	120 *395*	140 *460*	165 *540*	195 *640*
N1	2075 *6800*	2400 *7875*	2850 *9350*	3300 *10825*	1675 *5500*	1925 *6325*	2275 *7475*	2650 *8700*
N2	840 *2750*	970 *3175*	1150 *3775*	1325 *4350*	670 *2200*	780 *2550*	920 *3025*	1075 *3525*
N3	560 *1825*	650 *2125*	760 *2500*	890 *2925*	450 *1475*	520 *1700*	610 *2000*	710 *2325*
N11	640 *2100*	740 *2425*	870 *2850*	1025 *3375*	510 *1675*	590 *1925*	700 *2300*	810 *2650*
S1	60 *195*	70 *230*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*
S2	48 *155*	55 *180*	65 *215*	75 *245*	42 *140*	48 *155*	55 *180*	65 *215*
S3	42 *140*	48 *155*	55 *180*	65 *215*	36 *120*	42 *140*	49 *160*	60 *195*
S11	85 *280*	100 *330*	115 *375*	135 *445*	75 *245*	85 *280*	100 *330*	115 *375*
S12	60 *195*	70 *230*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*
S13	34 *110*	39 *130*	46 *150*	55 *180*	29 *95*	33 *110*	39 *130*	46 *150*
H5	50 *165*	60 *195*	70 *230*	80 *260*	44 *145*	50 *165*	60 *195*	70 *230*
H8	55 *180*	60 *195*	70 *230*	85 *280*	46 *150*	50 *165*	60 *195*	70 *230*
H11	65 *215*	75 *245*	90 *295*	105 *345*	55 *180*	65 *215*	75 *245*	90 *295*
H12	100 *330*	115 *375*	140 *460*	160 *520*	80 *260*	95 *310*	110 *360*	130 *425*

R217.29-03 – Metric





- For insert selection and cutting data recommendations, see page(s) 613-614
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1612.0-03.2.050	02427364	Cylindrical	6,0	12,0	2	3,0	16,0	60,0	110,0	20,0	90,0	18,0	22,0	32000	0,2	RD..06T1
R217.29-1212.0-03.2.070E	02427368	Cylindrical	6,0	12,0	2	3,0	12,0	80,0	130,0	50,0	90,0	18,0	22,0	32000	0,3	RD..06T1
R217.29-2016.0-03.3.070	02427371	Cylindrical	10,0	16,0	3	3,0	20,0	60,0	130,0	30,0	15,62	26,0	30,0	28800	0,4	RD..06T1
R217.29-1616.0-03.3.100E	02427379	Cylindrical	10,0	16,0	3	3,0	16,0	140,0	160,0	50,0	15,62	26,0	30,0	28800	0,5	RD..06T1
R217.29-1620.0-03.4.100E	02427381	Cylindrical	14,0	20,0	4	3,0	16,0	140,0	160,0	100,0	9,84	34,0	38,0	25600	0,5	RD..06T1

Spare Parts, included in delivery

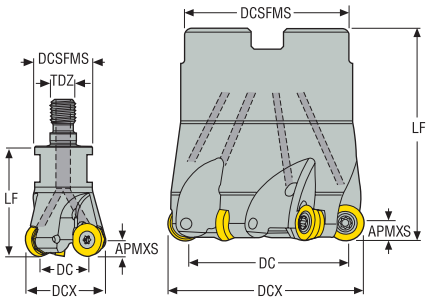
For cutter	Insert key	Insert screw
		
R217.29- ø12-16	H4B-T07P	C02204-T07P
R217.29- ø20-32	H4B-T07P	C02245-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

R217/220.29-03 – Metric



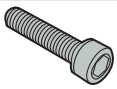


- For insert selection and cutting data recommendations, see page(s) 613-614
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm		mm	mm		mm	mm		kg	
R217.29-0816.RE-03.3	02435540	Combimaster	10,0	16,0	3	3,0	M8	13,5	23,0	15,62	26,0	30,0	28800	0,1	RD..06T1
R217.29-1020.RE-03.4A	02427383	Combimaster	14,0	20,0	4	3,0	M10	18,5	28,0	9,84	34,0	38,0	25600	0,1	RD..06T1
R217.29-1225.RE-03.5A	02427386	Combimaster	19,0	25,0	5	3,0	M12	23,0	28,0	6,76	44,0	48,0	23200	0,2	RD..06T1
R217.29-1632.RE-03.6A	02427388	Combimaster	26,0	32,0	6	3,0	M16	30,0	28,0	4,7	58,0	62,0	20000	0,2	RD..06T1
R217.29-1635.RE-03.7A	02427389	Combimaster	29,0	35,0	7	3,0	M16	30,0	28,0	4,16	64,0	68,0	19200	0,2	RD..06T1
R220.29-0040-03.8A	02427391	Arbor	34,0	40,0	8	3,0	–	35,0	35,0	3,49	74,0	78,0	17600	0,3	RD..06T1

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29- ø16	–	H4B-T07P	C02204-T07P
R217.29- ø20-32	–	H4B-T07P	C02245-T07P
R220.29-0040	220.17-689	H4B-T07P	C02245-T07P

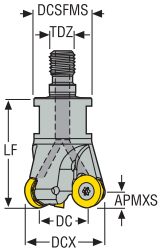
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.29-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

R217/220.29-03 – inch





- For insert selection and cutting data recommendations, see page(s) 613-614
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch		inch	inch		inch	inch		lbs	
R217.29-0.75-10RE-03.4A	00096942	Combimaster	0.514	0.750	4	0.118	M10	0.728	1.100	9,84	1.264	1.421	25600	0.220	RD..06T1
R217.29-1.00-12RE-03.5A	00096943	Combimaster	0.764	1.000	5	0.118	M12	0.906	1.100	6,76	1.764	1.921	23200	0.220	RD..06T1
R217.29-1.25-16RE-03.6A	00096944	Combimaster	1.014	1.250	6	0.118	M16	1.181	1.100	4,7	2.264	2.421	20000	0.440	RD..06T1

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-00.750	H4B-T07P	C02204-T07P
R217.29-01.00-01.25	H4B-T07P	C02245-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-00.750	8.0IN.LBS	T00-07P09
R217.29-01.00-01.25	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

R217/220.29-03 – Insert selection – mm/*Inch*

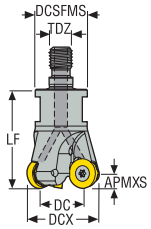
SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,12 *0.0048*
P2	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,12 *0.0048*
P3	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,060 *0.0024*	0,060 *0.0024*	0,070 *0.0028*	0,11 *0.0044*
P4	RDHW06T1M0-MD02 F40M	1,2 *0.048*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*	0,17 *0.0065*
P5	RDHW06T1M0-MD02 F40M	1,2 *0.048*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,17 *0.0065*
P6	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*	0,16 *0.0065*
P7	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*	0,16 *0.0065*
P8	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*	0,17 *0.0065*
P11	RDHW06T1M0-MD02 MP3000	1,2 *0.048*	0,085 *0.0034*	0,085 *0.0034*	0,10 *0.0040*	0,16 *0.0065*
P12	RDHW06T1M0-MD02 MP3000	0,95 *0.038*	0,065 *0.0026*	0,065 *0.0026*	0,080 *0.0032*	0,12 *0.0048*
M1	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,065 *0.0026*	0,065 *0.0026*	0,075 *0.0030*	0,12 *0.0048*
M2	RDHT06T1M0-E02 F40M	1,2 *0.048*	0,060 *0.0024*	0,060 *0.0024*	0,070 *0.0028*	0,11 *0.0044*
M3	RDHT06T1M0-E02 F40M	0,95 *0.038*	0,050 *0.0020*	0,050 *0.0020*	0,060 *0.0024*	0,095 *0.0040*
M4	RDHT06T1M0-E02 F40M	0,70 *0.028*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,10 *0.0040*
M5	RDHT06T1M0-E02 F40M	0,70 *0.028*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,10 *0.0040*
K1	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,18 *0.0070*
K2	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,17 *0.0065*
K3	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,17 *0.0065*
K4	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,17 *0.0065*
K5	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,15 *0.0060*
K6	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,17 *0.0065*
K7	RDHW06T1M0-MD02 MK2050	1,2 *0.048*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,15 *0.0060*
N1	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,16 *0.0060*
N2	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,16 *0.0060*
N3	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,16 *0.0060*
N11	RDHT06T1M0-E02 H25	1,2 *0.048*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,16 *0.0060*
S1	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,15 *0.0060*
S2	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,15 *0.0060*
S3	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,075 *0.0030*	0,075 *0.0030*	0,085 *0.0034*	0,14 *0.0055*
S11	RDHW06T1M0-MD02 F40M	0,85 *0.034*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,15 *0.0060*
S12	RDHW06T1M0-MD02 F40M	0,85 *0.034*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,15 *0.0060*
S13	RDHW06T1M0-MD02 F40M	0,70 *0.028*	0,080 *0.0032*	0,080 *0.0032*	0,095 *0.0038*	0,15 *0.0060*
H5	RDHW06T1M0-MD02 F15M	0,95 *0.038*	0,065 *0.0026*	0,065 *0.0026*	0,080 *0.0032*	0,12 *0.0048*
H8	RDHW06T1M0-MD02 F15M	0,85 *0.034*	0,055 *0.0022*	0,055 *0.0022*	0,065 *0.0026*	0,10 *0.0040*
H11	RDHW06T1M0-MD02 F15M	0,95 *0.038*	0,065 *0.0026*	0,065 *0.0026*	0,080 *0.0032*	0,12 *0.0048*
H12	RDHW06T1M0-MD02 F40M	0,85 *0.034*	0,055 *0.0022*	0,055 *0.0022*	0,065 *0.0026*	0,10 *0.0040*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-03 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				MK2050				F30M				MP3000				F40M				H25			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	330 *1075*	380 *1250*	445 *1450*	530 *1750*	360 *1175*	410 *1350*	485 *1600*	570 *1875*	290 *950*	330 *1075*	390 *1275*	460 *1500*	345 *1125*	395 *1300*	465 *1525*	550 *1800*	275 *900*	315 *1025*	375 *1225*	440 *1450*	— —	—	—	—
P2	325 *1075*	370 *1225*	435 *1425*	510 *1675*	350 *1150*	400 *1300*	470 *1550*	560 *1825*	285 *940*	320 *1050*	380 *1250*	450 *1475*	335 *1100*	385 *1275*	455 *1500*	530 *1750*	270 *890*	305 *1000*	365 *1200*	430 *1400*	—	—	—	—
P3	280 *920*	320 *1050*	380 *1250*	440 *1450*	305 *1000*	345 *1125*	410 *1350*	480 *1575*	245 *800*	280 *920*	330 *1075*	385 *1275*	295 *970*	335 *1100*	395 *1300*	460 *1500*	235 *770*	265 *870*	315 *1025*	370 *1225*	—	—	—	—
P4	250 *820*	280 *920*	335 *1100*	395 *1300*	270 *890*	305 *1000*	360 *1175*	425 *1400*	215 *710*	245 *800*	290 *950*	345 *1125*	260 *850*	295 *970*	345 *1125*	410 *1350*	205 *670*	235 *770*	280 *920*	330 *1075*	—	—	—	—
P5	240 *790*	270 *890*	320 *1050*	375 *1225*	260 *850*	295 *970*	350 *1150*	405 *1325*	210 *690*	240 *790*	280 *920*	330 *1075*	250 *820*	285 *940*	335 *1100*	390 *1275*	200 *660*	225 *740*	270 *890*	315 *1025*	—	—	—	—
P6	270 *890*	305 *1000*	360 *1175*	420 *1375*	290 *950*	330 *1075*	390 *1275*	455 *1500*	235 *770*	265 *870*	315 *1025*	370 *1225*	280 *920*	320 *1050*	375 *1225*	440 *1450*	225 *740*	255 *840*	300 *980*	350 *1150*	—	—	—	—
P7	255 *840*	290 *950*	340 *1125*	400 *1300*	275 *900*	310 *1025*	370 *1225*	430 *1400*	220 *720*	250 *820*	300 *980*	350 *1150*	265 *870*	300 *980*	355 *1175*	415 *1350*	210 *690*	240 *790*	285 *940*	330 *1075*	—	—	—	—
P8	235 *770*	270 *890*	320 *1050*	370 *1225*	255 *840*	290 *950*	345 *1125*	400 *1300*	205 *670*	235 *770*	280 *920*	325 *1075*	245 *800*	280 *920*	330 *1075*	385 *1275*	195 *640*	225 *740*	265 *870*	310 *1025*	—	—	—	—
P11	245 *800*	280 *920*	330 *1075*	385 *1275*	265 *870*	305 *1000*	360 *1175*	420 *1375*	215 *710*	245 *800*	290 *950*	340 *1125*	255 *840*	290 *950*	345 *1125*	405 *1325*	205 *670*	235 *770*	275 *900*	325 *1075*	—	—	—	—
P12	— —	— —	— —	— —	165 *540*	190 *620*	220 *720*	260 *850*	135 *445*	155 *510*	180 *590*	210 *690*	160 *520*	185 *610*	215 *710*	250 *820*	130 *425*	145 *475*	170 *560*	200 *660*	—	—	—	—
M1	— —	— —	— —	— —	— —	— —	— —	— —	230 *750*	260 *850*	305 *1000*	360 *1175*	250 *820*	285 *940*	340 *1125*	400 *1300*	215 *710*	245 *800*	295 *970*	345 *1125*	—	—	—	—
M2	— —	— —	— —	— —	— —	— —	— —	— —	190 *620*	215 *710*	255 *840*	295 *970*	210 *690*	235 *770*	280 *920*	325 *1075*	180 *590*	205 *670*	240 *790*	280 *920*	—	—	—	—
M3	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	170 *560*	200 *660*	230 *750*	165 *540*	185 *610*	220 *720*	255 *840*	140 *460*	160 *520*	190 *620*	220 *720*	—	—	—	—
M4	— —	— —	— —	— —	— —	— —	— —	— —	115 *375*	130 *425*	150 *490*	180 *590*	125 *410*	140 *460*	170 *560*	195 *640*	110 *360*	120 *395*	145 *475*	170 *560*	—	—	—	—
M5	— —	— —	— —	— —	— —	— —	— —	— —	95 *310*	105 *345*	125 *410*	150 *490*	105 *345*	120 *395*	140 *460*	165 *540*	90 *295*	100 *330*	120 *395*	140 *460*	—	—	—	—
K1	255 *840*	290 *950*	345 *1125*	405 *1325*	380 *1250*	430 *1400*	510 *1675*	600 *1975*	225 *740*	255 *840*	300 *980*	355 *1175*	265 *870*	305 *1000*	360 *1175*	425 *1400*	215 *710*	245 *800*	290 *950*	340 *1125*	—	—	—	—
K2	225 *740*	260 *850*	305 *1000*	355 *1175*	335 *1100*	380 *1250*	450 *1475*	530 *1750*	200 *660*	225 *740*	265 *870*	310 *1025*	235 *770*	270 *890*	320 *1050*	370 *1225*	190 *620*	215 *710*	255 *840*	295 *970*	—	—	—	—
K3	190 *620*	220 *720*	260 *850*	300 *980*	285 *940*	320 *1050*	380 *1250*	445 *1450*	170 *560*	190 *620*	225 *740*	265 *870*	200 *660*	230 *750*	270 *890*	315 *1025*	160 *520*	180 *590*	215 *710*	250 *820*	—	—	—	—
K4	185 *610*	210 *690*	245 *800*	290 *950*	270 *890*	310 *1025*	365 *1200*	425 *1400*	160 *520*	185 *610*	215 *710*	250 *820*	190 *620*	215 *710*	255 *840*	300 *980*	155 *510*	175 *570*	205 *670*	240 *790*	—	—	—	—
K5	110 *360*	125 *410*	150 *490*	175 *570*	165 *540*	185 *610*	220 *720*	255 *840*	95 *310*	110 *360*	130 *425*	150 *490*	115 *375*	130 *425*	155 *510*	180 *590*	90 *295*	105 *345*	125 *410*	145 *475*	—	—	—	—
K6	160 *520*	185 *610*	215 *710*	255 *840*	240 *790*	270 *890*	320 *1050*	375 *1225*	140 *460*	160 *520*	190 *620*	220 *720*	170 *560*	190 *620*	225 *740*	265 *870*	135 *445*	155 *510*	180 *590*	210 *690*	—	—	—	—
K7	140 *460*	160 *520*	190 *620*	225 *740*	210 *690*	235 *770*	280 *920*	330 *1075*	125 *410*	140 *460*	165 *540*	195 *640*	145 *475*	165 *540*	195 *640*	230 *750*	120 *395*	135 *445*	160 *520*	185 *610*	—	—	—	—
N1	— —	— —	— —	— —	— —	— —	— —	— —	1700 *5575*	1925 *6325*	2275 *7475*	2675 *8775*	2025 *6650*	2300 *7550*	2725 *8950*	3200 *10500*	1625 *5325*	1825 *6000*	2175 *7125*	2550 *8375*	1875 *6150*	2150 *7050*	2525 *8275*	2975 *9750*
N2	— —	— —	— —	— —	— —	— —	— —	— —	680 *2225*	780 *2550*	920 *3025*	1075 *3525*	810 *2650*	930 *3050*	1100 *3600*	1300 *4275*	650 *2125*	740 *2425*	880 *2875*	1025 *3375*	760 *2500*	870 *2850*	1025 *3375*	1200 *3925*
N3	— —	— —	— —	— —	— —	— —	— —	— —	455 *1500*	520 *1700*	620 *2025*	720 *2350*	540 *1775*	620 *2025*	730 *2400*	860 *2825*	435 *1425*	495 *1625*	590 *1925*	690 *2275*	510 *1675*	580 *1900*	680 *2225*	800 *2625*
N11	— —	— —	— —	— —	— —	— —	— —	— —	520 *1700*	590 *1925*	700 *2300*	830 *2725*	620 *2025*	710 *2325*	840 *2750*	980 *3225*	495 *1625*	560 *1825*	670 *2200*	790 *2600*	580 *1900*	660 *2175*	780 *2550*	910 *2975*
S1	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	85 *280*	60 *195*	65 *215*	80 *260*	90 *295*	50 *165*	55 *180*	65 *215*	80 *260*	—	—	—	—
S2	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	48 *155*	55 *180*	65 *215*	47 *155*	55 *180*	65 *215*	75 *245*	41 *135*	46 *150*	55 *180*	65 *215*	—	—	—	—
S3	— —	— —	— —	— —	— —	— —	— —	— —	37 *120*	42 *140*	50 *165*	60 *195*	41 *135*	46 *150*	55 *180*	65 *215*	35 *115*	40 *130*	47 *155*	55 *180*	—	—	—	—
S11	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	85 *280*	100 *330*	115 *375*	80 *260*	95 *310*	110 *360*	130 *425*	70 *230*	80 *260*	95 *310*	110 *360*	—	—	—	—
S12	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	49 *160*	60 *195*	70 *230*	55 *180*	65 *215*	75 *245*	90 *295*	49 *160*	55 *180*	65 *215*	75 *245*	—	—	—	—
S13	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	28 *90*	33 *110*	39 *130*	33 *110*	37 *120*	44 *145*	50 *165*	28 *90*	32 *105*	38 *125*	44 *145*	—	—	—	—
H5	50 *165*	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	45 *150*	50 *165*	60 *195*	70 *230*	50 *165*	55 *180*	65 *215*	80 *260*	43 *140*	49 *160*	55 *180*	65 *215*	—	—	—	—
H8	55 *180*	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	46 *150*	55 *180*	60 *195*	70 *230*	50 *165*	60 *195*	70 *230*	80 *260*	44 *145*	50 *165*	60 *195*	70 *230*	—	—	—	—
H11	65 *215*	75 *245*	85 *280*	100 *330*	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	90 *295*	65 *215*	70 *230*	85 *280*	100 *330*	55 *180*	60 *195*	70 *230*	85 *280*	—	—	—	—
H12	95 *310*	110 *360*	125 *410*	150 *490*	— —	— —	— —	— —	85 *280*	95 *310*	110 *360*	130 *425*	100 *330*	110 *360*	130 *425*	155 *510*	80 *260*	90 *295*	105 *345*	125 *410*	—	—	—	—

R217.29-035 – Metric





- For insert selection and cutting data recommendations, see page(s) [XXX]-[XXX]
- For complete insert programme, see page(s) [XXX]
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm		mm	mm		mm	mm		kg	
R217.29-0816.RE-035.3A	02643410	Combimaster	9,0	16,0	3	3,5	M8	13,5	20,0	17,8	25,0	30,0	48000	0,1	RDH.0702
R217.29-1020.RE-035.4A	02495678	Combimaster	13,0	20,0	4	3,5	M10	18,5	23,0	10,4	33,0	38,0	44000	0,1	RDH.0702
R217.29-1225.RE-035.5A	02643411	Combimaster	18,0	25,0	5	3,5	M12	23,0	28,0	6,9	43,0	48,0	35000	0,2	RDH.0702

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29-..	H4B-T07P	C02545-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-..	0.9NM	T00-07P09

Torque and fixed keys, see page [XXX]

R217.29-035 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,25 *0.010*
P2	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*	0,25 *0.010*
P3	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*	0,24 *0.0095*
P4	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,24 *0.0095*
P5	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
P6	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
P7	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
P8	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,15 *0.0060*	0,24 *0.0095*
P11	RDHW0702M0-MD03 MP3000	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
P12	RDHW0702M0-MD03 MP3000	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*	0,17 *0.0065*
M1	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*	0,25 *0.010*
M2	RDHW0702M0-MD03 F40M	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
M3	RDHW0702M0-MD03 F40M	1,1 *0.044*	0,10 *0.0040*	0,10 *0.0040*	0,13 *0.0050*	0,20 *0.0080*
M4	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 *0.0040*	0,10 *0.0040*	0,12 *0.0048*	0,20 *0.0080*
M5	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 *0.0040*	0,10 *0.0040*	0,12 *0.0048*	0,20 *0.0080*
K1	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,13 *0.0050*	0,13 *0.0050*	0,16 *0.0065*	0,25 *0.010*
K2	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
K3	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
K4	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
K5	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*	0,20 *0.0080*
K6	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
K7	RDHW0702M0T-MD04 F15M	1,4 *0.055*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*	0,20 *0.0080*
S1	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 *0.0040*	0,10 *0.0040*	0,12 *0.0048*	0,20 *0.0080*
S2	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 *0.0040*	0,10 *0.0040*	0,12 *0.0048*	0,20 *0.0080*
S3	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,18 *0.0070*
S11	RDHW0702M0-MD03 F40M	1,0 *0.040*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*	0,20 *0.0080*
S12	RDHW0702M0-MD03 F40M	1,0 *0.040*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*	0,20 *0.0080*
S13	RDHW0702M0-MD03 F40M	0,85 *0.034*	0,10 *0.0040*	0,10 *0.0040*	0,12 *0.0048*	0,20 *0.0080*
H5	RDHW0702M0T-MD04 F15M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*	0,17 *0.0065*
H8	RDHW0702M0T-MD04 F15M	1,0 *0.040*	0,070 *0.0028*	0,070 *0.0028*	0,085 *0.0034*	0,14 *0.0055*
H11	RDHW0702M0T-MD04 F15M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,11 *0.0044*	0,17 *0.0065*
H12	RDHW0702M0T-MD04 F15M	1,0 *0.040*	0,070 *0.0028*	0,070 *0.0028*	0,085 *0.0034*	0,14 *0.0055*

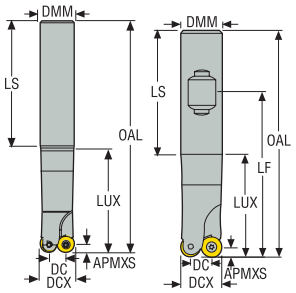
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-035 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				MP3000				F40M			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	325 *1075*	380 *1250*	450 *1475*	520 *1700*	335 *1100*	400 *1300*	470 *1550*	550 *1800*	270 *890*	320 *1050*	375 *1225*	435 *1425*
P2	315 *1025*	370 *1225*	440 *1450*	510 *1675*	330 *1075*	385 *1275*	455 *1500*	530 *1750*	260 *850*	310 *1025*	365 *1200*	425 *1400*
P3	275 *900*	325 *1075*	385 *1275*	445 *1450*	285 *940*	340 *1125*	400 *1300*	460 *1500*	230 *750*	270 *890*	320 *1050*	370 *1225*
P4	240 *790*	285 *940*	340 *1125*	390 *1275*	250 *820*	300 *980*	350 *1150*	405 *1325*	200 *660*	240 *790*	280 *920*	325 *1075*
P5	230 *750*	275 *900*	320 *1050*	375 *1225*	240 *790*	285 *940*	335 *1100*	390 *1275*	195 *640*	230 *750*	270 *890*	315 *1025*
P6	265 *870*	315 *1025*	360 *1175*	425 *1400*	275 *900*	325 *1075*	375 *1225*	440 *1450*	220 *720*	260 *850*	300 *980*	350 *1150*
P7	250 *820*	295 *970*	340 *1125*	400 *1300*	260 *850*	305 *1000*	355 *1175*	415 *1350*	210 *690*	245 *800*	285 *940*	335 *1100*
P8	230 *750*	275 *900*	320 *1050*	375 *1225*	240 *790*	285 *940*	335 *1100*	390 *1275*	195 *640*	230 *750*	270 *890*	310 *1025*
P11	240 *790*	285 *940*	330 *1075*	390 *1275*	255 *840*	300 *980*	345 *1125*	405 *1325*	200 *660*	240 *790*	275 *900*	325 *1075*
P12	— —	— —	— —	— —	160 *520*	185 *610*	220 *720*	255 *840*	125 *410*	150 *490*	175 *570*	200 *660*
M1	— —	— —	— —	— —	245 *800*	290 *950*	340 *1125*	395 *1300*	210 *690*	250 *820*	295 *970*	340 *1125*
M2	— —	— —	— —	— —	200 *660*	240 *790*	280 *920*	330 *1075*	175 *570*	205 *670*	240 *790*	285 *940*
M3	— —	— —	— —	— —	165 *540*	190 *620*	220 *720*	260 *850*	140 *460*	165 *540*	190 *620*	225 *740*
M4	— —	— —	— —	— —	125 *410*	145 *475*	170 *560*	200 *660*	110 *360*	125 *410*	145 *475*	170 *560*
M5	— —	— —	— —	— —	105 *345*	120 *395*	140 *460*	165 *540*	90 *295*	105 *345*	125 *410*	145 *475*
K1	250 *820*	295 *970*	350 *1150*	405 *1325*	260 *850*	305 *1000*	360 *1175*	420 *1375*	210 *690*	245 *800*	290 *950*	335 *1100*
K2	220 *720*	260 *850*	305 *1000*	360 *1175*	230 *750*	270 *890*	320 *1050*	370 *1225*	185 *610*	215 *710*	255 *840*	300 *980*
K3	185 *610*	220 *720*	260 *850*	305 *1000*	195 *640*	230 *750*	270 *890*	315 *1025*	155 *510*	185 *610*	215 *710*	250 *820*
K4	175 *570*	210 *690*	245 *800*	290 *950*	185 *610*	220 *720*	260 *850*	300 *980*	150 *490*	175 *570*	205 *670*	240 *790*
K5	110 *360*	130 *425*	150 *490*	175 *570*	115 *375*	135 *445*	155 *510*	180 *590*	90 *295*	110 *360*	125 *410*	145 *475*
K6	155 *510*	185 *610*	220 *720*	255 *840*	165 *540*	195 *640*	225 *740*	265 *870*	130 *425*	155 *510*	180 *590*	210 *690*
K7	140 *460*	165 *540*	190 *620*	225 *740*	145 *475*	175 *570*	200 *660*	230 *750*	115 *375*	140 *460*	160 *520*	185 *610*
S1	— —	— —	— —	— —	60 *195*	70 *230*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*
S2	— —	— —	— —	— —	47 *155*	55 *180*	65 *215*	75 *245*	40 *130*	47 *155*	55 *180*	65 *215*
S3	— —	— —	— —	— —	41 *135*	48 *155*	55 *180*	65 *215*	35 *115*	41 *135*	48 *155*	55 *180*
S11	— —	— —	— —	— —	80 *260*	95 *310*	115 *375*	130 *425*	70 *230*	85 *280*	95 *310*	115 *375*
S12	— —	— —	— —	— —	55 *180*	65 *215*	80 *260*	90 *295*	49 *160*	55 *180*	65 *215*	80 *260*
S13	— —	— —	— —	— —	33 *110*	38 *125*	45 *150*	50 *165*	28 *90*	33 *110*	39 *130*	45 *150*
H5	50 *165*	60 *195*	70 *230*	80 *260*	49 *160*	60 *195*	70 *230*	80 *260*	42 *140*	49 *160*	60 *195*	65 *215*
H8	55 *180*	60 *195*	75 *245*	85 *280*	50 *165*	60 *195*	70 *230*	80 *260*	44 *145*	50 *165*	60 *195*	70 *230*
H11	65 *215*	75 *245*	90 *295*	105 *345*	65 *215*	75 *245*	85 *280*	100 *330*	55 *180*	65 *215*	75 *245*	85 *280*
H12	95 *310*	110 *360*	130 *425*	150 *490*	100 *330*	115 *375*	135 *445*	155 *510*	80 *260*	95 *310*	110 *360*	125 *410*

R217.29-04 – Metric





- For insert selection and cutting data recommendations, see page(s) 620-622
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-1616.0-04.2.050	00040299	Cylindrical	8,0	16,0	2	4,0	16,0	60,0	110,0	50,0	90,0	24,0	30,0	36200	0,2	RD..0803
R217.29-1616.0-04.2.100E	00040300	Cylindrical	8,0	16,0	2	4,0	16,0	95,0	160,0	100,0	90,0	24,0	30,0	36200	0,5	RD..0803
R217.29-1616.3-04.2.040	00040302	Weldon	8,0	16,0	2	4,0	16,0	48,0	88,0	38,0	90,0	24,0	30,0	36200	0,2	RD..0803

Spare Parts, included in delivery

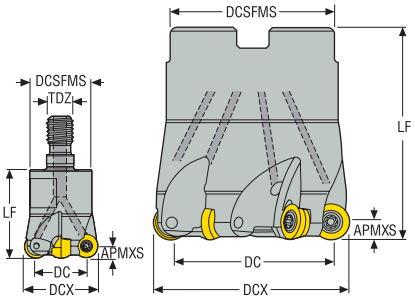
For cutter	Insert key	Insert screw
		
R217.69-..Ø16	H4B-T08P	C02505-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

R217/220.29-04 – Metric



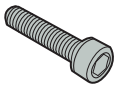


- For insert selection and cutting data recommendations, see page(s) 620-622
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29-0816.RE-04.2	00047266	Combimaster	8,0	16,0	2	4,0	–	M8	13,5	23,0	90,0	24,0	30,0	36200	0,1	RD..0803
R217.29-1020.RE-04.2A	00040294	Combimaster	12,0	20,0	2	4,0	–	M10	18,5	28,0	16,43	32,0	38,0	32400	0,1	RD..0803
R217.29-1020.RE-04.3A	00040062	Combimaster	12,0	20,0	3	4,0	–	M10	18,5	28,0	16,43	32,0	38,0	32400	0,1	RD..0803
R217.29-1225.RE-04.3A	02410817	Combimaster	17,0	25,0	3	4,0	–	M12	23,0	30,0	10,01	42,0	48,0	29000	0,2	–
R217.29-1225.RE-04.4A	00040297	Combimaster	17,0	25,0	4	4,0	–	M12	23,0	30,0	10,01	42,0	48,0	29000	0,2	RD..0803
R217.29-1632.RE-04.5A	02410823	Combimaster	24,0	32,0	5	4,0	–	M16	30,0	40,0	6,51	56,0	62,0	26100	0,3	RD..0803
R217.29-1640.RE-04.6A	00040303	Combimaster	32,0	40,0	6	4,0	–	M16	30,0	40,0	4,66	72,0	78,0	23300	0,3	RD..0803
R220.29-0050-04.5A	02410828	Arbor	42,0	50,0	5	4,0	22,0	–	42,0	40,0	3,44	92,0	98,0	17300	0,4	RD..0803
R220.29-0050-04.7A	02410829	Arbor	42,0	50,0	7	4,0	22,0	–	42,0	40,0	3,44	92,0	98,0	17300	0,4	RD..0803

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.69-..Ø16	–	H4B-T08P	C02505-T08P
R217.29-..Ø20-40	–	H4B-T08P	C02506-T08P
R220.29-..0050	220.17-692	H4B-T08P	C02506-T08P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.29-..	1.2NM	T00-08P12

Torque and fixed keys, see page 872

R217/220.29-04 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P2	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P3	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,28 *0.011*
P4	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
P5	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
P6	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,26 *0.010*
P7	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,26 *0.010*
P8	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,28 *0.011*
P11	RDKW0803M0T-MD05 MP2501	1,6 *0.065*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,26 *0.010*
P12	RDKW0803M0T-MD05 MP2501	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
M1	RDHT0803M0-E03 MP3501	1,6 *0.065*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,17 *0.0065*
M2	RDHT0803M0-E03 MP3501	1,6 *0.065*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
M3	RDHT0803M0-E03 MP3501	1,3 *0.050*	0,075 *0.0030*	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
M4	RDHT0803M0-E03 MP3501	0,95 *0.038*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
M5	RDHT0803M0-E03 MP3501	0,95 *0.038*	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*
K1	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
K2	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
K3	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
K4	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
K5	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,24 *0.0095*
K6	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 *0.010*
K7	RDKW0803M0T-MD05 MK2050	1,6 *0.065*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,24 *0.0095*
N1	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
N2	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
N3	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
N11	RDHT0803M0-E03 H25	1,6 *0.065*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
S1	RDHW0803M0-MD03 F40M	0,95 *0.038*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
S2	RDHW0803M0-MD03 F40M	0,95 *0.038*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
S3	RDHW0803M0-MD03 F40M	0,95 *0.038*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*
S11	RDHW0803M0-MD03 MS2050	1,1 *0.044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*	0,20 *0.0080*
S12	RDHW0803M0-MD03 MS2050	1,1 *0.044*	0,11 *0.0044*	0,11 *0.0044*	0,13 *0.0050*	0,20 *0.0080*
S13	RDHW0803M0-MD03 MS2050	0,95 *0.038*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
H5	RDKW0803M0T-MD05 F15M	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
H8	RDKW0803M0T-MD05 F15M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*
H11	RDKW0803M0T-MD05 F15M	1,3 *0.050*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
H12	RDKW0803M0T-MD05 F15M	1,1 *0.044*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,16 *0.0065*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

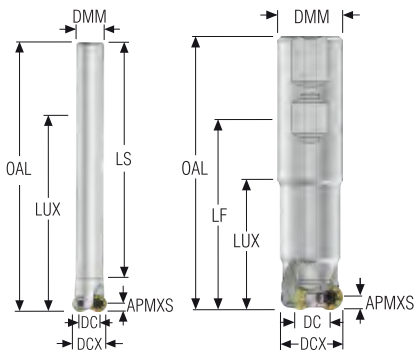
R217/220.29-04 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				MK2050				F25M				F30M				MP3000			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	300 *980*	340 *1125*	410 *1350*	485 *1600*	325 *1075*	370 *1225*	440 *1450*	520 *1700*	275 *900*	310 *1025*	375 *1225*	440 *1450*	275 *900*	310 *1025*	375 *1225*	440 *1450*	330 *1075*	370 *1225*	445 *1450*	520 *1700*
P2	295 *970*	330 *1075*	400 *1300*	470 *1550*	320 *1050*	360 *1175*	430 *1400*	510 *1675*	270 *890*	305 *1000*	365 *1200*	430 *1400*	270 *890*	305 *1000*	365 *1200*	430 *1400*	320 *1050*	360 *1175*	435 *1425*	510 *1675*
P3	255 *840*	290 *950*	345 *1125*	405 *1325*	280 *920*	315 *1025*	375 *1225*	440 *1450*	235 *770*	265 *870*	320 *1050*	370 *1225*	235 *770*	265 *870*	320 *1050*	375 *1225*	280 *920*	315 *1025*	380 *1250*	445 *1450*
P4	225 *740*	255 *840*	305 *1000*	355 *1175*	245 *800*	275 *900*	330 *1075*	385 *1275*	205 *670*	235 *770*	280 *920*	325 *1075*	205 *670*	235 *770*	280 *920*	330 *1075*	245 *800*	280 *920*	335 *1100*	390 *1275*
P5	215 *710*	245 *800*	290 *950*	345 *1125*	235 *770*	265 *870*	315 *1025*	375 *1225*	195 *640*	225 *740*	265 *870*	320 *1050*	200 *660*	225 *740*	265 *870*	315 *1025*	235 *770*	265 *870*	320 *1050*	375 *1225*
P6	245 *800*	275 *900*	325 *1075*	390 *1275*	265 *870*	300 *980*	355 *1175*	420 *1375*	225 *740*	255 *840*	300 *980*	355 *1175*	220 *720*	250 *820*	300 *980*	355 *1175*	265 *870*	300 *980*	355 *1175*	425 *1400*
P7	230 *750*	260 *850*	310 *1025*	365 *1200*	250 *820*	285 *940*	335 *1100*	400 *1300*	215 *710*	240 *790*	285 *940*	335 *1100*	210 *690*	235 *770*	285 *940*	335 *1100*	250 *820*	280 *920*	335 *1100*	400 *1300*
P8	215 *710*	245 *800*	290 *950*	340 *1125*	235 *770*	265 *870*	315 *1025*	370 *1225*	195 *640*	225 *740*	265 *870*	310 *1025*	200 *660*	225 *740*	265 *870*	315 *1025*	235 *770*	265 *870*	320 *1050*	375 *1225*
P11	225 *740*	255 *840*	300 *980*	355 *1175*	245 *800*	275 *900*	325 *1075*	385 *1275*	205 *670*	235 *770*	275 *900*	325 *1075*	205 *670*	230 *750*	275 *900*	325 *1075*	245 *800*	275 *900*	325 *1075*	390 *1275*
P12	— —	— —	— —	— —	155 *510*	175 *570*	210 *690*	245 *800*	130 *425*	150 *490*	175 *570*	205 *670*	130 *425*	145 *475*	175 *570*	205 *670*	155 *510*	175 *570*	210 *690*	245 *800*
M1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	215 *710*	245 *800*	295 *970*	345 *1125*	240 *790*	270 *890*	325 *1075*	380 *1250*
M2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	180 *590*	200 *660*	240 *790*	280 *920*	195 *640*	220 *720*	265 *870*	310 *1025*
M3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	145 *475*	160 *520*	190 *620*	225 *740*	160 *520*	180 *590*	210 *690*	250 *820*
M4	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	110 *360*	120 *395*	145 *475*	170 *560*	120 *395*	135 *445*	165 *540*	190 *620*
M5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	90 *295*	100 *330*	125 *410*	145 *475*	100 *330*	115 *375*	135 *445*	160 *520*
K1	230 *750*	260 *850*	315 *1025*	370 *1225*	345 *1125*	385 *1275*	465 *1525*	550 *1800*	215 *710*	240 *790*	290 *950*	340 *1125*	215 *710*	240 *790*	290 *950*	340 *1125*	255 *840*	285 *940*	345 *1125*	405 *1325*
K2	205 *670*	230 *750*	275 *900*	330 *1075*	300 *980*	340 *1125*	410 *1350*	485 *1600*	185 *610*	210 *690*	255 *840*	300 *980*	190 *620*	210 *690*	255 *840*	295 *970*	225 *740*	255 *840*	300 *980*	355 *1175*
K3	175 *570*	195 *640*	235 *770*	280 *920*	255 *840*	290 *950*	345 *1125*	410 *1350*	160 *520*	180 *590*	215 *710*	255 *840*	160 *520*	180 *590*	215 *710*	250 *820*	190 *620*	215 *710*	255 *840*	300 *980*
K4	165 *540*	185 *610*	225 *740*	265 *870*	245 *800*	275 *900*	330 *1075*	390 *1275*	150 *490*	170 *560*	205 *670*	245 *800*	150 *490*	170 *560*	205 *670*	240 *790*	180 *590*	205 *670*	245 *800*	285 *940*
K5	100 *330*	115 *375*	135 *445*	160 *520*	150 *490*	170 *560*	200 *660*	235 *770*	95 *310*	105 *345*	125 *410*	145 *475*	95 *310*	105 *345*	125 *410*	145 *475*	110 *360*	125 *410*	150 *490*	175 *570*
K6	145 *475*	165 *540*	195 *640*	235 *770*	215 *710*	240 *790*	290 *950*	345 *1125*	135 *445*	150 *490*	180 *590*	215 *710*	135 *445*	150 *490*	180 *590*	210 *690*	160 *520*	180 *590*	215 *710*	250 *820*
K7	130 *425*	145 *475*	175 *570*	205 *670*	190 *620*	215 *710*	260 *850*	300 *980*	120 *395*	135 *445*	160 *520*	190 *620*	120 *395*	135 *445*	160 *520*	185 *610*	145 *475*	160 *520*	190 *620*	225 *740*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1600 *5250*	1825 *6000*	2150 *7050*	2525 *8275*	1925 *6325*	2150 *7050*	2550 *8375*	3000 *9850*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	650 *2125*	730 *2400*	870 *2850*	1025 *3375*	770 *2525*	870 *2850*	1025 *3375*	1225 *4025*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	435 *1425*	490 *1600*	580 *1900*	680 *2225*	520 *1700*	580 *1900*	690 *2275*	810 *2650*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	495 *1625*	560 *1825*	660 *2175*	780 *2550*	590 *1925*	670 *2200*	790 *2600*	930 *3050*
S1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	70 *230*	80 *260*	55 *180*	65 *215*	75 *245*	90 *295*
S2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	46 *150*	55 *180*	65 *215*	45 *150*	50 *165*	60 *195*	70 *230*
S3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	40 *130*	48 *155*	55 *180*	40 *130*	45 *150*	55 *180*	60 *195*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	70 *230*	80 *260*	95 *310*	115 *375*	80 *260*	90 *295*	105 *345*	125 *410*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	47 *155*	55 *180*	65 *215*	55 *180*	60 *195*	75 *245*	85 *280*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	24 *80*	27 *90*	32 *105*	37 *120*	32 *105*	36 *120*	43 *140*	50 *165*
H5	47 *155*	55 *180*	65 *215*	75 *245*	— —	— —	— —	— —	— —	— —	— —	— —	43 *140*	49 *160*	60 *195*	70 *230*	48 *155*	55 *180*	65 *215*	75 *245*
H8	50 *165*	55 *180*	65 *215*	80 *260*	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	50 *165*	60 *195*	70 *230*	50 *165*	55 *180*	65 *215*	80 *260*
H11	60 *195*	70 *230*	80 *260*	95 *310*	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	75 *245*	85 *280*	60 *195*	70 *230*	80 *260*	95 *310*
H12	90 *295*	100 *330*	120 *395*	140 *460*	— —	— —	— —	— —	— —	— —	— —	— —	80 *260*	90 *295*	110 *360*	125 *410*	95 *310*	110 *360*	130 *425*	150 *490*

R217/220.29-04 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050				F40M				H25				MS2500				MP3501			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	250	285	340	400	—	—	—	—	360	410	490	580	495	540	590	640
	—	—	—	—	*820*	*940*	*1125*	*1300*	—	—	—	—	*1175*	*1350*	*1600*	*1900*	*1625*	*1775*	*1925*	*2100*
P2	—	—	—	—	245	275	330	390	—	—	—	—	350	395	475	560	485	530	570	630
	—	—	—	—	*800*	*900*	*1075*	*1275*	—	—	—	—	*1150*	*1300*	*1550*	*1825*	*1600*	*1750*	*1875*	*2075*
P3	—	—	—	—	215	240	290	335	—	—	—	—	310	345	415	485	415	455	490	540
	—	—	—	—	*710*	*790*	*950*	*1100*	—	—	—	—	*1025*	*1125*	*1350*	*1600*	*1350*	*1500*	*1600*	*1775*
P4	—	—	—	—	190	210	255	295	—	—	—	—	270	305	365	425	365	400	430	470
	—	—	—	—	*620*	*690*	*840*	*970*	—	—	—	—	*890*	*1000*	*1200*	*1400*	*1200*	*1300*	*1400*	*1550*
P5	—	—	—	—	180	205	245	290	—	—	—	—	260	290	350	415	350	380	410	445
	—	—	—	—	*590*	*670*	*800*	*950*	—	—	—	—	*850*	*950*	*1150*	*1350*	*1150*	*1250*	*1350*	*1450*
P6	—	—	—	—	205	230	275	325	—	—	—	—	295	335	395	465	390	430	465	500
	—	—	—	—	*670*	*750*	*900*	*1075*	—	—	—	—	*970*	*1100*	*1300*	*1525*	*1275*	*1400*	*1525*	*1650*
P7	—	—	—	—	195	220	255	305	—	—	—	—	280	315	370	440	370	405	435	475
	—	—	—	—	*640*	*720*	*840*	*1000*	—	—	—	—	*920*	*1025*	*1225*	*1450*	*1225*	*1325*	*1425*	*1550*
P8	—	—	—	—	180	205	245	285	—	—	—	—	260	290	350	410	350	380	410	450
	—	—	—	—	*590*	*670*	*800*	*940*	—	—	—	—	*850*	*950*	*1150*	*1350*	*1150*	*1250*	*1350*	*1475*
P11	—	—	—	—	190	210	250	295	—	—	—	—	270	305	360	430	360	395	425	460
	—	—	—	—	*620*	*690*	*820*	*970*	—	—	—	—	*890*	*1000*	*1175*	*1400*	*1175*	*1300*	*1400*	*1500*
P12	—	—	—	—	120	135	160	190	—	—	—	—	170	195	230	270	210	225	240	260
	—	—	—	—	*395*	*445*	*520*	*620*	—	—	—	—	*560*	*640*	*750*	*890*	*690*	*740*	*790*	*850*
M1	—	—	—	—	195	220	265	315	—	—	—	—	250	285	340	405	280	315	370	435
	—	—	—	—	*640*	*720*	*870*	*1025*	—	—	—	—	*820*	*940*	*1125*	*1325*	*920*	*1025*	*1225*	*1425*
M2	—	—	—	—	160	180	220	260	—	—	—	—	205	235	280	335	230	260	305	360
	—	—	—	—	*520*	*590*	*720*	*850*	—	—	—	—	*670*	*770*	*920*	*1100*	*750*	*850*	*1000*	*1175*
M3	—	—	—	—	130	145	175	205	—	—	—	—	165	185	225	260	180	205	240	285
	—	—	—	—	*425*	*475*	*570*	*670*	—	—	—	—	*540*	*610*	*740*	*850*	*590*	*670*	*790*	*940*
M4	—	—	—	—	100	115	135	155	—	—	—	—	130	145	170	200	140	155	185	215
	—	—	—	—	*330*	*375*	*445*	*510*	—	—	—	—	*425*	*475*	*560*	*660*	*460*	*510*	*610*	*710*
M5	—	—	—	—	85	95	110	130	—	—	—	—	105	120	140	165	115	130	155	180
	—	—	—	—	*280*	*310*	*360*	*425*	—	—	—	—	*345*	*395*	*460*	*540*	*375*	*425*	*510*	*590*
K1	—	—	—	—	195	220	260	310	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*640*	*720*	*850*	*1025*	—	—	—	—	—	—	—	—	—	—	—	—
K2	—	—	—	—	170	190	230	275	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*560*	*620*	*750*	*900*	—	—	—	—	—	—	—	—	—	—	—	—
K3	—	—	—	—	145	165	195	230	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*475*	*540*	*640*	*750*	—	—	—	—	—	—	—	—	—	—	—	—
K4	—	—	—	—	140	155	185	220	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*460*	*510*	*610*	*720*	—	—	—	—	—	—	—	—	—	—	—	—
K5	—	—	—	—	85	95	115	135	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*280*	*310*	*375*	*445*	—	—	—	—	—	—	—	—	—	—	—	—
K6	—	—	—	—	120	135	165	195	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*395*	*445*	*540*	*640*	—	—	—	—	—	—	—	—	—	—	—	—
K7	—	—	—	—	110	120	145	170	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*360*	*395*	*475*	*560*	—	—	—	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	1450	1625	1975	2300	1775	2025	2400	2825	—	—	—	—	—	—	—	—
	—	—	—	—	*4750*	*5325*	*6475*	*7550*	*5825*	*6650*	*7875*	*9275*	—	—	—	—	—	—	—	—
N2	—	—	—	—	590	660	800	920	720	810	970	1150	—	—	—	—	—	—	—	—
	—	—	—	—	*1925*	*2175*	*2625*	*3025*	*2350*	*2650*	*3175*	*3775*	—	—	—	—	—	—	—	—
N3	—	—	—	—	390	440	530	620	480	540	650	760	—	—	—	—	—	—	—	—
	—	—	—	—	*1275*	*1450*	*1750*	*2025*	*1575*	*1775*	*2125*	*2500*	—	—	—	—	—	—	—	—
N11	—	—	—	—	445	500	610	700	550	620	740	870	—	—	—	—	—	—	—	—
	—	—	—	—	*1450*	*1650*	*2000*	*2300*	*1800*	*2025*	*2425*	*2850*	—	—	—	—	—	—	—	—
S1	55	60	70	85	47	55	60	75	—	—	—	—	65	70	85	100	65	75	85	100
	180	*195*	*230*	*280*	*155*	*180*	*195*	*245*	—	—	—	—	*215*	*230*	*280*	*330*	*215*	*245*	*280*	*330*
S2	43	48	60	65	38	42	50	60	—	—	—	—	50	55	65	80	50	60	70	80
	140	*155*	*195*	*215*	*125*	*140*	*165*	*195*	—	—	—	—	*165*	*180*	*215*	*260*	*165*	*195*	*230*	*260*
S3	38	42	50	60	33	37	44	50	—	—	—	—	44	50	60	70	45	50	60	70
	125	*140*	*165*	*195*	*110*	*120*	*145*	*165*	—	—	—	—	*145*	*165*	*195*	*230*	*150*	*165*	*195*	*230*
S11	75	85	100	120	65	75	90	105	—	—	—	—	90	100	120	140	90	105	120	145
	245	*280*	*330*	*395*	*215*	*245*	*295*	*345*	—	—	—	—	*295*	*330*	*395*	*460*	*295*	*345*	*395*	*475*
S12	50	60	70	85	45	50	60	70	—	—	—	—	60	70	80	95	65	70	85	100
	165	*195*	*230*	*280*	*150*	*165*	*195*	*230*	—	—	—	—	*195*	*230*	*260*	*310*	*215*	*230*	*280*	*330*
S13	30	34	40	47	26	30	35	41	—	—	—	—	35	40	47	55	36	41	48	55
	100	*110*	*130*	*155*	*85*	*100*	*115*	*135*	—	—	—	—	*115*	*130*	*155*	*180*	*120*	*135*	*155*	*180*
H5	—	—	—	—	39	45	55	60	—	—	—	—	—	—	—	—	55	65	75	90
	—	—	—	—	*130*	*150*	*180*	*195*	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*
H8	—	—	—	—	42	47	55	65	—	—	—	—	—	—	—	—	60	65	80	90
	—	—	—	—	*140*	*155*	*180*	*215*	—	—	—	—	—	—	—	—	*195*	*215*	*260*	*295*
H11	—	—	—	—	50	55	70	80	—	—	—	—	—	—	—	—	75	80	95	115
	—	—	—	—	*165*	*180*	*230*	*260*	—	—	—	—	—	—	—	—	*245*	*260*	*310*	*375*
H12	—	—	—	—	75	85	100	115	—	—	—	—	105	120	145	170	105	120	140	165
	—	—	—	—	*245*	*280*	*330*	*375*	—	—	—	—	*345*	*395*	*475*	*560*	*345*	*395*	*460*	*540*

R217.29I-05 – Metric





- For insert selection and cutting data recommendations, see page(s) 628-630
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.29I-2016.0-05.1.100A	03278796	Cylindrical	5,9	16,0	1	5,0	20,0	90,0	150,0	60,0	6,9	21,8	30,0	29900	0,4	RD..10T3
R217.29I-1620.0-05.2.112E	03278795	Cylindrical	10,0	20,0	2	5,0	16,0	140,0	160,0	112,0	90,0	30,0	38,0	27400	0,5	RD..10T3
R217.29I-2025.0-05.2.120A	03278797	Cylindrical	15,0	25,0	2	5,0	20,0	140,0	170,0	120,0	14,5	40,0	48,0	24400	0,4	RD..10T3
R217.29I-2525.0-05.3.124A	03278798	Cylindrical	15,0	25,0	3	5,0	25,0	130,0	180,0	50,1	13,8	40,0	48,0	24400	0,7	RD..10T3
R217.29I-2520.3-05.2.070A	03278800	Weldon	10,0	20,0	2	5,0	25,0	55,5	125,5	70,0	90,0	30,0	38,0	27400	0,4	RD..10T3
R217.29I-2525.3-05.3.050A	03278801	Weldon	15,0	25,0	3	5,0	25,0	55,5	105,5	50,0	14,4	40,0	48,0	24400	0,4	RD..10T3
R217.29I-3232.3-05.4.060A	03278802	Weldon	22,0	32,0	4	5,0	32,0	59,5	119,5	60,0	8,7	54,0	62,0	21600	0,7	RD..10T3

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.29I-2016-2520	H4B-T09P	C03006-T09P
R217.29I-2025-3232	H4B-T09P	C03007-T09P

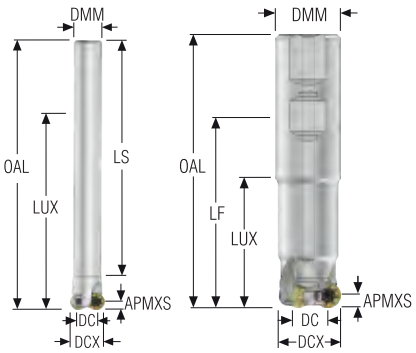
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29I-..	2.0NM	T00-09P20

Torque and fixed keys, see page 872

R217.29I-05 – inch





- For insert selection and cutting data recommendations, see page(s) 628-630
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-3-05.3A	03278812	Weldon	0.608	1.000	3	0.197	1.000	2.280	5.280	3.000	13,8	1.610	1.921	24400	1.100	RD..10T3

Spare Parts, included in delivery

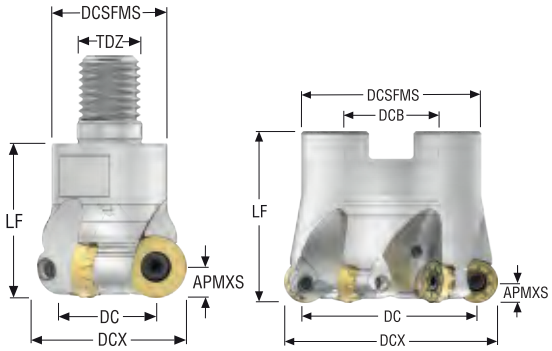
For cutter	Insert key	Insert screw
		
R217.29I-..	H4B-T09P	C03007-T09P

Accessories

Insert clamping torque	Torque key
	
17.7IN.LBS	T00-09P20

Torque and fixed keys, see page 872

R217/220.29I-05 – Metric



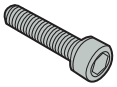


- For insert selection and cutting data recommendations, see page(s) 628-630
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29I-1020.RE-05.2A	03278781	Combimaster	10,0	20,0	2	5,0	–	M10	18,5	28,0	90,0	30,0	38,0	27400	0,1	RD..10T3
R217.29I-1225.RE-05.3A	03278782	Combimaster	15,0	25,0	3	5,0	–	M12	23,0	30,0	13,8	40,0	48,0	24400	0,2	RD..10T3
R217.29I-1232.RE-05.4A	03278783	Combimaster	22,0	32,0	4	5,0	–	M12	23,0	30,0	8,0	54,0	62,0	21600	0,2	RD..10T3
R217.29I-1632.RE-05.4A	03278784	Combimaster	22,0	32,0	4	5,0	–	M16	30,0	40,0	8,8	54,0	62,0	21600	0,3	RD..10T3
R217.29I-1632.RE-05.5A	03278785	Combimaster	22,2	32,0	5	5,0	–	M16	30,0	40,0	4,1	54,4	62,0	21600	0,3	RD..10T3
R217.29I-1635.RE-05.5A	03278786	Combimaster	25,1	35,0	5	5,0	–	M16	30,0	40,0	7,5	60,2	68,0	15600	0,3	RD..10T3
R217.29I-1640.RE-05.4A	03278787	Combimaster	30,0	40,0	4	5,0	–	M16	30,0	40,0	5,5	70,0	78,0	19300	0,3	RD..10T3
R217.29I-1640.RE-05.5A	03278788	Combimaster	30,0	40,0	5	5,0	–	M16	30,0	40,0	5,5	70,0	78,0	19300	0,3	RD..10T3
R217.29I-2040.RE-05.6A	03278791	Combimaster	30,2	40,0	6	5,0	–	M20	36,5	40,0	5,9	70,4	78,0	19300	0,4	RD..10T3
R217.29I-1642.RE-05.5A	03278789	Combimaster	32,0	42,0	5	5,0	–	M16	30,0	40,0	5,6	74,0	82,0	18800	0,3	RD..10T3
R217.29I-1642.RE-05.6A	03278790	Combimaster	32,0	42,0	6	5,0	–	M16	30,0	40,0	6,0	74,0	82,0	18800	0,3	RD..10T3
R220.29I-0040-05.5A	03278803	Arbor	30,0	40,0	5	5,0	16,0	–	33,0	40,0	7,3	70,0	78,0	19300	0,3	RD..10T3
R220.29I-0050-05.4A	03278804	Arbor	40,0	50,0	4	5,0	22,0	–	41,0	40,0	4,3	90,0	98,0	17300	0,4	RD..10T3
R220.29I-0050-05.6A	03278805	Arbor	40,0	50,0	6	5,0	22,0	–	41,0	40,0	4,3	90,0	98,0	17300	0,4	RD..10T3
R220.29I-0052-05.7A	03278806	Arbor	42,1	52,0	7	5,0	22,0	–	41,0	40,0	4,3	94,2	102,0	17000	0,4	RD..10T3
R220.29I-0063-05.6A	03278807	Arbor	53,0	63,0	6	5,0	22,0	–	49,0	40,0	3,1	116,0	124,0	15800	0,6	RD..10T3
R220.29I-0063-05.8A	03278808	Arbor	53,0	63,0	8	5,0	22,0	–	49,0	40,0	3,9	116,0	124,0	15800	0,6	RD..10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

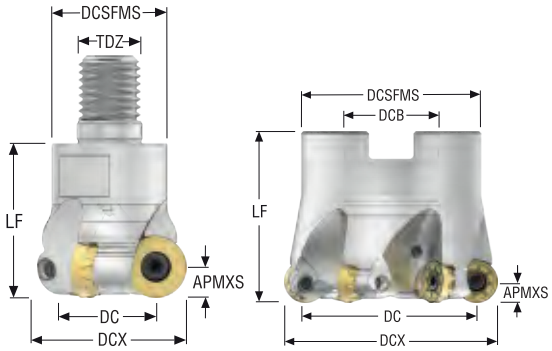
For cutter	Arbor screw	Insert key	Insert screw
			
R217.29I-1020	–	H4B-T09P	C03006-T09P
R217.29I-1225-2042	–	H4B-T09P	C03007-T09P
R220.29I-0040	220.17-689	H4B-T09P	C03007-T09P
R220.29I-0050-0063	220.17-692	H4B-T09P	C03007-T09P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.29I-..	2.0NM	T00-09P20

Torque and fixed keys, see page 872

R217/220.29I-05 – inch



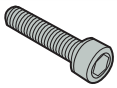


- For insert selection and cutting data recommendations, see page(s) 628-630
- For complete insert programme, see page(s) 817
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch		inch	inch		lbs	
R217.29I-1.00-12RE-05.3A	03278809	Combimaster	0.608	1.000	3	0.197	–	M12	0.906	1.181	13,3	1.610	1.921	24400	0.440	RD..10T3
R217.29I-1.25-16RE-05.4A	03278810	Combimaster	0.856	1.250	4	0.197	–	M16	1.181	1.575	8,9	2.106	2.421	21600	0.440	RD..10T3
R217.29I-1.50-16RE-05.5A	03278811	Combimaster	1.106	1.500	5	0.197	–	M16	1.181	1.575	6,0	2.606	2.921	19300	0.660	RD..10T3
R220.29I-01.50-05.5A	03278813	Arbor	1.106	1.500	5	0.197	0.500	–	1.339	1.500	6,5	2.606	2.921	14000	0.660	RD..10T3
R220.29I-02.00-05.6A	03278814	Arbor	1.606	2.000	6	0.197	0.750	–	1.614	1.500	4,2	3.606	3.921	12500	0.880	RD..10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.29I-..	–	H4B-T09P	C03007-T09P
R220.29I-01.50	UC6S1/4UNFX1	H4B-T09P	C03007-T09P
R220.29I-02.00	UC6S3/8UNFX1	H4B-T09P	C03007-T09P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.29I-..	17.7IN.LBS	T00-09P20

Torque and fixed keys, see page 872

R217/220.29I-05 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RDKT10T3M0T-6-M05 MP2501	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
P2	RDKT10T3M0T-6-M05 MP2501	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,30 *0.012*
P3	RDKT10T3M0T-6-M05 MP2501	2,0 *0.080*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,28 *0.011*
P4	RDKT10T3M0T-8-M07 MP2501	2,0 *0.080*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,38 *0.015*
P5	RDKT10T3M0T-8-M07 MP2501	2,0 *0.080*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,38 *0.014*
P6	RDKT10T3M0T-8-M07 MP2501	2,0 *0.080*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,36 *0.014*
P7	RDKW10T3M0T-8-MD06 MP1501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*	0,32 *0.013*
P8	RDKW10T3M0T-8-MD06 MP1501	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*
P11	RDKW10T3M0T-8-MD06 MP1501	2,0 *0.080*	0,17 *0.0065*	0,17 *0.0065*	0,20 *0.0080*	0,32 *0.013*
P12	RDKW10T3M0T-8-MD06 MP1501	1,6 *0.065*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,24 *0.0095*
M1	RDHT10T3M0T-8-M11 MS2050	2,0 *0.080*	0,36 *0.014*	0,36 *0.014*	0,40 *0.016*	0,65 *0.026*
M2	RDHT10T3M0T-8-M11 MS2050	2,0 *0.080*	0,32 *0.013*	0,32 *0.013*	0,36 *0.014*	0,60 *0.024*
M3	RDHT10T3M0T-8-M11 MS2050	1,6 *0.065*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
M4	RDHT10T3M0T-8-M11 MS2050	1,2 *0.048*	0,30 *0.012*	0,30 *0.012*	0,34 *0.013*	0,50 *0.020*
M5	RDHT10T3M0T-8-M11 MS2050	1,2 *0.048*	0,30 *0.012*	0,30 *0.012*	0,34 *0.013*	0,50 *0.020*
K1	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 *0.013*
K2	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*
K3	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*
K4	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*
K5	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
K6	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*
K7	RDKW10T3M0T-8-MD06 MK2050	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 *0.011*
N1	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,19 *0.0075*	0,30 *0.012*
N2	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,19 *0.0075*	0,30 *0.012*
N3	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,19 *0.0075*	0,30 *0.012*
N11	RDHT10T3M0-8-E04 H25	2,0 *0.080*	0,16 *0.0065*	0,16 *0.0065*	0,19 *0.0075*	0,30 *0.012*
S1	RDKT10T3M0T-8-M07 MS2500	1,2 *0.048*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 *0.013*
S2	RDKT10T3M0T-8-M07 MS2500	1,2 *0.048*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 *0.013*
S3	RDKT10T3M0T-6-M05 MS2500	1,2 *0.048*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
S11	RDHT10T3M0T-8-M11 MS2050	1,4 *0.055*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,55 *0.022*
S12	RDHT10T3M0T-8-M11 MS2050	1,4 *0.055*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,55 *0.022*
S13	RDHT10T3M0T-8-M11 MS2050	1,2 *0.048*	0,30 *0.012*	0,30 *0.012*	0,34 *0.013*	0,50 *0.020*
H5	RDHW10T3M0T-8-MD06 MH1000	1,6 *0.065*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,24 *0.0095*
H8	RDHW10T3M0T-8-MD06 MH1000	1,4 *0.055*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
H11	RDHW10T3M0T-8-MD06 MH1000	1,6 *0.065*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,24 *0.0095*
H12	RDHW10T3M0T-8-MD06 MH1000	1,4 *0.055*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

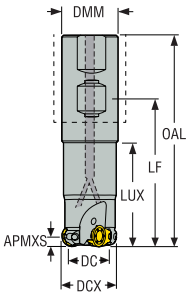
R217/220.29-05 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000				F15M				MK2050				F25M				MP3000				MS2050				F40M			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	290	325	395	460	310	355	425	500	265	300	360	425	300	340	410	480	310	350	420	490	280	320	380	445
	—	—	—	—	*950*	*1075*	*1300*	*1500*	*1025*	*1175*	*1400*	*1650*	*870*	*980*	*1175*	*1400*	*980*	*1125*	*1350*	*1575*	*1025*	*1150*	*1375*	*1600*	*920*	*1050*	*1250*	*1450*
P2	—	—	—	—	280	320	380	450	305	345	410	485	255	290	350	410	290	330	395	470	300	340	410	480	270	310	370	435
	—	—	—	—	*920*	*1050*	*1250*	*1475*	*1000*	*1125*	*1350*	*1600*	*840*	*950*	*1150*	*1350*	*950*	*1075*	*1300*	*1550*	*980*	*1125*	*1350*	*1575*	*890*	*1025*	*1225*	*1425*
P3	—	—	—	—	245	280	330	390	265	300	360	425	225	255	305	360	255	290	345	405	260	300	350	420	240	270	320	380
	—	—	—	—	*800*	*920*	*1075*	*1275*	*870*	*980*	*1175*	*1400*	*740*	*840*	*1000*	*1175*	*840*	*950*	*1125*	*1325*	*850*	*980*	*1150*	*1375*	*790*	*890*	*1050*	*1250*
P4	—	—	—	—	215	245	295	345	235	265	320	370	195	225	270	315	225	255	305	360	230	260	315	370	210	240	285	335
	—	—	—	—	*710*	*800*	*970*	*1125*	*770*	*870*	*1050*	*1225*	*640*	*740*	*890*	*1025*	*740*	*840*	*1000*	*1175*	*750*	*850*	*1025*	*1225*	*690*	*790*	*940*	*1100*
P5	250	285	340	400	210	235	280	330	225	255	305	360	190	215	260	305	215	245	295	345	220	250	300	355	200	225	275	320
	820	*940*	*1125*	*1300*	*690*	*770*	*920*	*1075*	*740*	*840*	*1000*	*1175*	*620*	*710*	*850*	*1000*	*710*	*800*	*970*	*1125*	*720*	*820*	*980*	*1175*	*660*	*740*	*900*	*1050*
P6	280	320	380	450	235	265	315	370	255	290	340	405	215	245	290	340	245	275	330	385	250	285	335	395	230	260	305	360
	920	*1050*	*1250*	*1475*	*770*	*870*	*1025*	*1225*	*840*	*950*	*1125*	*1325*	*710*	*800*	*950*	*1125*	*800*	*900*	*1075*	*1275*	*820*	*940*	*1100*	*1300*	*750*	*850*	*1000*	*1175*
P7	265	305	360	425	220	250	300	350	240	270	325	380	200	230	275	320	230	260	310	365	235	270	320	375	215	245	290	340
	870	*1000*	*1175*	*1400*	*720*	*820*	*980*	*1150*	*790*	*890*	*1075*	*1250*	*660*	*750*	*900*	*1050*	*750*	*850*	*1025*	*1200*	*770*	*890*	*1050*	*1225*	*710*	*800*	*950*	*1125*
P8	250	280	335	395	205	235	280	330	220	255	300	355	190	215	255	300	215	245	290	340	220	250	295	355	200	225	270	320
	820	*920*	*1100*	*1300*	*670*	*770*	*920*	*1075*	*720*	*840*	*980*	*1175*	*620*	*710*	*840*	*980*	*710*	*800*	*950*	*1125*	*720*	*820*	*970*	*1175*	*660*	*740*	*890*	*1050*
P11	260	295	350	410	215	245	290	340	230	265	315	370	195	225	265	310	225	255	300	355	230	260	310	365	210	240	280	330
	850	*970*	*1150*	*1350*	*710*	*800*	*950*	*1125*	*750*	*870*	*1025*	*1225*	*640*	*740*	*870*	*1025*	*740*	*840*	*980*	*1175*	*750*	*850*	*1025*	*1200*	*690*	*790*	*920*	*1075*
P12	165	190	225	265	—	—	—	—	150	170	200	235	125	145	170	200	145	165	195	230	145	165	195	230	130	150	180	210
	540	*620*	*740*	*870*	—	—	—	—	*490*	*560*	*660*	*770*	*410*	*475*	*560*	*660*	*475*	*540*	*640*	*750*	*475*	*540*	*640*	*750*	*425*	*490*	*590*	*690*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	220	250	295	350	240	275	330	385	220	250	300	350
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*720*	*820*	*970*	*1150*	*790*	*900*	*1075*	*1275*	*720*	*820*	*980*	*1150*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	180	205	245	290	200	225	270	320	180	205	245	290
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*590*	*670*	*800*	*950*	*660*	*740*	*890*	*1050*	*590*	*670*	*800*	*950*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145	165	195	230	160	180	215	255	145	165	195	230
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*540*	*640*	*750*	*520*	*590*	*710*	*840*	*475*	*540*	*640*	*750*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	110	125	150	175	125	140	165	195	110	125	150	175
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*360*	*410*	*490*	*570*	*410*	*460*	*540*	*640*	*360*	*410*	*490*	*570*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	105	125	145	100	115	135	160	95	105	125	145
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*295*	*345*	*410*	*475*	*330*	*375*	*445*	*520*	*310*	*345*	*410*	*475*
K1	270	305	365	430	220	250	300	355	325	370	445	530	205	230	275	325	230	265	315	370	—	—	—	—	215	245	295	345
	890	*1000*	*1200*	*1400*	*720*	*820*	*980*	*1175*	*1075*	*1225*	*1450*	*1750*	*670*	*750*	*900*	*1075*	*750*	*870*	*1025*	*1225*	—	—	—	—	*710*	*800*	*970*	*1125*
K2	240	270	320	380	200	225	265	315	290	330	395	465	180	205	245	290	205	235	280	325	—	—	—	—	190	215	260	305
	790	*890*	*1050*	*1250*	*660*	*740*	*870*	*1025*	*950*	*1075*	*1300*	*1525*	*590*	*670*	*800*	*950*	*670*	*770*	*920*	*1075*	—	—	—	—	*620*	*710*	*850*	*1000*
K3	200	230	275	320	165	190	225	265	245	280	335	390	155	175	205	245	175	200	235	275	—	—	—	—	160	185	220	260
	660	*750*	*900*	*1050*	*540*	*620*	*740*	*870*	*800*	*920*	*1100*	*1275*	*510*	*570*	*670*	*800*	*570*	*660*	*770*	*900*	—	—	—	—	*520*	*610*	*720*	*850*
K4	195	220	260	305	160	180	215	255	235	270	320	375	145	165	200	235	165	190	225	265	—	—	—	—	155	175	210	245
	640	*720*	*850*	*1000*	*520*	*590*	*710*	*840*	*770*	*890*	*1050*	*1225*	*475*	*540*	*660*	*770*	*540*	*620*	*740*	*870*	—	—	—	—	*510*	*570*	*690*	*800*
K5	115	130	160	185	95	110	130	155	140	160	195	225	90	100	120	140	100	115	135	160	—	—	—	—	95	105	130	150
	375	*425*	*520*	*610*	*310*	*360*	*425*	*510*	*460*	*520*	*640*	*740*	*295*	*330*	*395*	*460*	*330*	*375*	*445*	*520*	—	—	—	—	*310*	*345*	*425*	*490*
K6	170	195	230	270	140	160	190	225	205	235	280	330	130	145	175	205	145	165	200	235	—	—	—	—	135	155	185	215
	560	*640*	*750*	*890*	*460*	*520*	*620*	*740*	*670*	*770*	*920*	*1075*	*425*	*475*	*570*	*670*	*475*	*540*	*660*	*770*	—	—	—	—	*445*	*510*	*610*	*710*
K7	150	170	205	240	125	140	170	195	180	205	250	290	115	130	155	180	130	145	175	205	—	—	—	—	120	135	165	190
	490	*560*	*670*	*790*	*410*	*460*	*560*	*640*	*590*	*670*	*820*	*950*	*375*	*425*	*510*	*590*	*425*	*475*	*570*	*670*	—	—	—	—	*395*	*445*	*540*	*620*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1725	1950	2350	2750	—	—	—	—	1625	1825	2225	2575
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*5650*	*6400*	*7700*	*9025*	—	—	—	—	*5325*	*6000*	*7300*	*8450*
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	700	790	950	1100	—	—	—	—	650	740	900	1050
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*2300*	*2600*	*3125*	*3600*	—	—	—	—	*2125*	*2425*	*2950*	*3450*
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	465	530	630	740	—	—	—	—	435	495	600	700
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1525*	*1750*	*2075*	*2425*	—	—	—	—	*1425*	*1625*	*1975*	*2300*
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	530	600	720	850	—	—	—	—	495	570	680	790
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1750*	*1975*	*2350*	*2800*	—	—	—	—	*1625*	*1875*	*2225*	*2600*
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	60	70	85	55	65	75	90	50	60	70	85
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*195*	*230*	*280*	*180*	*215*	*245*	*295*	*165*	*195*	*230*	*280*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	47	55	65	46	50	60	75	42	47	55	65
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*155*	*180*	*215*	*150*	*165*	*195*	*245*	*140*	*155*	*180*	*215*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36	41	49	60	40	46	55	65	37	42	49	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*135*	*160*	*195*	*130*	*150*	*180*	*215*	*120*	*140*	*160*	*195*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	80	100	115	80	90	110	130	75	85	100	115
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*330*	*375*	*260*	*295*	*360*	*425*	*245*	*280*	*330*	*375*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	55	70	80	55	65	75	90	50	55	70	80
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*230*	*260*	*180*	*215*	*245*	*295*	*165*	*180*	*230*	*260*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	33	39	46	32	36	43	50	29	33	39	46
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*110*	*130*	*150*	*105*	*120*	*140*	*165*	*95*	*110*	*130*	*150*
H5	55	65	75	90	46	50	60	75	—	—	—	—	—	—	—	—	44	50	60	70	—	—	—	—	44	50	60	70
	180	*215*	*245*	*295*	*150*	*165*	*195*	*245*	—	—	—	—	—	—	—	—	*145*	*165*	*195*	*230*	—	—	—	—	*145*	*165*	*195*	*230*
H8	60	65	80	90	48	55	65	75	—	—	—	—	—	—	—	—	47	55	65	75	—	—	—	—	46	50	60	75
	195	*215*	*260*	*295*	*155*	*180*	*215*	*245*	—	—	—	—	—	—	—	—	*155*	*180*	*215*	*245*	—	—	—	—	*150*	*165*	*195*	*245*
H11	70	80	95	110	60	65	80	90	—	—	—	—	—	—	—	—	55	65	75	90	—	—	—	—	55	65	75	90
	230	*260*	*310*	*360*	*195*	*215*	*260*	*295*	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*	—	—	—	—	*180*	*215*	*245*	*295*
H12	105	120	140	165	85	95	115	135	—	—	—	—	—	—	—	—	90	100	120	140	—	—	—	—	85	95	110	130
	345	*395*	*460*	*540*	*280*	*310*	*375*	*445*	—	—	—	—	—	—	—	—	*295*	*330*	*395*	*460*	—	—	—	—	*280*	*310*	*360*	*425*

R217/220.29I-05 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP2050				H25				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	360	410	495	580	—	—	—	—	450	490	550	610	465	510	580	650	405	460	550	640	460	500	570	620	225	260	310	360
	1175	*1350*	*1625*	*1900*	—	—	—	—	*1475*	*1600*	*1800*	*2000*	*1525*	*1675*	*1900*	*2125*	*1325*	*1500*	*1800*	*2100*	*1500*	*1650*	*1875*	*2025*	*740*	*850*	*1025*	*1175*
P2	355	400	480	560	—	—	—	—	435	475	540	600	455	495	560	620	390	445	540	630	450	490	550	610	220	250	300	355
	1175	*1300*	*1575*	*1825*	—	—	—	—	*1425*	*1550*	*1775*	*1975*	*1500*	*1625*	*1825*	*2025*	*1275*	*1450*	*1775*	*2075*	*1475*	*1600*	*1800*	*2000*	*720*	*820*	*980*	*1175*
P3	310	350	415	495	—	—	—	—	380	415	465	520	390	425	485	540	340	390	460	550	390	425	475	520	195	220	260	310
	1025	*1150*	*1350*	*1625*	—	—	—	—	*1250*	*1350*	*1525*	*1700*	*1275*	*1400*	*1600*	*1775*	*1125*	*1275*	*1500*	*1800*	*1275*	*1400*	*1550*	*1700*	*640*	*720*	*850*	*1025*
P4	270	310	370	435	—	—	—	—	335	365	410	455	350	380	430	480	300	345	410	485	345	375	420	460	170	195	230	275
	890	*1025*	*1225*	*1425*	—	—	—	—	*1100*	*1200*	*1350*	*1500*	*1150*	*1250*	*1400*	*1575*	*980*	*1125*	*1350*	*1600*	*1125*	*1225*	*1375*	*1500*	*560*	*640*	*750*	*900*
P5	260	295	355	415	—	—	—	—	320	350	395	435	335	365	415	460	290	330	395	460	325	360	400	440	160	185	220	260
	850	*970*	*1175*	*1350*	—	—	—	—	*1050*	*1150*	*1300*	*1425*	*1100*	*1200*	*1350*	*1500*	*950*	*1075*	*1300*	*1500*	*1075*	*1175*	*1300*	*1450*	*520*	*610*	*720*	*850*
P6	295	335	395	465	—	—	—	—	360	395	440	490	375	410	465	520	330	375	440	520	370	405	450	495	185	210	250	290
	970	*1100*	*1300*	*1525*	—	—	—	—	*1175*	*1300*	*1450*	*1600*	*1225*	*1350*	*1525*	*1700*	*1075*	*1225*	*1450*	*1700*	*1225*	*1325*	*1475*	*1625*	*610*	*690*	*820*	*950*
P7	280	315	375	440	—	—	—	—	340	370	415	460	355	385	440	485	310	355	415	490	350	380	425	470	175	200	235	275
	920	*1025*	*1225*	*1450*	—	—	—	—	*1125*	*1225*	*1350*	*1500*	*1175*	*1275*	*1450*	*1600*	*1025*	*1175*	*1350*	*1600*	*1150*	*1250*	*1400*	*1550*	*570*	*660*	*770*	*900*
P8	260	295	350	415	—	—	—	—	320	350	390	435	325	360	410	455	290	330	390	460	325	360	400	440	160	185	220	260
	850	*970*	*1150*	*1350*	—	—	—	—	*1050*	*1150*	*1275*	*1425*	*1075*	*1175*	*1350*	*1500*	*950*	*1075*	*1275*	*1500*	*1075*	*1175*	*1300*	*1450*	*520*	*610*	*720*	*850*
P11	270	310	365	430	—	—	—	—	330	360	405	450	345	375	430	475	300	345	405	475	340	370	410	455	170	195	230	270
	890	*1025*	*1200*	*1400*	—	—	—	—	*1075*	*1175*	*1325*	*1475*	*1125*	*1225*	*1400*	*1550*	*980*	*1125*	*1325*	*1550*	*1125*	*1225*	*1350*	*1500*	*560*	*640*	*750*	*890*
P12	170	195	235	270	—	—	—	—	205	220	245	270	215	235	260	285	190	215	260	300	205	225	245	265	105	120	145	170
	560	*640*	*770*	*890*	—	—	—	—	*670*	*720*	*800*	*890*	*710*	*770*	*850*	*940*	*620*	*710*	*850*	*980*	*670*	*740*	*800*	*870*	*345*	*395*	*475*	*560*
M1	255	290	345	405	—	—	—	—	—	—	—	—	230	265	310	365	280	320	385	450	240	275	330	385	190	215	260	305
	840	*950*	*1125*	*1325*	—	—	—	—	—	—	—	—	*750*	*870*	*1025*	*1200*	*920*	*1050*	*1275*	*1475*	*790*	*900*	*1075*	*1275*	*620*	*710*	*850*	*1000*
M2	205	235	285	335	—	—	—	—	—	—	—	—	190	220	265	305	230	260	315	370	200	225	270	320	155	175	210	250
	670	*770*	*940*	*1100*	—	—	—	—	—	—	—	—	*620*	*720*	*870*	*1000*	*750*	*850*	*1025*	*1225*	*660*	*740*	*890*	*1050*	*510*	*570*	*690*	*820*
M3	165	190	225	265	—	—	—	—	—	—	—	—	155	175	210	245	185	210	250	295	160	180	215	255	125	140	170	200
	540	*620*	*740*	*870*	—	—	—	—	—	—	—	—	*510*	*570*	*690*	*800*	*610*	*690*	*820*	*970*	*520*	*590*	*710*	*840*	*410*	*460*	*560*	*660*
M4	130	145	170	205	—	—	—	—	—	—	—	—	120	135	160	190	145	160	190	225	125	140	165	195	95	110	130	155
	425	*475*	*560*	*670*	—	—	—	—	—	—	—	—	*395*	*445*	*520*	*620*	*475*	*520*	*620*	*740*	*410*	*460*	*540*	*640*	*310*	*360*	*425*	*510*
M5	105	120	145	170	—	—	—	—	—	—	—	—	100	110	135	155	120	135	160	190	100	115	135	160	80	90	110	125
	345	*395*	*475*	*560*	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*510*	*395*	*445*	*520*	*620*	*330*	*375*	*445*	*520*	*260*	*295*	*360*	*410*
K1	—	—	—	—	—	—	—	—	440	480	540	600	455	500	560	630	310	355	425	495	450	495	560	610	—	—	—	—
	—	—	—	—	—	—	—	—	*1450*	*1575*	*1775*	*1975*	*1500*	*1650*	*1825*	*2075*	*1025*	*1175*	*1400*	*1625*	*1475*	*1625*	*1825*	*2000*	—	—	—	—
K2	—	—	—	—	—	—	—	—	390	425	475	530	405	440	500	560	275	310	375	440	395	435	485	530	—	—	—	—
	—	—	—	—	—	—	—	—	*1275*	*1400*	*1550*	*1750*	*1325*	*1450*	*1650*	*1825*	*900*	*1025*	*1225*	*1450*	*1300*	*1425*	*1600*	*1750*	—	—	—	—
K3	—	—	—	—	—	—	—	—	330	360	400	445	340	375	425	470	230	265	315	370	335	365	410	450	—	—	—	—
	—	—	—	—	—	—	—	—	*1075*	*1175*	*1300*	*1450*	*1125*	*1225*	*1400*	*1550*	*750*	*870*	*1025*	*1225*	*1100*	*1200*	*1350*	*1475*	—	—	—	—
K4	—	—	—	—	—	—	—	—	315	345	385	425	325	355	405	450	220	250	300	355	320	350	390	430	—	—	—	—
	—	—	—	—	—	—	—	—	*1025*	*1125*	*1275*	*1400*	*1075*	*1175*	*1325*	*1475*	*720*	*820*	*980*	*1175*	*1050*	*1150*	*1275*	*1400*	—	—	—	—
K5	—	—	—	—	—	—	—	—	190	205	230	255	200	215	245	270	135	155	185	215	195	210	235	255	—	—	—	—
	—	—	—	—	—	—	—	—	*620*	*670*	*750*	*840*	*660*	*710*	*800*	*890*	*445*	*510*	*610*	*710*	*640*	*690*	*770*	*840*	—	—	—	—
K6	—	—	—	—	—	—	—	—	275	300	340	375	285	315	360	395	195	220	265	310	280	310	345	380	—	—	—	—
	—	—	—	—	—	—	—	—	*900*	*980*	*1125*	*1225*	*940*	*1025*	*1175*	*1300*	*640*	*720*	*870*	*1025*	*920*	*1025*	*1125*	*1250*	—	—	—	—
K7	—	—	—	—	—	—	—	—	240	265	295	325	255	275	310	345	175	200	235	275	245	270	300	330	—	—	—	—
	—	—	—	—	—	—	—	—	*790*	*870*	*970*	*1075*	*840*	*900*	*1025*	*1125*	*570*	*660*	*770*	*900*	*800*	*890*	*980*	*1075*	—	—	—	—
N1	—	—	—	—	1675	1900	2250	2650	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*5500*	*6225*	*7375*	*8700*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	670	760	910	1075	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*2200*	*2500*	*2975*	*3525*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	450	510	600	720	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1475*	*1675*	*1975*	*2350*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	510	580	690	820	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1675*	*1900*	*2275*	*2700*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	65	70	85	100	—	—	—	—	—	—	—	—	—	—	—	—	70	80	95	110	55	65	75	90	29	33	39	47
	215	*230*	*280*	*330*	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*260*	*310*	*360*	*180*	*215*	*245*	*295*	*95*	*110*	*130*	*155*
S2	50	55	70	80	—	—	—	—	—	—	—	—	—	—	—	—	55	65	75	90	46	50	60	75	24	27	32	38
	165	*180*	*230*	*260*	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*	*150*	*165*	*195*	*245*	*80*	*90*	*105*	*125*
S3	44	50	60	70	—	—	—	—	—	—	—	—	—	—	—	—	49	55	65	80	40	46	55	65	21	24	28	33
	145	*165*	*195*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	*160*	*180*	*215*	*260*	*130*	*150*	*180*	*215*	*70*	*80*	*90*	*110*
S11	90	100	120	140	—	—	—	—	—	—	—	—	—	—	—	—	100	110	135	155	80	90	110	130	41	47	55	65
	295	*330*	*395*	*460*	—	—	—	—	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*510*	*260*	*295*	*360*	*425*	*135*	*155*	*180*	*215*
S12	60	70	85	95	—	—	—	—	—	—	—	—	—	—	—	—	70	75	90	110	55	65	75	90	38	43	50	60
	195	*230*	*280*	*310*	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*295*	*360*	*180*	*215*	*245*	*295*	*125*	*140*	*165*	*195*
S13	35	40	47	55	—	—	—	—	—	—	—	—	—	—	—	—	39	44	55	60	32	36	43	50	22	25	30	35
	115	*130*	*155*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*145*	*180*	*195*	*105*	*120*	*140*	*165*	*70*	*80*	*100*	*115*
H5	—	—	—	—	—	—	—	—	55	65	75	90	—	—	—	—	55	65	75	90	50	60	70	80	—	—	—	—
	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*295*	—	—	—	—	*180*	*215*	*245*	*295*	*165*	*195*	*230*	*260*	—	—	—	—
H8	—	—	—	—	—	—	—	—	60	65	80	95	—	—	—	—	60	70	80	95	55	60	70	85	—	—	—	—
	—	—	—	—	—	—	—	—	*195*	*215*	*260*	*310*	—	—	—	—	*195*	*230*	*260*	*310*	*180*	*195*	*230*	*280*	—	—	—	—
H11	65	75	90	105	—	—	—	—	70	80	100	115	—	—	—	—	75	85	100	115	65	75	85	100	—	—	—	—
	215	*245*	*295*	*345*	—	—	—	—	*230*	*260*	*330*	*375*	—	—	—	—	*245*	*280*	*330*	*375*	*215*	*245*	*280*	*330*	—	—	—	—
H12	105	120	145	170	—	—	—	—	105	120	145	170	—	—	—	—	120	135	160	190	95	110	130	150	—	—	—	—
	345	*395*	*475*	*560*	—	—	—	—	*345*	*395*	*475*	*560*	—	—	—	—	*395*	*445*	*520*	*620*	*310*	*360*	*425*	*490*	—	—	—	—

R217.29I-06 – Metric





- For insert selection and cutting data recommendations, see page(s) 638-640
- For complete insert programme, see page(s) 819
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.29I-2525.3-06.2.050A	02949613	Weldon	13,0	25,0	2	6,0	25,0	46,0	106,0	21,6	13,0	38,0	48,0	17700	0,4	RP..1204
R217.29I-3232.3-06.3.060A	02949614	Weldon	20,0	32,0	3	6,0	32,0	60,0	120,0	26,6	7,0	52,0	62,0	15600	0,7	RP..1204
R217.29I-3240.3-06-055.4A	03024047	Weldon	28,0	40,0	4	6,0	32,0	60,0	115,0	55,0	8,0	68,0	78,0	14000	0,7	RP..1204
R217.29I-3240.3-06.4.075A	02949615	Weldon	28,0	40,0	4	6,0	32,0	60,0	135,0	72,0	8,0	68,0	78,0	14000	0,8	RP..1204

Center coolant hole possibility by removning centre screw

Spare Parts, included in delivery

For cutter	Centre screw	Insert key	Insert screw	Key	Screw
					
R217.29I-.. Ø25	–	H4B-T15P	C03508-T15P	T05P-2	SX2035-T05P
R217.29I-.. Ø32-40	–	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R217.29I-.. Ø32-40-4A	SH3040	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P

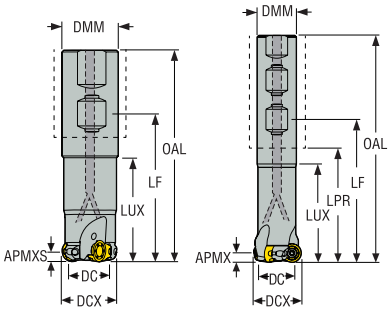
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-..	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R217.29I-06 – inch





- For insert selection and cutting data recommendations, see page(s) 638-640
- For complete insert programme, see page(s) 819
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	LPR	OAL	LUX	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch	inch		inch	inch		lbs	
R217.29I-01.00-0-06.2A	02949638	Cylindrical	0.528	1.000	2	0.236	1.000	4.008	4.295	6.500	2.480	12,0	1.528	1.921	17700	1.320	RP..1204
R217.29I-01.00-3F-06.2A	02949640	Weldon	0.528	1.000	2	0.236	1.000	3.280	2.500	5.780	2.500	12,0	1.528	1.921	17700	1.100	RP..1204

Center coolant hole possibility by removning centre screw

Spare Parts, included in delivery

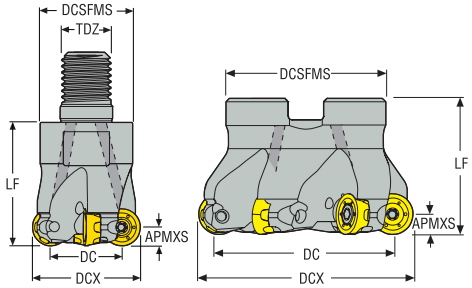
For cutter	Insert key	Insert screw	Key	Screw
				
R217.29I-..	H4B-T15P	C03508-T15P	T05P-2	SX2035-T05P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29I-01.00	26.6IN.LBS	T00-15P30

Torque and fixed keys, see page 872

R220.29I-06 – Metric

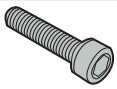




- For insert selection and cutting data recommendations, see page(s) 638-640
- For complete insert programme, see page(s) 819
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29I-1225.RE-06.2A	02949605	Combimaster	13,0	25,0	2	6,0	–	M12	23,0	35,0	13,0	38,0	48,0	17700	0,2	RP..1204
R217.29I-1632.RE-06.3A	02949607	Combimaster	20,0	32,0	3	6,0	–	M16	30,0	40,0	7,0	52,0	62,0	15600	0,3	RP..1204
R217.29I-1635.RE-06.3A	02949608	Combimaster	23,0	35,0	3	6,0	–	M16	30,0	40,0	10,0	58,0	68,0	15000	0,3	RP..1204
R217.29I-1635.RE-06.4A	02949609	Combimaster	23,0	35,0	4	6,0	–	M16	30,0	40,0	6,0	58,0	68,0	15000	0,3	RP..1204
R217.29I-1640.RE-06.4A	02949611	Combimaster	28,0	40,0	4	6,0	–	M16	30,0	40,0	8,0	68,0	78,0	14000	0,3	RP..1204
R217.29I-2040.RE06.4A	02928079	Combimaster	28,0	40,0	4	6,0	–	M20	36,5	45,0	8,0	68,0	78,0	14000	0,4	RP..1204
R217.29I-1642.RE-06.5A	02949612	Combimaster	30,0	42,0	5	6,0	–	M16	30,0	40,0	4,0	72,0	82,0	13600	0,3	RP..1204
R217.29I-2042.RE-06.5A	02991174	Combimaster	30,0	42,0	5	6,0	–	M20	36,5	45,0	4,2	72,0	82,0	13600	0,4	RP..1204
R220.29I-0040-06.4A	02949616	Arbor	28,0	40,0	4	6,0	16,0	–	35,0	40,0	8,0	68,0	78,0	14000	0,3	RP..1204
R220.29I-0044-06.4A	03002205	Arbor	32,0	44,0	4	6,0	16,0	–	35,0	40,0	7,9	76,0	86,0	13300	0,3	RP..1204
R220.29I-0050-06.4A	02949617	Arbor	38,0	50,0	4	6,0	22,0	–	42,0	40,0	5,5	88,0	98,0	12500	0,4	RP..1204
R220.29I-0050-06.5A	02949618	Arbor	38,0	50,0	5	6,0	22,0	–	42,0	40,0	5,5	88,0	98,0	12500	0,4	RP..1204
R220.29I-0050-06.6A	03203202	Arbor	38,0	50,0	6	6,0	22,0	–	42,0	40,0	5,0	88,0	98,0	12500	0,4	RP..1204
R220.29I-0052-06.4A	02949619	Arbor	40,0	52,0	4	6,0	22,0	–	42,0	40,0	5,0	92,0	102,0	12300	0,4	RP..1204
R220.29I-0052-06.5A	02949620	Arbor	40,0	52,0	5	6,0	22,0	–	42,0	40,0	5,0	92,0	102,0	12300	0,4	RP..1204
R220.29I-0063-06.5A	02949621	Arbor	51,0	63,0	5	6,0	22,0	–	47,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204
R220.29I-0063-06.6A	02949622	Arbor	51,0	63,0	6	6,0	22,0	–	47,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204
R220.29I-0063-06.7A	02949623	Arbor	51,0	63,0	7	6,0	22,0	–	47,0	40,0	3,0	114,0	124,0	11200	0,5	RP..1204
R220.29I-0066-06.6A	02949624	Arbor	54,0	66,0	6	6,0	27,0	–	50,0	50,0	3,5	120,0	130,0	10900	0,7	RP..1204
R220.29I-0080-06.6A	02949625	Arbor	68,0	80,0	6	6,0	27,0	–	62,0	50,0	3,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0080-06.7A	02949626	Arbor	68,0	80,0	7	6,0	27,0	–	62,0	50,0	3,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0080-06.8A	02949627	Arbor	68,0	80,0	8	6,0	27,0	–	62,0	50,0	2,0	148,0	158,0	10000	1,1	RP..1204
R220.29I-0084-06.6A	02969096	Arbor	72,0	84,0	6	6,0	32,0	–	77,0	50,0	2,5	156,0	166,0	9500	1,4	RP..1204
R220.29I-0092-06.7A	02949628	Arbor	80,0	92,0	7	6,0	32,0	–	77,0	50,0	2,5	172,0	182,0	9200	1,5	RP..1204
R220.29I-0100-06.9A	02949629	Arbor	88,0	100,0	9	6,0	32,0	–	77,0	50,0	2,0	188,0	198,0	8800	1,8	RP..1204
R220.29I-0112-06.7A	02949630	Arbor	100,0	112,0	7	6,0	32,0	–	77,0	63,0	1,5	212,0	222,0	8400	1,9	RP..1204
R220.29I-0125-06.11A	02949631	Arbor	113,0	125,0	11	6,0	40,0	–	90,0	63,0	1,5	238,0	248,0	8000	3,3	RP..1204
R220.29I-0137-06.8A	02949632	Arbor	125,0	137,0	8	6,0	40,0	–	90,0	63,0	1,5	262,0	272,0	7600	3,4	RP..1204

Spare Parts, included in delivery

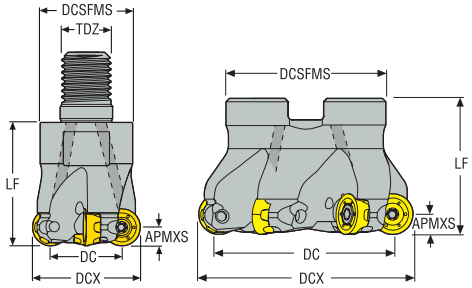
For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R217.29I-25/35-4A/42	–	H4B-T15P	C03508-T15P	T05P-2	SX2035-T05P
R217.29I-32/35-3A/40	–	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø40-44	220.17-689	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø50-52	220.17-692	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø50-6A	220.17-692	H4B-T15P	C03508-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø63	220.17-692	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø66-80	MC6S12X35	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø84-112	950E1645	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø84-112	950E1645	H4B-T15PL	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-.. Ø125-137	MC6S20X50	H4B-T15PL	C03509-T15P	T05P-2	SX2035-T05P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.29-..	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R220.29I-06 – inch

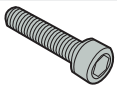




- For insert selection and cutting data recommendations, see page(s) 638-640
- For complete insert programme, see page(s) 819
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch		inch	inch		lbs	
R217.29I-01.00-12RE-06.2A	02949633	Combimaster	0.528	1.000	2	0.236	–	M12	0.906	1.378	12,0	1.528	1.921	17700	0.440	RP..1204
R217.29I-01.25-12RE-06.3A	02949635	Combimaster	0.778	1.250	3	0.236	–	M12	0.906	1.575	7,0	2.028	2.421	15600	0.440	RP..1204
R217.29I-01.25-16RE-06.3A	02949634	Combimaster	0.778	1.250	3	0.236	–	M16	1.181	1.575	7,0	2.028	2.421	15600	0.660	RP..1204
R217.29I-01.50-16RE-06.3A	02949636	Combimaster	1.028	1.500	3	0.236	–	M16	1.181	1.575	8,5	2.528	2.921	14000	0.660	RP..1204
R217.29I-01.50-16RE-06.4A	02949637	Combimaster	1.028	1.500	4	0.236	–	M16	1.181	1.575	8,5	2.528	2.921	14000	0.660	RP..1204
R217.29I-01.50-20RE-06.4A	03002402	Combimaster	1.028	1.500	4	0.236	–	M20	1.437	1.575	8,5	2.528	2.921	14000	0.660	RP..1204
R220.29I-02.00-06.4A	02949642	Arbor	1.528	2.000	4	0.236	0.750	–	1.654	1.500	6,5	3.528	3.921	12500	0.660	RP..1204
R220.29I-02.00-06.5A	02949643	Arbor	1.528	2.000	5	0.236	0.750	–	1.654	1.500	6,5	3.528	3.921	12500	0.880	RP..1204
R220.29I-02.00-06.6A	03279243	Arbor	1.535	2.000	6	0.236	0.750	–	1.654	1.500	5,0	3.535	3.921	12500	0.660	RP..1204
R220.29I-02.50-06.6A	02949644	Arbor	2.028	2.500	6	0.236	0.750	–	1.850	1.500	4,6	4.528	4.921	11200	1.100	RP..1204
R220.29I-02.50-06.7A	02949645	Arbor	2.028	2.500	7	0.236	0.750	–	1.850	1.500	4,6	4.528	4.921	11200	1.100	RP..1204
R220.29I-03.00-06.6A	02949647	Arbor	2.528	3.000	6	0.236	1.000	–	2.441	2.000	3,0	5.528	5.921	10000	2.430	RP..1204
R220.29I-03.00-06.7A	02949648	Arbor	2.528	3.000	7	0.236	1.000	–	2.441	2.000	3,0	5.528	5.921	10000	2.430	RP..1204
R220.29I-04.00-06.7A	02949649	Arbor	3.528	4.000	7	0.236	1.500	–	3.543	2.000	2,0	7.528	7.921	8800	4.410	RP..1204
R220.29I-06.00-06.8	02949652	Arbor	5.528	6.000	8	0.236	2.000	–	4.331	2.000	1,2	11.528	11.921	7600	6.830	RP..1204

Spare Parts, included in delivery

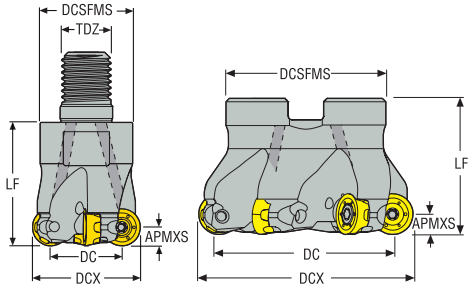
For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R217.29I-01.00	–	H4B-T15P	C03508-T15P	T05P-2	SX2035-T05P
R217.29I-01.25-01.50	–	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-02.00-02.50	UC6S3/8UNFX1	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-02.00-6A	UC6S3/8UNFX1	H4B-T15P	C03508-T15P	T05P-2	SX2035-T05P
R220.29I-03.00	UC6S1/2UNFX1-1/2	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-04.00	ULC6S3/4UNFX11/2	H4B-T15PL	C03509-T15P	T05P-2	SX2035-T05P
R220.29I-06.00	–	H4B-T15PL	C03509-T15P	T05P-2	SX2035-T05P

Accessories

For cutter	Arbor screw	Insert clamping torque	Torque key
			
R217/220.29-01.00-04.00	–	26.6IN.LBS	T00-15P30
R220.29I-06.00	58215080	26.6IN.LBS	T00-15P30

Torque and fixed keys, see page 872

R217/220.29B-06 – For blade machining – Metric



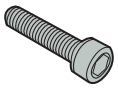


- For insert selection and cutting data recommendations, see page(s) 638-640
- For complete insert programme, see page(s) 819
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R220.29B-0040-06.4A	03007485	Arbor	28,0	40,0	4	6,0	16,0	–	35,0	40,0	5,0	68,0	78,0	14000	0,2	RP..1204
R220.29B-0050-06.5A	03007486	Arbor	38,0	50,0	5	6,0	22,0	–	42,0	40,0	5,0	88,0	98,0	12500	0,3	RP..1204
R220.29B-0052-06.5A	03007487	Arbor	38,0	52,0	5	6,0	22,0	–	42,0	40,0	5,0	90,0	102,0	12300	0,3	RP..1204
R220.29B-0063-06.6A	03074236	Arbor	51,0	63,0	6	6,0	22,0	–	47,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204
R220.29B-0063-06.7A	03074237	Arbor	51,0	63,0	7	6,0	22,0	–	47,0	40,0	4,0	114,0	124,0	11200	0,5	RP..1204

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Screw
					
R220.29-0040	220.17-689	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P
R220.29-0050-0063	220.17-692	H4B-T15P	C03509-T15P	T05P-2	SX2035-T05P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.29-..	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R217/220.29-06 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RPHT1204M0T-6-M08 MP2501	2,5 *0.10*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,46 *0.018*
P2	RPHT1204M0T-6-M08 MP2501	2,5 *0.10*	0,25 *0.010*	0,25 *0.010*	0,30 *0.012*	0,46 *0.018*
P3	RPHT1204M0T-6-M08 MP2501	2,5 *0.10*	0,24 *0.0095*	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
P4	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,80 *0.032*
P5	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,80 *0.032*
P6	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,42 *0.017*	0,42 *0.017*	0,50 *0.020*	0,80 *0.032*
P7	RPKT1204M0T-6-M15 MP2501	2,5 *0.10*	0,42 *0.017*	0,42 *0.017*	0,50 *0.020*	0,80 *0.032*
P8	RPHT1204M0T-6-M13 MS2500	2,5 *0.10*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,70 *0.028*
P11	RPHT1204M0T-6-M13 MS2500	2,5 *0.10*	0,36 *0.014*	0,36 *0.014*	0,42 *0.017*	0,70 *0.028*
P12	RPHT1204M0T-4-M13 MS2500	1,9 *0.075*	0,28 *0.011*	0,28 *0.011*	0,34 *0.013*	0,55 *0.022*
M1	RPHT1204M0T-6-ME07 MS2050	2,5 *0.10*	0,22 *0.0085*	0,22 *0.0085*	0,26 *0.010*	0,40 *0.016*
M2	RPHT1204M0T-6-ME07 MS2050	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,36 *0.014*
M3	RPHT1204M0T-6-ME07 MS2050	1,9 *0.075*	0,18 *0.0070*	0,18 *0.0070*	0,22 *0.0085*	0,34 *0.013*
M4	RPHT1204M0T-6-M08 MP3501	1,4 *0.055*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,38 *0.015*
M5	RPHT1204M0T-6-M08 MP3501	1,4 *0.055*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,38 *0.015*
K1	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,48 *0.019*	0,48 *0.019*	0,55 *0.022*	0,90 *0.036*
K2	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,80 *0.032*
K3	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,80 *0.032*
K4	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,80 *0.032*
K5	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,70 *0.028*
K6	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,80 *0.032*
K7	RPKT1204M0T-6-M15 MK2050	2,5 *0.10*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,70 *0.028*
N1	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,36 *0.014*
N2	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,36 *0.014*
N3	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,36 *0.014*
N11	RPHT1204M0-6-E05 H25	2,5 *0.10*	0,20 *0.0080*	0,20 *0.0080*	0,24 *0.0095*	0,36 *0.014*
S1	RPHT1204M0T-6-M13 MS2500	1,4 *0.055*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*	0,65 *0.026*
S2	RPHT1204M0T-6-M13 MS2500	1,4 *0.055*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*	0,65 *0.026*
S3	RPHT1204M0T-6-M13 MS2500	1,4 *0.055*	0,32 *0.013*	0,32 *0.013*	0,36 *0.014*	0,60 *0.024*
S11	RPHT1204M0T-6-M13 MS2050	1,7 *0.065*	0,36 *0.014*	0,36 *0.014*	0,40 *0.016*	0,65 *0.026*
S12	RPHT1204M0T-6-M13 MS2050	1,7 *0.065*	0,36 *0.014*	0,36 *0.014*	0,40 *0.016*	0,65 *0.026*
S13	RPHT1204M0T-6-M13 MS2050	1,4 *0.055*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*	0,65 *0.026*
H5	RPHW1204M0T-6-MD12 MH1000	1,9 *0.075*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
H8	RPHW1204M0T-6-MD12 MH1000	1,7 *0.065*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 *0.015*
H11	RPHW1204M0T-6-MD12 MH1000	1,9 *0.075*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
H12	RPHT1204M0T-6-M13 MP3501	1,7 *0.065*	0,24 *0.0095*	0,24 *0.0095*	0,26 *0.010*	0,42 *0.017*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

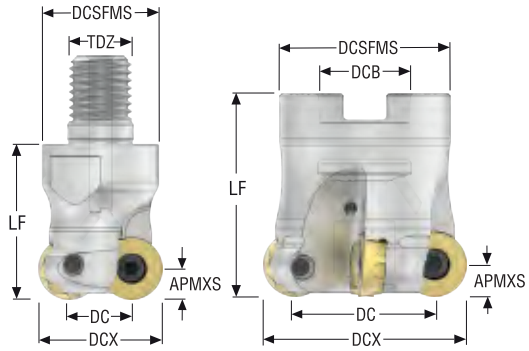
R217/220.29-06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000				MK2050				MP3000				MS2050				F40M			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	—	—	—	—	275	315	380	440	315	365	430	510	240	275	330	390	265	305	365	430
	—	—	—	—	*900*	*1025*	*1250*	*1450*	*1025*	*1200*	*1400*	*1675*	*790*	*900*	*1075*	*1275*	*870*	*1000*	*1200*	*1400*
P2	—	—	—	—	265	300	360	430	305	350	415	485	235	265	320	380	260	295	355	420
	—	—	—	—	*870*	*980*	*1175*	*1400*	*1000*	*1150*	*1350*	*1600*	*770*	*870*	*1050*	*1250*	*850*	*970*	*1175*	*1375*
P3	—	—	—	—	230	265	315	375	265	305	360	425	205	235	280	335	230	260	310	365
	—	—	—	—	*750*	*870*	*1025*	*1225*	*870*	*1000*	*1175*	*1400*	*670*	*770*	*920*	*1100*	*750*	*850*	*1025*	*1200*
P4	—	—	—	—	205	235	285	330	235	270	325	375	180	205	245	295	200	230	275	320
	—	—	—	—	*670*	*770*	*940*	*1075*	*770*	*890*	*1075*	*1225*	*590*	*670*	*800*	*970*	*660*	*750*	*900*	*1050*
P5	210	240	285	340	200	225	270	320	225	260	310	365	170	195	240	280	190	220	260	305
	690	*790*	*940*	*1125*	*660*	*740*	*890*	*1050*	*740*	*850*	*1025*	*1200*	*560*	*640*	*790*	*920*	*620*	*720*	*850*	*1000*
P6	235	270	320	380	220	255	305	355	255	295	345	410	195	225	270	315	215	245	295	345
	770	*890*	*1050*	*1250*	*720*	*840*	*1000*	*1175*	*840*	*970*	*1125*	*1350*	*640*	*740*	*890*	*1025*	*710*	*800*	*970*	*1125*
P7	220	255	305	360	210	240	290	335	240	275	325	385	185	210	255	295	205	235	280	325
	720	*840*	*1000*	*1175*	*690*	*790*	*950*	*1100*	*790*	*900*	*1075*	*1275*	*610*	*690*	*840*	*970*	*670*	*770*	*920*	*1075*
P8	205	235	280	330	195	220	265	315	225	255	305	355	170	195	235	280	190	220	260	305
	670	*770*	*920*	*1075*	*640*	*720*	*870*	*1025*	*740*	*840*	*1000*	*1175*	*560*	*640*	*770*	*920*	*620*	*720*	*850*	*1000*
P11	215	245	295	350	205	235	280	330	235	270	320	375	180	205	245	290	195	225	270	315
	710	*800*	*970*	*1150*	*670*	*770*	*920*	*1075*	*770*	*890*	*1050*	*1225*	*590*	*670*	*800*	*950*	*640*	*740*	*890*	*1025*
P12	140	160	195	230	135	150	185	215	150	170	205	235	120	135	160	190	125	145	175	205
	460	*520*	*640*	*750*	*445*	*490*	*610*	*710*	*490*	*560*	*670*	*770*	*395*	*445*	*520*	*620*	*410*	*475*	*570*	*670*
M1	—	—	—	—	—	—	—	—	225	260	310	365	190	215	260	305	210	240	285	335
	—	—	—	—	—	—	—	—	*740*	*850*	*1025*	*1200*	*620*	*710*	*850*	*1000*	*690*	*790*	*940*	*1100*
M2	—	—	—	—	—	—	—	—	190	220	260	305	155	175	215	250	170	200	235	275
	—	—	—	—	—	—	—	—	*620*	*720*	*850*	*1000*	*510*	*570*	*710*	*820*	*560*	*660*	*770*	*900*
M3	—	—	—	—	—	—	—	—	150	175	205	240	125	145	175	205	140	160	190	220
	—	—	—	—	—	—	—	—	*490*	*570*	*670*	*790*	*410*	*475*	*570*	*670*	*460*	*520*	*620*	*720*
M4	—	—	—	—	—	—	—	—	115	135	155	185	100	110	135	160	105	120	145	175
	—	—	—	—	—	—	—	—	*375*	*445*	*510*	*610*	*330*	*360*	*445*	*520*	*345*	*395*	*475*	*570*
M5	—	—	—	—	—	—	—	—	95	110	130	155	80	95	115	135	90	100	120	145
	—	—	—	—	—	—	—	—	*310*	*360*	*425*	*510*	*260*	*310*	*375*	*445*	*295*	*330*	*395*	*475*
K1	220	255	305	360	285	325	390	465	240	275	330	385	—	—	—	—	205	235	280	330
	720	*840*	*1000*	*1175*	*940*	*1075*	*1275*	*1525*	*790*	*900*	*1075*	*1275*	—	—	—	—	*670*	*770*	*920*	*1075*
K2	200	225	270	320	255	295	350	410	215	250	295	345	—	—	—	—	180	210	250	290
	660	*740*	*890*	*1050*	*840*	*970*	*1150*	*1350*	*710*	*820*	*970*	*1125*	—	—	—	—	*590*	*690*	*820*	*950*
K3	170	190	230	270	215	250	295	350	180	210	250	295	—	—	—	—	155	175	210	245
	560	*620*	*750*	*890*	*710*	*820*	*970*	*1150*	*590*	*690*	*820*	*970*	—	—	—	—	*510*	*570*	*690*	*800*
K4	160	185	220	260	205	235	285	330	175	200	235	280	—	—	—	—	145	170	200	235
	520	*610*	*720*	*850*	*670*	*770*	*940*	*1075*	*570*	*660*	*770*	*920*	—	—	—	—	*475*	*560*	*660*	*770*
K5	100	115	135	160	125	145	175	205	105	120	145	170	—	—	—	—	90	105	125	145
	330	*375*	*445*	*520*	*410*	*475*	*570*	*670*	*345*	*395*	*475*	*560*	—	—	—	—	*295*	*345*	*410*	*475*
K6	140	160	195	230	180	210	250	295	155	175	210	245	—	—	—	—	130	150	175	205
	460	*520*	*640*	*750*	*590*	*690*	*820*	*970*	*510*	*570*	*690*	*800*	—	—	—	—	*425*	*490*	*570*	*670*
K7	125	145	175	200	160	185	225	260	135	155	185	215	—	—	—	—	115	130	155	185
	410	*475*	*570*	*660*	*520*	*610*	*740*	*850*	*445*	*510*	*610*	*710*	—	—	—	—	*375*	*425*	*510*	*610*
N1	—	—	—	—	—	—	—	—	1800	2075	2475	2900	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*5900*	*6800*	*8125*	*9525*	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	730	840	1000	1175	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*2400*	*2750*	*3275*	*3850*	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	485	560	660	780	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*1600*	*1825*	*2175*	*2550*	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	560	640	760	890	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	*1825*	*2100*	*2500*	*2925*	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	55	60	75	85	46	50	65	75	50	55	70	80
	—	—	—	—	—	—	—	—	*180*	*195*	*245*	*280*	*150*	*165*	*215*	*245*	*165*	*180*	*230*	*260*
S2	—	—	—	—	—	—	—	—	44	50	60	70	37	42	50	60	40	46	55	65
	—	—	—	—	—	—	—	—	*145*	*165*	*195*	*230*	*120*	*140*	*165*	*195*	*130*	*150*	*180*	*215*
S3	—	—	—	—	—	—	—	—	38	44	50	60	33	37	45	50	35	40	48	55
	—	—	—	—	—	—	—	—	*125*	*145*	*165*	*195*	*110*	*120*	*150*	*165*	*115*	*130*	*155*	*180*
S11	—	—	—	—	—	—	—	—	75	85	105	120	65	75	90	105	70	80	95	110
	—	—	—	—	—	—	—	—	*245*	*280*	*345*	*395*	*215*	*245*	*295*	*345*	*230*	*260*	*310*	*360*
S12	—	—	—	—	—	—	—	—	55	60	70	85	44	50	60	70	49	55	65	80
	—	—	—	—	—	—	—	—	*180*	*195*	*230*	*280*	*145*	*165*	*195*	*230*	*160*	*180*	*215*	*260*
S13	—	—	—	—	—	—	—	—	31	35	41	48	26	30	36	42	28	32	38	45
	—	—	—	—	—	—	—	—	*100*	*115*	*135*	*155*	*85*	*100*	*120*	*140*	*90*	*105*	*125*	*150*
H5	47	55	65	75	—	—	—	—	46	55	65	75	—	—	—	—	42	48	60	70
	155	*180*	*215*	*245*	—	—	—	—	*150*	*180*	*215*	*245*	—	—	—	—	*140*	*155*	*195*	*230*
H8	50	55	70	80	—	—	—	—	49	55	65	75	—	—	—	—	45	50	60	70
	165	*180*	*230*	*260*	—	—	—	—	*160*	*180*	*215*	*245*	—	—	—	—	*150*	*165*	*195*	*230*
H11	60	70	80	95	—	—	—	—	60	70	80	95	—	—	—	—	55	60	75	85
	195	*230*	*260*	*310*	—	—	—	—	*195*	*230*	*260*	*310*	—	—	—	—	*180*	*195*	*245*	*280*
H12	90	100	125	145	—	—	—	—	95	105	125	145	—	—	—	—	80	90	110	130
	295	*330*	*410*	*475*	—	—	—	—	*310*	*345*	*410*	*475*	—	—	—	—	*260*	*295*	*360*	*425*

R217/220.29-06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP2050				H25				MS2500				MP3501				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	280	325	390	455	—	—	—	—	315	360	430	510	360	395	465	530	200	230	280	330
	920	*1075*	*1275*	*1500*	—	—	—	—	*1025*	*1175*	*1400*	*1675*	*1175*	*1300*	*1525*	*1750*	*660*	*750*	*920*	*1075*
P2	275	315	380	445	—	—	—	—	305	350	420	495	350	385	450	510	195	225	270	315
	900	*1025*	*1250*	*1450*	—	—	—	—	*1000*	*1150*	*1375*	*1625*	*1150*	*1275*	*1475*	*1675*	*640*	*740*	*890*	*1025*
P3	240	275	330	395	—	—	—	—	265	305	370	435	305	335	395	450	170	195	235	275
	790	*900*	*1075*	*1300*	—	—	—	—	*870*	*1000*	*1225*	*1425*	*1000*	*1100*	*1300*	*1475*	*560*	*640*	*770*	*900*
P4	210	240	290	345	—	—	—	—	235	270	325	385	270	295	350	400	150	175	205	245
	690	*790*	*950*	*1125*	—	—	—	—	*770*	*890*	*1075*	*1275*	*890*	*970*	*1150*	*1300*	*490*	*570*	*670*	*800*
P5	200	230	285	330	—	—	—	—	225	255	315	365	260	285	340	380	150	170	200	235
	660	*750*	*940*	*1075*	—	—	—	—	*740*	*840*	*1025*	*1200*	*850*	*940*	*1125*	*1250*	*490*	*560*	*660*	*770*
P6	230	265	315	370	—	—	—	—	255	295	355	410	295	325	380	425	165	190	225	265
	750	*870*	*1025*	*1225*	—	—	—	—	*840*	*970*	*1175*	*1350*	*970*	*1075*	*1250*	*1400*	*540*	*620*	*740*	*870*
P7	215	250	300	350	—	—	—	—	240	275	335	390	280	305	360	400	155	180	215	250
	710	*820*	*980*	*1150*	—	—	—	—	*790*	*900*	*1100*	*1275*	*920*	*1000*	*1175*	*1300*	*510*	*590*	*710*	*820*
P8	200	230	280	330	—	—	—	—	225	255	310	365	260	285	335	380	145	165	200	230
	660	*750*	*920*	*1075*	—	—	—	—	*740*	*840*	*1025*	*1200*	*850*	*940*	*1100*	*1250*	*475*	*540*	*660*	*750*
P11	210	240	290	340	—	—	—	—	235	270	325	380	270	300	350	390	150	175	210	240
	690	*790*	*950*	*1125*	—	—	—	—	*770*	*890*	*1075*	*1250*	*890*	*980*	*1150*	*1275*	*490*	*570*	*690*	*790*
P12	140	160	190	220	—	—	—	—	155	175	215	245	180	200	230	250	95	110	135	160
	460	*520*	*620*	*720*	—	—	—	—	*510*	*570*	*710*	*800*	*590*	*660*	*750*	*820*	*310*	*360*	*445*	*520*
M1	195	225	270	320	—	—	—	—	220	250	300	355	190	215	260	305	170	195	230	270
	640	*740*	*890*	*1050*	—	—	—	—	*720*	*820*	*980*	*1175*	*620*	*710*	*850*	*1000*	*560*	*640*	*750*	*890*
M2	160	185	225	265	—	—	—	—	180	205	250	295	155	175	215	250	140	160	195	225
	520	*610*	*740*	*870*	—	—	—	—	*590*	*670*	*820*	*970*	*510*	*570*	*710*	*820*	*460*	*520*	*640*	*740*
M3	130	150	180	215	—	—	—	—	145	170	200	240	125	145	175	205	115	130	155	185
	425	*490*	*590*	*710*	—	—	—	—	*475*	*560*	*660*	*790*	*410*	*475*	*570*	*670*	*375*	*425*	*510*	*610*
M4	105	120	140	165	—	—	—	—	115	130	155	185	100	110	135	160	85	100	120	140
	345	*395*	*460*	*540*	—	—	—	—	*375*	*425*	*510*	*610*	*330*	*360*	*445*	*520*	*280*	*330*	*395*	*460*
M5	85	100	120	140	—	—	—	—	95	110	130	155	85	95	115	135	70	80	100	115
	280	*330*	*395*	*460*	—	—	—	—	*310*	*360*	*425*	*510*	*280*	*310*	*375*	*445*	*230*	*260*	*330*	*375*
K1	—	—	—	—	—	—	—	—	240	275	335	390	355	390	455	520	—	—	—	—
	—	—	—	—	—	—	—	—	*790*	*900*	*1100*	*1275*	*1175*	*1275*	*1500*	*1700*	—	—	—	—
K2	—	—	—	—	—	—	—	—	215	245	300	350	310	345	410	460	—	—	—	—
	—	—	—	—	—	—	—	—	*710*	*800*	*980*	*1150*	*1025*	*1125*	*1350*	*1500*	—	—	—	—
K3	—	—	—	—	—	—	—	—	180	205	250	295	265	290	345	390	—	—	—	—
	—	—	—	—	—	—	—	—	*590*	*670*	*820*	*970*	*870*	*950*	*1125*	*1275*	—	—	—	—
K4	—	—	—	—	—	—	—	—	170	195	240	280	250	275	330	370	—	—	—	—
	—	—	—	—	—	—	—	—	*560*	*640*	*790*	*920*	*820*	*900*	*1075*	*1225*	—	—	—	—
K5	—	—	—	—	—	—	—	—	105	120	145	170	155	170	200	225	—	—	—	—
	—	—	—	—	—	—	—	—	*345*	*395*	*475*	*560*	*510*	*560*	*660*	*740*	—	—	—	—
K6	—	—	—	—	—	—	—	—	150	175	210	250	220	245	290	325	—	—	—	—
	—	—	—	—	—	—	—	—	*490*	*570*	*690*	*820*	*720*	*800*	*950*	*1075*	—	—	—	—
K7	—	—	—	—	—	—	—	—	135	155	185	220	200	220	255	290	—	—	—	—
	—	—	—	—	—	—	—	—	*445*	*510*	*610*	*720*	*660*	*720*	*840*	*950*	—	—	—	—
N1	—	—	—	—	1575	1800	2150	2525	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*5175*	*5900*	*7050*	*8275*	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	640	730	870	1025	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*2100*	*2400*	*2850*	*3375*	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	425	490	580	680	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1400*	*1600*	*1900*	*2225*	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	485	560	660	780	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1600*	*1825*	*2175*	*2550*	—	—	—	—	—	—	—	—	—	—	—	—
S1	50	60	70	80	—	—	—	—	55	65	75	90	46	50	65	75	27	30	36	43
	165	*195*	*230*	*260*	—	—	—	—	*180*	*215*	*245*	*295*	*150*	*165*	*215*	*245*	*90*	*100*	*120*	*140*
S2	41	46	55	65	—	—	—	—	45	50	60	75	37	42	50	60	21	24	29	34
	135	*150*	*180*	*215*	—	—	—	—	*150*	*165*	*195*	*245*	*120*	*140*	*165*	*195*	*70*	*80*	*95*	*110*
S3	36	41	49	55	—	—	—	—	40	45	55	65	33	37	45	50	19	21	26	30
	120	*135*	*160*	*180*	—	—	—	—	*130*	*150*	*180*	*215*	*110*	*120*	*150*	*165*	*60*	*70*	*85*	*100*
S11	70	80	95	115	—	—	—	—	80	90	105	125	65	75	90	105	37	43	50	60
	230	*260*	*310*	*375*	—	—	—	—	*260*	*295*	*345*	*410*	*215*	*245*	*295*	*345*	*120*	*140*	*165*	*195*
S12	49	55	65	80	—	—	—	—	55	60	75	85	44	50	60	70	35	39	48	55
	160	*180*	*215*	*260*	—	—	—	—	*180*	*195*	*245*	*280*	*145*	*165*	*195*	*230*	*115*	*130*	*155*	*180*
S13	28	32	39	46	—	—	—	—	32	36	43	50	26	30	36	42	20	23	27	32
	90	*105*	*130*	*150*	—	—	—	—	*105*	*120*	*140*	*165*	*85*	*100*	*120*	*140*	*65*	*75*	*90*	*105*
H5	—	—	—	—	—	—	—	—	46	55	65	75	41	47	55	65	—	—	—	—
	—	—	—	—	—	—	—	—	*150*	*180*	*215*	*245*	*135*	*155*	*180*	*215*	—	—	—	—
H8	—	—	—	—	—	—	—	—	49	55	70	80	43	49	60	70	—	—	—	—
	—	—	—	—	—	—	—	—	*160*	*180*	*230*	*260*	*140*	*160*	*195*	*230*	—	—	—	—
H11	55	60	75	85	—	—	—	—	60	65	80	95	50	60	70	85	—	—	—	—
	180	*195*	*245*	*280*	—	—	—	—	*195*	*215*	*260*	*310*	*165*	*195*	*230*	*280*	—	—	—	—
H12	90	100	120	140	—	—	—	—	95	110	135	160	80	90	110	125	—	—	—	—
	295	*330*	*395*	*460*	—	—	—	—	*310*	*360*	*445*	*520*	*260*	*295*	*360*	*410*	—	—	—	—

R217/220.29I-08 – Metric



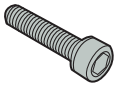
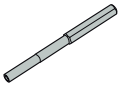
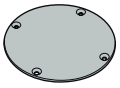


- For insert selection and cutting data recommendations, see page(s) 644-646
- For complete insert programme, see page(s) 820
- For ISO attribute explanation, see page 16

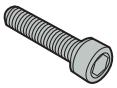
Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29I-1632.RE-08.2A	03278975	Combimaster	15,9	32,0	2	8,0	–	M16	30,0	40,0	17,8	47,8	62,0	12200	0,3	RP..1605
R217.29I-1640.RE-08.3A	03278976	Combimaster	24,2	40,0	3	8,0	–	M16	30,0	40,0	2,4	64,4	78,0	10900	0,3	RP..1605
R217.29I-2040.RE-08.3A	03278977	Combimaster	24,2	40,0	3	8,0	–	M20	36,5	40,0	2,4	64,4	78,0	10900	0,3	RP..1605
R220.29I-0050-08.4A	03278978	Arbor	34,2	50,0	4	8,0	22,0	–	41,0	50,0	4,8	84,4	98,0	9700	0,4	RP..1605
R220.29I-0052-08.4A	03278979	Arbor	36,2	52,0	4	8,0	22,0	–	41,0	50,0	5,7	88,4	102,0	9600	0,4	RP..1605
R220.29I-0063-08.4A	03278980	Arbor	47,1	63,0	4	8,0	22,0	–	49,0	50,0	7,5	110,2	124,0	8700	0,6	RP..1605
R220.29I-0063-08.5A	03278981	Arbor	47,1	63,0	5	8,0	22,0	–	49,0	50,0	7,1	110,2	124,0	8700	0,6	RP..1605
R220.29I-0063-08.6A	03278982	Arbor	47,1	63,0	6	8,0	22,0	–	49,0	50,0	7,1	110,2	124,0	8700	0,7	RP..1605
R220.29I-0066-08.5A	03278983	Arbor	50,1	66,0	5	8,0	27,0	–	61,0	50,0	6,9	116,2	130,0	8400	0,8	RP..1605
R220.29I-0066-08.6A	03278984	Arbor	50,0	66,0	6	8,0	27,0	–	61,0	50,0	6,7	116,0	130,0	8400	0,8	RP..1605
R220.29I-0080-08.5A	03278985	Arbor	64,1	80,0	5	8,0	27,0	–	61,0	50,0	5,0	144,2	158,0	7700	1,1	RP..1605
R220.29I-0080-08.7A	03278986	Arbor	64,1	80,0	7	8,0	27,0	–	61,0	50,0	5,0	144,2	158,0	7700	1,1	RP..1605
R220.29I-0084-08.5A	03278987	Arbor	68,1	84,0	5	8,0	32,0	–	79,0	50,0	4,6	152,2	166,0	7500	1,4	RP..1605
R220.29I-0100-08.6MA	03278992	Arbor	84,1	100,0	6	8,0	32,0	–	79,0	50,0	3,8	184,2	198,0	6800	1,8	RP..1605
R220.29I-0100-08.8A	03278988	Arbor	84,1	100,0	8	8,0	32,0	–	79,0	50,0	3,7	184,2	198,0	6800	1,8	RP..1605
R220.29I-0125-08.6MA	03278991	Arbor	109,1	125,0	6	8,0	40,0	–	90,0	63,0	2,8	234,2	248,0	6100	3,2	RP..1605
R220.29I-0125-08.10A	03278989	Arbor	109,1	125,0	10	8,0	40,0	–	90,0	63,0	2,8	234,2	248,0	6100	3,2	RP..1605
R220.29I-8160-08.7MA	03278993	Arbor	143,1	160,0	7	8,0	40,0	–	90,0	63,0	2,2	302,2	318,0	5400	4,2	RP..1605
R220.29I-8160-08.10A	03278990	Arbor	144,1	160,0	10	8,0	40,0	–	90,0	63,0	2,1	304,2	318,0	5400	4,3	RP..1605

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

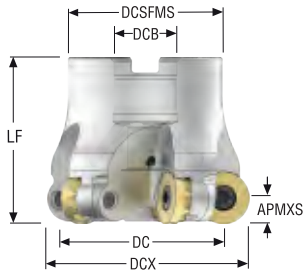
For cutter	Arbor screw	Insert key	Insert screw	Insert shim	Key	Lid	Lid screw	Shim screw	Stop screw
									
R217.29I-1632-2040	–	H6B-T20P	C05010-T20P	–	T05P-2	–	–	–	SX2035-T05P
R220.29I-0050-0052	220.17-692M	H6B-T20P	C05013-T20P	–	T05P-2	–	–	–	SX2035-T05P
R220.29I-0063	MC6S10X40	H6B-T20P	C05013-T20P	–	T05P-2	–	–	–	SX2035-T05P
R220.29I-0066-0080	MC6S12X40	H6B-T20P	C05013-T20P	–	T05P-2	–	–	–	SX2035-T05P
R220.29I-0084	950E1645	H6B-T20P	C05013-T20P	–	T05P-2	–	–	–	SX2035-T05P
R220.29I-0100MA	950E1645	H6B-T20P	C05018-T20P	SRP1604IM0	T05P-2	–	–	CA5010	SX2035-T05P
R220.29I-0100	950E1645	H6B-T20P	C05013-T20P	–	T05P-2	–	–	–	SX2035-T05P
R220.29I-0125MA	MC6S20X50	H6B-T20P	C05018-T20P	SRP1604IM0	T05P-2	–	–	CA5010	SX2035-T05P
R220.29I-0125	MC6S20X50	H6B-T20P	C05013-T20P	–	T05P-2	–	–	–	SX2035-T05P
R220.29I-8160MA	–	H6B-T20P	C05018-T20P	SRP1604IM0	T05P-2	SC160-53	MF6S4X10	CA5010	SX2035-T05P
R220.29I-8160	–	H6B-T20P	C05013-T20P	–	T05P-2	SC160-53	MF6S4X10	–	SX2035-T05P

Accessories

For cutter	Arbor screw	Insert clamping torque	Torque key
			
R217/220.29I-1632-0125	–	5.0NM	T00-20P50
R220.29I-8160	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R217/220.29I-08 – inch

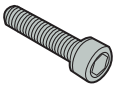
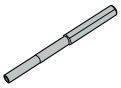




- For insert selection and cutting data recommendations, see page(s) 644-646
- For complete insert programme, see page(s) 820
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.00-08.4A	03278994	Arbor	1.379	2.000	4	0.315	0.750	1.614	2.000	2,7	3.388	3.921	9600	0.880	RP..1605
R220.29I-02.50-08.5A	03278995	Arbor	1.876	2.500	5	0.315	0.750	1.811	2.000	7,0	4.382	4.921	8700	0.220	RP..1605
R220.29I-03.00-08.6A	03278996	Arbor	2.376	3.000	6	0.315	1.000	2.402	2.000	5,3	5.381	5.921	7700	1.980	RP..1605
R220.29I-04.00-08.7A	03278997	Arbor	3.375	4.000	7	0.315	1.500	3.504	2.500	3,6	7.380	7.921	6800	5.290	RP..1605

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Key	Stop screw
					
R220.29I-02.00-02.50	UC6S3/8UNFX11/2	H6B-T20P	C05013-T20P	T05P-2	SX2035-T05P
R220.29I-03.00	UC6S1/2UNFX1-1/2	H6B-T20P	C05013-T20P	T05P-2	SX2035-T05P
R220.29I-04.00	UC6S3/4UNFX1-1/4	H6B-T20P	C05013-T20P	T05P-2	SX2035-T05P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.29I-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R217/220.29-08I – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,75 *0.030*
P2	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*	0,75 *0.030*
P3	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,38 *0.015*	0,38 *0.015*	0,44 *0.017*	0,70 *0.028*
P4	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,36 *0.014*	0,36 *0.014*	0,44 *0.017*	0,70 *0.028*
P5	RPKT1605M0T-8-M12 MP2501	3,0 *0.12*	0,36 *0.014*	0,36 *0.014*	0,42 *0.017*	0,70 *0.028*
P6	RPKT1605M0T-8-M18 MS2500	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,0 *0.040*
P7	RPKT1605M0T-6-M18 MS2500	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,0 *0.040*
P8	RPKT1605M0T-6-M18 MS2500	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,1 *0.044*
P11	RPKT1605M0T-6-M18 MS2500	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,0 *0.040*
P12	RPKT1605M0T-6-M18 MS2500	2,5 *0.10*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*	0,75 *0.030*
M1	RPHT1605M0T-8-M12 MS2050	3,0 *0.12*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*	0,75 *0.030*
M2	RPHT1605M0T-8-M12 MS2050	3,0 *0.12*	0,36 *0.014*	0,36 *0.014*	0,42 *0.017*	0,70 *0.028*
M3	RPHT1605M0T-8-M12 MS2050	2,5 *0.10*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
M4	RPKT1605M0T-8-M12 MP3501	1,9 *0.075*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
M5	RPKT1605M0T-8-M12 MP3501	1,9 *0.075*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
K1	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,60 *0.024*	0,60 *0.024*	0,70 *0.028*	1,2 *0.048*
K2	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,0 *0.040*
K3	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,0 *0.040*
K4	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,0 *0.040*
K5	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,48 *0.019*	0,48 *0.019*	0,60 *0.024*	0,95 *0.038*
K6	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,55 *0.022*	0,55 *0.022*	0,65 *0.026*	1,0 *0.040*
K7	RPKT1605M0T-8-M18 MK2050	3,0 *0.12*	0,48 *0.019*	0,48 *0.019*	0,60 *0.024*	0,95 *0.038*
N1	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
N2	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
N3	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
N11	RPHT1605M0T-8-ME11 F40M	— —	— —	— —	— —	— —
S1	RPKT1605M0T-8-M12 MS2500	1,9 *0.075*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
S2	RPKT1605M0T-8-M12 MS2500	1,9 *0.075*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
S3	RPKT1605M0T-8-M12 MS2500	1,9 *0.075*	0,30 *0.012*	0,30 *0.012*	0,34 *0.013*	0,55 *0.022*
S11	RPHT1605M0T-8-M12 MS2050	2,5 *0.10*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
S12	RPHT1605M0T-8-M12 MS2050	2,5 *0.10*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
S13	RPHT1605M0T-8-M12 MS2050	1,9 *0.075*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
H5	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
H8	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*	0,65 *0.026*
H11	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
H12	RPKW1605M0T-8-MD20 F15M	2,5 *0.10*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*	0,65 *0.026*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

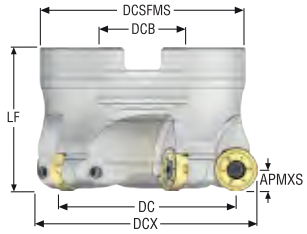
R217/220.29-08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				MK2050				MP3000				MS2050				F40M				MP2050			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	205 *670*	240 *790*	285 *940*	335 *1100*	255 *840*	295 *970*	355 *1175*	420 *1375*	245 *800*	285 *940*	340 *1125*	405 *1325*	250 *820*	290 *950*	345 *1125*	405 *1325*	225 *740*	265 *870*	315 *1025*	365 *1200*	295 *970*	340 *1125*	410 *1350*	475 *1550*
P2	200 *660*	235 *770*	280 *920*	325 *1075*	245 *800*	290 *950*	345 *1125*	410 *1350*	240 *790*	275 *900*	335 *1100*	395 *1300*	240 *790*	280 *920*	335 *1100*	390 *1275*	215 *710*	255 *840*	300 *980*	355 *1175*	280 *920*	330 *1075*	390 *1275*	460 *1500*
P3	175 *570*	205 *670*	245 *800*	285 *940*	220 *720*	255 *840*	305 *1000*	360 *1175*	210 *690*	245 *800*	295 *970*	345 *1125*	210 *690*	245 *800*	295 *970*	345 *1125*	190 *620*	220 *720*	270 *890*	315 *1025*	245 *800*	285 *940*	350 *1150*	405 *1325*
P4	155 *510*	180 *590*	215 *710*	250 *820*	195 *640*	225 *740*	270 *890*	315 *1025*	185 *610*	215 *710*	260 *850*	305 *1000*	185 *610*	220 *720*	260 *850*	305 *1000*	170 *560*	200 *660*	235 *770*	275 *900*	220 *720*	255 *840*	305 *1000*	360 *1175*
P5	150 *490*	175 *570*	205 *670*	245 *800*	185 *610*	215 *710*	260 *850*	300 *980*	175 *570*	205 *670*	250 *820*	290 *950*	180 *590*	210 *690*	250 *820*	290 *950*	160 *520*	190 *620*	225 *740*	265 *870*	210 *690*	245 *800*	290 *950*	345 *1125*
P6	165 *540*	195 *640*	235 *770*	275 *900*	205 *670*	240 *790*	290 *950*	345 *1125*	200 *660*	230 *750*	280 *920*	330 *1075*	200 *660*	235 *770*	280 *920*	325 *1075*	180 *590*	210 *690*	255 *840*	295 *970*	235 *770*	275 *900*	330 *1075*	385 *1275*
P7	155 *510*	185 *610*	220 *720*	260 *850*	195 *640*	230 *750*	275 *900*	325 *1075*	190 *620*	220 *720*	260 *850*	315 *1025*	190 *620*	220 *720*	265 *870*	310 *1025*	170 *560*	200 *660*	240 *790*	280 *920*	220 *720*	260 *850*	310 *1025*	365 *1200*
P8	150 *490*	175 *570*	205 *670*	240 *790*	185 *610*	215 *710*	260 *850*	300 *980*	175 *570*	205 *670*	250 *820*	290 *950*	175 *570*	205 *670*	250 *820*	290 *950*	160 *520*	185 *610*	225 *740*	265 *870*	205 *670*	240 *790*	290 *950*	345 *1125*
P11	155 *510*	180 *590*	215 *710*	250 *820*	190 *620*	220 *720*	265 *870*	315 *1025*	180 *590*	215 *710*	255 *840*	305 *1000*	185 *610*	215 *710*	255 *840*	300 *980*	165 *540*	195 *640*	230 *750*	270 *890*	215 *710*	250 *820*	300 *980*	355 *1175*
P12	— —	— —	— —	— —	125 *410*	150 *490*	180 *590*	210 *690*	120 *395*	140 *460*	170 *560*	200 *660*	120 *395*	140 *460*	170 *560*	200 *660*	110 *360*	130 *425*	155 *510*	180 *590*	145 *475*	165 *540*	200 *660*	235 *770*
M1	— —	— —	— —	— —	— —	— —	— —	— —	180 *590*	205 *670*	250 *820*	295 *970*	190 *620*	225 *740*	270 *890*	315 *1025*	175 *570*	205 *670*	245 *800*	285 *940*	200 *660*	235 *770*	280 *920*	330 *1075*
M2	— —	— —	— —	— —	— —	— —	— —	— —	150 *490*	175 *570*	205 *670*	240 *790*	160 *520*	185 *610*	225 *740*	260 *850*	145 *475*	170 *560*	205 *670*	240 *790*	170 *560*	195 *640*	235 *770*	275 *900*
M3	— —	— —	— —	— —	— —	— —	— —	— —	120 *395*	140 *460*	170 *560*	200 *660*	130 *425*	150 *490*	180 *590*	210 *690*	120 *395*	135 *445*	165 *540*	195 *640*	135 *445*	160 *520*	190 *620*	220 *720*
M4	— —	— —	— —	— —	— —	— —	— —	— —	95 *310*	110 *360*	135 *445*	160 *520*	100 *330*	115 *375*	140 *460*	165 *540*	90 *295*	105 *345*	130 *425*	150 *490*	105 *345*	120 *395*	145 *475*	175 *570*
M5	— —	— —	— —	— —	— —	— —	— —	— —	80 *260*	90 *295*	110 *360*	130 *425*	85 *280*	95 *310*	115 *375*	140 *460*	75 *245*	90 *295*	105 *345*	125 *410*	90 *295*	100 *330*	125 *410*	145 *475*
K1	160 *520*	185 *610*	220 *720*	260 *850*	265 *870*	310 *1025*	375 *1225*	440 *1450*	190 *620*	220 *720*	265 *870*	310 *1025*	— —	— —	— —	— —	170 *560*	200 *660*	240 *790*	280 *920*	— —	— —	— —	— —
K2	140 *460*	165 *540*	195 *640*	235 *770*	240 *790*	280 *920*	335 *1100*	390 *1275*	170 *560*	195 *640*	235 *770*	275 *900*	— —	— —	— —	— —	155 *510*	180 *590*	215 *710*	250 *820*	— —	— —	— —	— —
K3	120 *395*	140 *460*	165 *540*	195 *640*	200 *660*	235 *770*	280 *920*	330 *1075*	140 *460*	165 *540*	200 *660*	235 *770*	— —	— —	— —	— —	130 *425*	150 *490*	180 *590*	210 *690*	— —	— —	— —	— —
K4	115 *375*	135 *445*	160 *520*	190 *620*	190 *620*	225 *740*	270 *890*	315 *1025*	135 *445*	160 *520*	190 *620*	220 *720*	— —	— —	— —	— —	125 *410*	145 *475*	175 *570*	205 *670*	— —	— —	— —	— —
K5	70 *230*	80 *260*	95 *310*	115 *375*	120 *395*	140 *460*	165 *540*	195 *640*	85 *280*	100 *330*	120 *395*	140 *460*	— —	— —	— —	— —	75 *245*	90 *295*	105 *345*	125 *410*	— —	— —	— —	— —
K6	100 *330*	115 *375*	140 *460*	165 *540*	170 *560*	200 *660*	235 *770*	275 *900*	120 *395*	140 *460*	165 *540*	195 *640*	— —	— —	— —	— —	110 *360*	130 *425*	150 *490*	180 *590*	— —	— —	— —	— —
K7	90 *295*	105 *345*	125 *410*	145 *475*	155 *510*	180 *590*	215 *710*	250 *820*	110 *360*	125 *410*	150 *490*	175 *570*	— —	— —	— —	— —	100 *330*	115 *375*	135 *445*	160 *520*	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1275 *4175*	1475 *4850*	1775 *5825*	2100 *6900*	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	510 *1675*	600 *1975*	720 *2350*	840 *2750*	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	340 *1125*	400 *1300*	475 *1550*	560 *1825*	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	390 *1275*	455 *1500*	540 *1775*	640 *2100*	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	44 *145*	50 *165*	60 *195*	75 *245*	47 *155*	55 *180*	65 *215*	75 *245*	43 *140*	50 *165*	60 *195*	70 *230*	50 *165*	60 *195*	70 *230*	85 *280*
S2	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	41 *135*	50 *165*	60 *195*	38 *125*	44 *145*	55 *180*	60 *195*	35 *115*	40 *130*	48 *155*	55 *180*	42 *140*	48 *155*	60 *195*	70 *230*
S3	— —	— —	— —	— —	— —	— —	— —	— —	32 *105*	36 *120*	44 *145*	50 *165*	33 *110*	39 *130*	46 *150*	55 *180*	30 *100*	35 *115*	42 *140*	49 *160*	37 *120*	42 *140*	50 *165*	60 *195*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	65 *215*	75 *245*	90 *295*	105 *345*	60 *195*	70 *230*	85 *280*	95 *310*	70 *230*	85 *280*	100 *330*	115 *375*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	55 *180*	65 *215*	75 *245*	41 *135*	48 *155*	60 *195*	65 *215*	50 *165*	60 *195*	70 *230*	80 *260*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	27 *90*	31 *100*	37 *120*	43 *140*	24 *80*	28 *90*	34 *110*	39 *130*	29 *95*	34 *110*	41 *135*	48 *155*
H5	34 *110*	40 *130*	48 *155*	55 *180*	— —	— —	— —	— —	38 *125*	44 *145*	55 *180*	60 *195*	— —	— —	— —	— —	37 *120*	43 *140*	50 *165*	60 *195*	— —	— —	— —	— —
H8	37 *120*	43 *140*	50 *165*	60 *195*	— —	— —	— —	— —	41 *135*	48 *155*	55 *180*	65 *215*	— —	— —	— —	— —	39 *130*	46 *150*	55 *180*	65 *215*	— —	— —	— —	— —
H11	43 *140*	50 *165*	60 *195*	70 *230*	— —	— —	— —	— —	48 *155*	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	47 *155*	55 *180*	65 *215*	75 *245*	55 *180*	65 *215*	75 *245*	90 *295*
H12	65 *215*	75 *245*	90 *295*	105 *345*	— —	— —	— —	— —	80 *260*	90 *295*	110 *360*	130 *425*	— —	— —	— —	— —	70 *230*	80 *260*	100 *330*	115 *375*	90 *295*	105 *345*	125 *410*	145 *475*

R217/220.29-08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	365 *1200*	405 *1325*	480 *1575*	550 *1800*	350 *1150*	395 *1300*	465 *1525*	530 *1750*	280 *920*	330 *1075*	395 *1300*	465 *1525*	310 *1025*	345 *1125*	410 *1350*	475 *1550*	195 *640*	225 *740*	270 *890*	315 *1025*
P2	355 *1175*	395 *1300*	465 *1525*	530 *1750*	340 *1125*	385 *1275*	455 *1500*	520 *1700*	275 *900*	320 *1050*	385 *1275*	455 *1500*	300 *980*	340 *1125*	400 *1300*	460 *1500*	190 *620*	220 *720*	265 *870*	310 *1025*
P3	315 *1025*	355 *1175*	415 *1350*	470 *1550*	305 *1000*	340 *1125*	405 *1325*	455 *1500*	245 *800*	285 *940*	340 *1125*	395 *1300*	270 *890*	305 *1000*	360 *1175*	405 *1325*	165 *540*	195 *640*	230 *750*	270 *890*
P4	280 *920*	310 *1025*	365 *1200*	410 *1350*	270 *890*	300 *980*	355 *1175*	400 *1300*	215 *710*	250 *820*	300 *980*	350 *1150*	240 *790*	265 *870*	315 *1025*	355 *1175*	145 *475*	170 *560*	205 *670*	240 *790*
P5	265 *870*	295 *970*	350 *1150*	395 *1300*	255 *840*	290 *950*	340 *1125*	385 *1275*	205 *670*	240 *790*	285 *940*	335 *1100*	225 *740*	255 *840*	300 *980*	340 *1125*	140 *460*	165 *540*	195 *640*	230 *750*
P6	295 *970*	335 *1100*	390 *1275*	450 *1475*	290 *950*	325 *1075*	380 *1250*	440 *1450*	230 *750*	265 *870*	320 *1050*	380 *1250*	255 *840*	285 *940*	340 *1125*	390 *1275*	160 *520*	185 *610*	220 *720*	255 *840*
P7	280 *920*	315 *1025*	370 *1225*	425 *1400*	270 *890*	305 *1000*	360 *1175*	415 *1350*	215 *710*	250 *820*	300 *980*	360 *1175*	240 *790*	270 *890*	320 *1050*	370 *1225*	150 *490*	175 *570*	210 *690*	245 *800*
P8	265 *870*	295 *970*	350 *1150*	395 *1300*	255 *840*	290 *950*	340 *1125*	385 *1275*	205 *670*	240 *790*	285 *940*	335 *1100*	225 *740*	255 *840*	300 *980*	340 *1125*	140 *460*	160 *520*	195 *640*	230 *750*
P11	275 *900*	305 *1000*	360 *1175*	415 *1350*	265 *870*	295 *970*	350 *1150*	405 *1325*	210 *690*	245 *800*	295 *970*	350 *1150*	235 *770*	260 *850*	310 *1025*	360 *1175*	145 *475*	170 *560*	205 *670*	235 *770*
P12	185 *610*	210 *690*	240 *790*	270 *890*	185 *610*	205 *670*	235 *770*	265 *870*	140 *460*	165 *540*	195 *640*	230 *750*	165 *540*	180 *590*	210 *690*	240 *790*	95 *310*	110 *360*	130 *425*	155 *510*
M1	— —	— —	— —	— —	180 *590*	210 *690*	255 *840*	300 *980*	195 *640*	230 *750*	275 *900*	325 *1075*	170 *560*	195 *640*	235 *770*	280 *920*	160 *520*	190 *620*	225 *740*	265 *870*
M2	— —	— —	— —	— —	150 *490*	175 *570*	210 *690*	245 *800*	165 *540*	190 *620*	230 *750*	265 *870*	140 *460*	165 *540*	195 *640*	230 *750*	135 *445*	160 *520*	190 *620*	220 *720*
M3	— —	— —	— —	— —	125 *410*	145 *475*	175 *570*	205 *670*	135 *445*	155 *510*	190 *620*	220 *720*	115 *375*	135 *445*	165 *540*	190 *620*	110 *360*	130 *425*	150 *490*	175 *570*
M4	— —	— —	— —	— —	95 *310*	110 *360*	135 *445*	160 *520*	105 *345*	120 *395*	145 *475*	175 *570*	90 *295*	105 *345*	125 *410*	150 *490*	85 *280*	100 *330*	115 *375*	140 *460*
M5	— —	— —	— —	— —	80 *260*	95 *310*	115 *375*	135 *445*	85 *280*	100 *330*	120 *395*	145 *475*	75 *245*	85 *280*	105 *345*	125 *410*	70 *230*	80 *260*	100 *330*	115 *375*
K1	355 *1175*	400 *1300*	470 *1550*	540 *1775*	345 *1125*	385 *1275*	455 *1500*	520 *1700*	215 *710*	255 *840*	305 *1000*	360 *1175*	305 *1000*	340 *1125*	405 *1325*	465 *1525*	— —	— —	— —	— —
K2	320 *1050*	360 *1175*	420 *1375*	475 *1550*	310 *1025*	350 *1150*	410 *1350*	465 *1525*	195 *640*	225 *740*	270 *890*	315 *1025*	275 *900*	310 *1025*	365 *1200*	410 *1350*	— —	— —	— —	— —
K3	270 *890*	305 *1000*	355 *1175*	400 *1300*	265 *870*	295 *970*	345 *1125*	390 *1275*	165 *540*	190 *620*	230 *750*	270 *890*	235 *770*	260 *850*	310 *1025*	350 *1150*	— —	— —	— —	— —
K4	260 *850*	290 *950*	340 *1125*	385 *1275*	250 *820*	280 *920*	330 *1075*	375 *1225*	155 *510*	180 *590*	220 *720*	255 *840*	220 *720*	250 *820*	295 *970*	335 *1100*	— —	— —	— —	— —
K5	160 *520*	180 *590*	210 *690*	240 *790*	160 *520*	175 *570*	205 *670*	235 *770*	95 *310*	115 *375*	135 *445*	160 *520*	140 *460*	155 *510*	185 *610*	205 *670*	— —	— —	— —	— —
K6	230 *750*	255 *840*	300 *980*	340 *1125*	220 *720*	250 *820*	290 *950*	330 *1075*	140 *460*	160 *520*	195 *640*	225 *740*	195 *640*	220 *720*	260 *850*	295 *970*	— —	— —	— —	— —
K7	210 *690*	235 *770*	270 *890*	305 *1000*	200 *660*	225 *740*	265 *870*	300 *980*	125 *410*	145 *475*	175 *570*	205 *670*	180 *590*	200 *660*	235 *770*	265 *870*	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	70 *230*	85 *280*	42 *140*	48 *155*	60 *195*	70 *230*	26 *85*	30 *100*	36 *120*	42 *140*
S2	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	48 *155*	60 *195*	70 *230*	34 *110*	39 *130*	47 *155*	55 *180*	21 *70*	24 *80*	29 *95*	34 *110*
S3	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	42 *140*	50 *165*	60 *195*	30 *100*	35 *115*	42 *140*	48 *155*	19 *60*	21 *70*	25 *80*	30 *100*
S11	— —	— —	— —	— —	— —	— —	— —	— —	70 *230*	80 *260*	100 *330*	115 *375*	60 *195*	70 *230*	80 *260*	95 *310*	36 *120*	42 *140*	50 *165*	60 *195*
S12	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	70 *230*	80 *260*	40 *130*	47 *155*	55 *180*	65 *215*	34 *110*	39 *130*	46 *150*	55 *180*
S13	— —	— —	— —	— —	— —	— —	— —	— —	29 *95*	33 *110*	40 *130*	48 *155*	24 *80*	27 *90*	33 *110*	39 *130*	20 *65*	23 *75*	27 *90*	32 *105*
H5	48 *155*	55 *180*	70 *230*	80 *260*	— —	— —	— —	— —	42 *140*	49 *160*	60 *195*	70 *230*	37 *120*	43 *140*	50 *165*	60 *195*	— —	— —	— —	— —
H8	55 *180*	60 *195*	70 *230*	85 *280*	— —	— —	— —	— —	46 *150*	55 *180*	65 *215*	75 *245*	41 *135*	47 *155*	55 *180*	65 *215*	— —	— —	— —	— —
H11	60 *195*	70 *230*	85 *280*	100 *330*	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	90 *295*	48 *155*	55 *180*	65 *215*	80 *260*	— —	— —	— —	— —
H12	95 *310*	110 *360*	130 *425*	155 *510*	— —	— —	— —	— —	90 *295*	105 *345*	125 *410*	150 *490*	75 *245*	85 *280*	100 *330*	120 *395*	— —	— —	— —	— —

R220.29-38 – inch



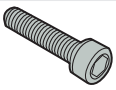
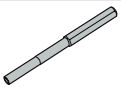


- For insert selection and cutting data recommendations, see page(s) 648-649
- For complete insert programme, see page(s) 820
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch		inch	inch		lbs	
R220.29I-02.50-38-04A	10005910	Arbor	1.756	2.500	4	0.374	0.750	1.789	2.000	10,39	4.256	4.921	5800	1.320	RPHT19
R220.29I-03.00-38-06A	10005911	Arbor	2.256	3.000	6	0.374	1.000	2.289	2.000	7,69	5.256	5.921	5100	1.980	RPHT19
R220.29I-04.00-38-05A	10005912	Arbor	3.256	4.000	5	0.374	1.500	3.539	2.500	5,06	7.256	7.921	4500	5.070	RPHT19
R220.29I-04.00-38-06A	10005913	Arbor	3.256	4.000	6	0.374	1.500	3.539	2.500	5,06	7.256	7.921	4500	5.070	RPHT19
R220.29I-05.00-38-07A	10005914	Arbor	4.256	5.000	7	0.374	1.500	3.539	2.500	3,76	9.256	9.921	4000	6.830	RPHT19
R220.29I-05.00-38-09A	10005915	Arbor	4.256	5.000	9	0.374	1.500	3.539	2.500	3,76	9.256	9.921	4000	4.410	RPHT19

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Coolant screw	Insert key	Insert screw
				
R220.29I-02.50	UC6S3/8UNFX11/2	SX2035-T05P	H6B-T20P	C05013-T20P
R220.29I-03.00	UC6S1/2UNFX1-1/2	SX2035-T05P	H6B-T20P	C05013-T20P
R220.29I-04.00-05.00	UC6S3/4UNFX1-1/4	SX2035-T05P	H6B-T20PL	C05013-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.29I-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R217.29-38 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	30%	10%	5%
P1	RPHT190600T-6-M13 T350M	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,90 *0.036*	1,3 *0.050*
P2	RPHT190600T-6-M13 T350M	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,90 *0.036*	1,3 *0.050*
P3	RPHT190600T-6-M13 T350M	4,0 *0.16*	0,55 *0.022*	0,60 *0.024*	0,85 *0.034*	1,2 *0.048*
P4	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 *0.022*	0,60 *0.024*	0,85 *0.034*	1,2 *0.048*
P5	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,85 *0.034*	1,2 *0.048*
P6	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,80 *0.032*	1,2 *0.048*
P7	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,80 *0.032*	1,2 *0.048*
P8	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 *0.022*	0,60 *0.024*	0,85 *0.034*	1,2 *0.048*
P11	RPHT190600T-6-M13 MS2500	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,80 *0.032*	1,2 *0.048*
P12	RPHT190600T-6-M13 MS2500	3,0 *0.12*	0,42 *0.017*	0,40 *0.016*	0,55 *0.022*	0,80 *0.032*
M1	RPHT190600T-6-M13 F40M	4,0 *0.16*	0,60 *0.024*	0,60 *0.024*	0,90 *0.036*	1,3 *0.050*
M2	RPHT190600T-6-M13 F40M	4,0 *0.16*	0,55 *0.022*	0,55 *0.022*	0,85 *0.034*	1,2 *0.048*
M3	RPHT190600T-6-M13 F40M	3,0 *0.12*	0,50 *0.020*	0,48 *0.019*	0,65 *0.026*	0,95 *0.038*
M4	RPHT190600T-6-M13 F40M	2,5 *0.10*	0,48 *0.019*	0,50 *0.020*	0,60 *0.024*	0,80 *0.032*
M5	RPHT190600T-6-M13 F40M	2,5 *0.10*	0,48 *0.019*	0,50 *0.020*	0,60 *0.024*	0,80 *0.032*
S1	RPHT190600T-6-M13 MS2500	2,5 *0.10*	0,48 *0.019*	0,50 *0.020*	0,60 *0.024*	0,80 *0.032*
S2	RPHT190600T-6-M13 MS2500	2,5 *0.10*	0,48 *0.019*	0,50 *0.020*	0,60 *0.024*	0,80 *0.032*
S3	RPHT190600T-6-M13 MS2500	2,5 *0.10*	0,44 *0.017*	0,46 *0.018*	0,55 *0.022*	0,75 *0.030*
S11	RPHT190600T-6-M13 MS2050	2,5 *0.10*	0,55 *0.022*	0,50 *0.020*	0,65 *0.026*	0,95 *0.038*
S12	RPHT190600T-6-M13 MS2050	2,5 *0.10*	0,55 *0.022*	0,50 *0.020*	0,65 *0.026*	0,95 *0.038*
S13	RPHT190600T-6-M13 MS2050	2,5 *0.10*	0,48 *0.019*	0,50 *0.020*	0,60 *0.024*	0,80 *0.032*

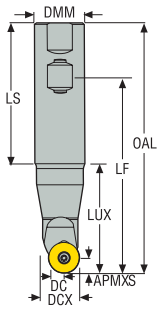
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-38 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	T350M				F40M				MS2050				MS2500			
	100%	30%	10%	5%	100%	30%	10%	5%	100%	30%	10%	5%	100%	30%	10%	5%
P1	215 *710*	305 *1000*	355 *1175*	370 *1225*	190 *620*	265 *870*	310 *1025*	320 *1050*	205 *670*	290 *950*	340 *1125*	355 *1175*	270 *890*	380 *1250*	445 *1450*	465 *1525*
P2	210 *690*	295 *970*	345 *1125*	360 *1175*	185 *610*	260 *850*	300 *980*	315 *1025*	200 *660*	285 *940*	330 *1075*	345 *1125*	265 *870*	370 *1225*	435 *1425*	450 *1475*
P3	185 *610*	255 *840*	305 *1000*	320 *1050*	160 *520*	220 *720*	265 *870*	275 *900*	180 *590*	245 *800*	290 *950*	305 *1000*	235 *770*	320 *1050*	380 *1250*	400 *1300*
P4	165 *540*	225 *740*	270 *890*	280 *920*	145 *475*	195 *640*	235 *770*	245 *800*	155 *510*	215 *710*	255 *840*	270 *890*	205 *670*	280 *920*	335 *1100*	350 *1150*
P5	155 *510*	220 *720*	255 *840*	265 *870*	135 *445*	190 *620*	220 *720*	230 *750*	150 *490*	210 *690*	245 *800*	255 *840*	195 *640*	275 *900*	320 *1050*	335 *1100*
P6	175 *570*	250 *820*	290 *950*	300 *980*	155 *510*	215 *710*	255 *840*	260 *850*	170 *560*	235 *770*	280 *920*	285 *940*	220 *720*	310 *1025*	365 *1200*	375 *1225*
P7	165 *540*	235 *770*	275 *900*	285 *940*	145 *475*	205 *670*	240 *790*	245 *800*	160 *520*	225 *740*	265 *870*	270 *890*	210 *690*	295 *970*	345 *1125*	355 *1175*
P8	155 *510*	215 *710*	255 *840*	265 *870*	135 *445*	185 *610*	220 *720*	230 *750*	150 *490*	205 *670*	245 *800*	255 *840*	195 *640*	270 *890*	320 *1050*	335 *1100*
P11	160 *520*	225 *740*	270 *890*	275 *900*	140 *460*	200 *660*	235 *770*	240 *790*	155 *510*	215 *710*	255 *840*	265 *870*	200 *660*	285 *940*	335 *1100*	345 *1125*
P12	110 *360*	150 *490*	175 *570*	185 *610*	95 *310*	130 *425*	155 *510*	160 *520*	105 *345*	145 *475*	170 *560*	175 *570*	135 *445*	190 *620*	220 *720*	230 *750*
M1	160 *520*	230 *750*	265 *870*	280 *920*	145 *475*	210 *690*	245 *800*	250 *820*	160 *520*	230 *750*	265 *870*	275 *900*	190 *620*	265 *870*	310 *1025*	325 *1075*
M2	135 *445*	190 *620*	220 *720*	230 *750*	120 *395*	175 *570*	200 *660*	210 *690*	135 *445*	190 *620*	220 *720*	230 *750*	155 *510*	220 *720*	255 *840*	270 *890*
M3	110 *360*	155 *510*	180 *590*	190 *620*	100 *330*	140 *460*	165 *540*	170 *560*	110 *360*	155 *510*	180 *590*	190 *620*	130 *425*	180 *590*	210 *690*	220 *720*
M4	150 *490*	210 *690*	245 *800*	260 *850*	80 *260*	110 *360*	125 *410*	135 *445*	85 *280*	120 *395*	140 *460*	150 *490*	100 *330*	140 *460*	165 *540*	175 *570*
M5	150 *490*	210 *690*	245 *800*	260 *850*	65 *215*	90 *295*	105 *345*	115 *375*	70 *230*	100 *330*	115 *375*	125 *410*	85 *280*	115 *375*	135 *445*	145 *475*
S1	41 *135*	55 *180*	65 *215*	70 *230*	37 *120*	50 *165*	60 *195*	65 *215*	41 *135*	55 *180*	65 *215*	70 *230*	49 *160*	70 *230*	80 *260*	85 *280*
S2	33 *110*	45 *150*	55 *180*	55 *180*	30 *100*	41 *135*	48 *155*	50 *165*	33 *110*	45 *150*	55 *180*	55 *180*	40 *130*	55 *180*	65 *215*	70 *230*
S3	29 *95*	40 *130*	47 *155*	49 *160*	26 *85*	36 *120*	42 *140*	45 *150*	29 *95*	40 *130*	47 *155*	49 *160*	35 *115*	48 *155*	55 *180*	60 *195*
S11	55 *180*	80 *260*	90 *295*	95 *310*	50 *165*	70 *230*	85 *280*	85 *280*	55 *180*	80 *260*	90 *295*	95 *310*	70 *230*	95 *310*	110 *360*	115 *375*
S12	39 *130*	55 *180*	65 *215*	65 *215*	35 *115*	49 *160*	60 *195*	60 *195*	39 *130*	55 *180*	65 *215*	65 *215*	47 *155*	65 *215*	80 *260*	80 *260*
S13	23 *75*	31 *100*	37 *120*	39 *130*	21 *70*	29 *95*	33 *110*	36 *120*	23 *75*	31 *100*	37 *120*	39 *130*	28 *90*	38 *125*	45 *150*	48 *155*

R217.29-10 – Metric

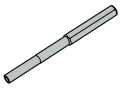




- For insert selection and cutting data recommendations, see page(s) 654-656
- For complete insert programme, see page(s) 820
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.29-3250.3-10.3.080	02426255	Weldon	30,0	50,0	3	10,0	32,0	87,0	140,0	79,0	9,5	80,0	98,0	6500	0,9	RP..2006

Spare Parts, included in delivery

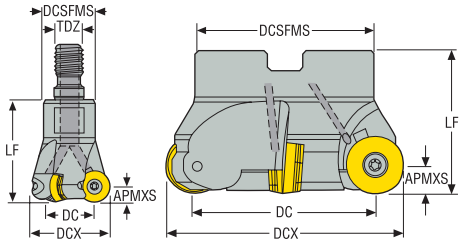
For cutter	Insert key	Insert screw
		
R217.29-..	H6B-T20P	C05013-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.29-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.29-10 – Metric



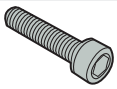
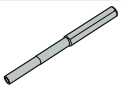
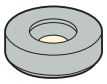
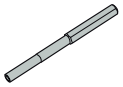


- For insert selection and cutting data recommendations, see page(s) 654-656
- For complete insert programme, see page(s) 820
- For ISO attribute explanation, see page 16

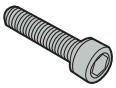
Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.29-1640.RE-10.2A	02426282	Combimaster	20,0	40,0	2	10,0	–	M16	30,0	40,0	40,0	60,0	78,0	8400	0,3	RP..2006
R220.29-0063-10.4A	02427241	Arbor	43,0	63,0	4	10,0	22,0	–	47,0	50,0	6,0	106,0	124,0	5800	0,6	RP..2006
R220.29-0080-10.4MA	02497996	Arbor	60,0	80,0	4	10,0	27,0	–	62,0	50,0	6,5	140,0	158,0	2100	1,0	RP..2006
R220.29-0080-10.5A	02497999	Arbor	60,0	80,0	5	10,0	27,0	–	62,0	50,0	6,5	140,0	158,0	2100	0,9	RP..2006
R220.29-0083-10.4MA	02498001	Arbor	63,0	83,0	4	10,0	27,0	–	62,0	50,0	6,2	146,0	164,0	5000	1,1	RP..2006
R220.29-0100-10.5MA	02498002	Arbor	80,0	100,0	5	10,0	32,0	–	77,0	50,0	4,7	180,0	198,0	4500	1,6	RP..2006
R220.29-0100-10.6A	02468476	Arbor	80,0	100,0	6	10,0	32,0	–	77,0	50,0	4,7	180,0	198,0	4500	1,5	RP..2006
R220.29-0125-10.5MA	02498005	Arbor	105,0	125,0	5	10,0	40,0	–	90,0	63,0	3,47	230,0	248,0	4000	3,0	RP..2006
R220.29-0125-10.7A	02498006	Arbor	105,0	125,0	7	10,0	40,0	–	90,0	63,0	3,47	230,0	248,0	4000	2,9	RP..2006
R220.29-8160-10.6M	02498008	Arbor	140,0	160,0	6	10,0	40,0	–	90,0	63,0	2,2	300,0	318,0	3600	4,1	RP..2006
R220.29-8200-10.8M	02495666	Arbor	180,0	200,0	8	10,0	60,0	–	130,0	63,0	1,66	380,0	398,0	3200	6,0	RP..2006
R220.29-8250-10.9M	02495667	Arbor	230,0	250,0	9	10,0	60,0	–	130,0	63,0	1,3	480,0	498,0	2900	11,1	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

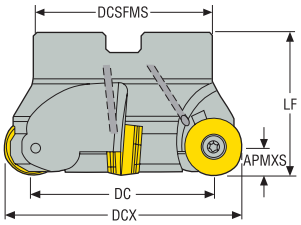
For cutter	Arbor screw	Insert key	Insert screw	Insert shim	Shim key	Shim screw
						
R217.29-..	–	H6B-T20P	C05013-T20P	–	–	–
R220.29-0063	220.17-692	H6B-T20P	C05013-T20P	–	–	–
R220.29-0080M	MC6S12X35	H6B-T20P	C05018-T20P	SRP2004M0	H6B-H5.0L	CA5010
R220.29-0080A	MC6S12X35	H6B-T20P	C05013-T20P	–	–	–
R220.29-0083M	MC6S12X35	H6B-T20PL	C05018-T20P	SRP2004M0	H6B-H5.0L	CA5010
R220.29-0100M	MLC6S16X35	H6B-T20PL	C05018-T20P	SRP2004M0	H6B-H5.0L	CA5010
R220.29-0100	MLC6S16X35	H6B-T20PL	C05013-T20P	–	–	–
R220.29-0125M	MLC6S20X40	H6B-T20PL	C05018-T20P	SRP2004M0	H6B-H5.0L	CA5010
R220.29-0125A	MLC6S20X40	H6B-T20PL	C05013-T20P	–	–	–
R220.29-8160M	–	1/4HEX-T20PX90	C05018-T20P	SRP2004M0	1/4HEX-H5.0X50	CA5010
R220.29-8200-8250M	–	H6B-T20PL	C05018-T20P	SRP2004M0	H6B-H5.0L	CA5010

Accessories

For cutter	Adjustable Torque key	Adjustable Torque key 2	Arbor screw	Insert clamping torque	Torque key
					
R217.29-..	–	–	–	5.0NM	T00-20P50
R220.29-0063-0125	–	–	–	5.0NM	T00-20P50
R220.29-8160	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	5.0NM	T00-20P50
R220.29-8200-8250	–	–	MC6S16X50	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.29-10 – inch



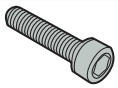
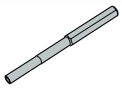
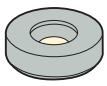
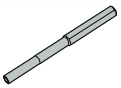


- For insert selection and cutting data recommendations, see page(s) 654-656
- For complete insert programme, see page(s) 820
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch		inch	inch		lbs	
R220.29-02.50-10.4A	00087697	Arbor	1.713	2.500	4	0.394	0.750	–	1.850	2.000	6,0	4.213	4.921	5800	1.320	RP..2006
R220.29-03.00-10.4A	00087698	Arbor	2.213	3.000	4	0.394	1.000	–	2.441	2.000	5,0	5.213	5.921	5100	2.200	RP..2006

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw	Insert shim	Shim key	Shim screw
						
R220.29-02.50	UC6S3/8UNFX11/2	H6B-T20P	C05013-T20P	–	–	–
R220.29-03.00	UC6S1/2UNFX1-1/4	H6B-T20P	C05018-T20P	SRP2004M0	H6B-H5.0L	CA5010

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.29-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R217/220.29-10 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RPHT2006M0T-ME12 MP2501	4,0 *0.16*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,75 *0.030*
P2	RPHT2006M0T-ME12 MP2501	4,0 *0.16*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,75 *0.030*
P3	RPHT2006M0T-ME12 MP2501	4,0 *0.16*	0,36 *0.014*	0,36 *0.014*	0,44 *0.017*	0,70 *0.028*
P4	RPKT2006M0T-M15 MP2501	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
P5	RPKT2006M0T-M15 MP2501	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
P6	RPKT2006M0T-M20 MS2500	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,85 *0.034*
P7	RPKT2006M0T-M20 MS2500	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,85 *0.034*
P8	RPKT2006M0T-M20 MS2500	4,0 *0.16*	0,46 *0.018*	0,46 *0.018*	0,55 *0.022*	0,90 *0.036*
P11	RPKT2006M0T-M20 MS2500	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,50 *0.020*	0,85 *0.034*
P12	RPKT2006M0T-M20 MS2500	3,0 *0.12*	0,34 *0.013*	0,34 *0.013*	0,40 *0.016*	0,65 *0.026*
M1	RPHT2006M0T-ME12 MS2050	4,0 *0.16*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,75 *0.030*
M2	RPHT2006M0T-ME12 MS2050	4,0 *0.16*	0,36 *0.014*	0,36 *0.014*	0,42 *0.017*	0,65 *0.026*
M3	RPHT2006M0T-ME12 MS2050	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
M4	RPHT2006M0T-ME12 T350M	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,60 *0.024*
M5	RPHT2006M0T-ME12 T350M	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,60 *0.024*
K1	RPKT2006M0T-M20 MK2050	4,0 *0.16*	0,48 *0.019*	0,48 *0.019*	0,60 *0.024*	0,95 *0.038*
K2	RPKT2006M0T-M20 MK2050	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
K3	RPKT2006M0T-M20 MK2050	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
K4	RPKT2006M0T-M20 MK2050	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
K5	RPKT2006M0T-M20 MK2050	4,0 *0.16*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*	0,75 *0.030*
K6	RPKT2006M0T-M20 MK2050	4,0 *0.16*	0,44 *0.017*	0,44 *0.017*	0,55 *0.022*	0,85 *0.034*
K7	RPKT2006M0T-M20 MK2050	4,0 *0.16*	0,40 *0.016*	0,40 *0.016*	0,48 *0.019*	0,75 *0.030*
S1	RPHT2006M0T-ME12 MS2500	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,60 *0.024*
S2	RPHT2006M0T-ME12 MS2500	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,60 *0.024*
S3	RPKT2006M0T-M15 MS2500	2,5 *0.10*	0,36 *0.014*	0,36 *0.014*	0,42 *0.017*	0,70 *0.028*
S11	RPHT2006M0T-ME12 MS2050	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
S12	RPHT2006M0T-ME12 MS2050	3,0 *0.12*	0,32 *0.013*	0,32 *0.013*	0,38 *0.015*	0,60 *0.024*
S13	RPHT2006M0T-ME12 MS2050	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,60 *0.024*
H5	RPKW2006M0T-MD22 F15M	3,0 *0.12*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*	0,95 *0.038*
H8	RPKW2006M0T-MD22 F15M	3,0 *0.12*	0,38 *0.015*	0,38 *0.015*	0,46 *0.018*	0,70 *0.028*
H11	RPKW2006M0T-MD22 F15M	3,0 *0.12*	0,50 *0.020*	0,50 *0.020*	0,60 *0.024*	0,95 *0.038*
H12	RPKW2006M0T-MD22 F25M	— —	— —	— —	— —	— —

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.29-10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				MK2050				F25M				F30M				MS2050				F40M				MP2050			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	200	230	280	330	215	250	300	360	230	270	325	380	225	260	310	370	255	300	355	420	210	245	295	345	290	340	405	480
	660	*750*	*920*	*1075*	*710*	*820*	*980*	*1175*	*750*	*890*	*1075*	*1250*	*740*	*850*	*1025*	*1225*	*840*	*980*	*1175*	*1375*	*690*	*800*	*970*	*1125*	*950*	*1125*	*1325*	*1575*
P2	190	225	270	310	210	245	295	340	225	260	315	370	215	255	305	355	250	290	345	410	205	235	285	335	285	330	395	470
	620	*740*	*890*	*1025*	*690*	*800*	*970*	*1125*	*740*	*850*	*1025*	*1225*	*710*	*840*	*1000*	*1175*	*820*	*950*	*1125*	*1350*	*670*	*770*	*940*	*1100*	*940*	*1075*	*1300*	*1550*
P3	170	200	240	280	185	215	260	300	195	230	275	325	190	225	265	310	215	255	305	355	175	205	250	295	250	290	345	405
	560	*660*	*790*	*920*	*610*	*710*	*850*	*980*	*640*	*750*	*900*	*1075*	*620*	*740*	*870*	*1025*	*710*	*840*	*1000*	*1175*	*570*	*670*	*820*	*970*	*820*	*950*	*1125*	*1325*
P4	150	175	210	245	160	190	230	265	175	205	245	285	170	195	235	275	190	225	265	310	160	185	220	260	220	255	305	355
	490	*570*	*690*	*800*	*520*	*620*	*750*	*870*	*570*	*670*	*800*	*940*	*560*	*640*	*770*	*900*	*620*	*740*	*870*	*1025*	*520*	*610*	*720*	*850*	*720*	*840*	*1000*	*1175*
P5	145	165	200	240	155	180	220	255	165	195	235	275	160	185	225	265	185	220	260	305	150	175	210	250	210	250	295	350
	475	*540*	*660*	*790*	*510*	*590*	*720*	*840*	*540*	*640*	*770*	*900*	*520*	*610*	*740*	*870*	*610*	*720*	*850*	*1000*	*490*	*570*	*690*	*820*	*690*	*820*	*970*	*1150*
P6	160	185	225	265	175	205	245	290	185	220	265	305	185	215	255	300	210	245	290	345	170	200	240	280	240	280	330	390
	520	*610*	*740*	*870*	*570*	*670*	*800*	*950*	*610*	*720*	*870*	*1000*	*610*	*710*	*840*	*980*	*690*	*800*	*950*	*1125*	*560*	*660*	*790*	*920*	*790*	*920*	*1075*	*1275*
P7	150	175	215	250	165	190	230	275	175	205	250	290	175	200	240	280	195	230	275	325	160	185	225	265	225	265	315	370
	490	*570*	*710*	*820*	*540*	*620*	*750*	*900*	*570*	*670*	*820*	*950*	*570*	*660*	*790*	*920*	*640*	*750*	*900*	*1075*	*520*	*610*	*740*	*870*	*740*	*870*	*1025*	*1225*
P8	145	165	200	235	155	180	220	255	165	190	235	275	160	185	225	260	185	215	255	295	150	175	210	250	210	245	290	340
	475	*540*	*660*	*770*	*510*	*590*	*720*	*840*	*540*	*620*	*770*	*900*	*520*	*610*	*740*	*850*	*610*	*710*	*840*	*970*	*490*	*570*	*690*	*820*	*690*	*800*	*950*	*1125*
P11	145	170	205	245	160	185	225	265	170	200	245	280	170	195	235	275	190	225	265	315	155	180	220	255	220	255	305	360
	475	*560*	*670*	*800*	*520*	*610*	*740*	*870*	*560*	*660*	*800*	*920*	*560*	*640*	*770*	*900*	*620*	*740*	*870*	*1025*	*510*	*590*	*720*	*840*	*720*	*840*	*1000*	*1175*
P12	—	—	—	—	110	125	150	175	115	130	160	185	110	130	150	175	125	145	175	205	105	120	145	170	140	165	195	235
	—	—	—	—	*360*	*410*	*490*	*570*	*375*	*425*	*520*	*610*	*360*	*425*	*490*	*570*	*410*	*475*	*570*	*670*	*345*	*395*	*475*	*560*	*460*	*540*	*640*	*770*
M1	—	—	—	—	—	—	—	—	—	—	—	—	175	205	245	285	200	235	280	330	165	190	230	270	205	235	285	335
	—	—	—	—	—	—	—	—	—	—	—	—	*570*	*670*	*800*	*940*	*660*	*770*	*920*	*1075*	*540*	*620*	*750*	*890*	*670*	*770*	*940*	*1100*
M2	—	—	—	—	—	—	—	—	—	—	—	—	145	170	205	240	165	195	235	275	135	160	190	225	170	200	235	280
	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*560*	*670*	*790*	*540*	*640*	*770*	*900*	*445*	*520*	*620*	*740*	*560*	*660*	*770*	*920*
M3	—	—	—	—	—	—	—	—	—	—	—	—	120	140	165	190	135	155	190	220	110	130	155	185	135	160	190	220
	—	—	—	—	—	—	—	—	—	—	—	—	*395*	*460*	*540*	*620*	*445*	*510*	*620*	*720*	*360*	*425*	*510*	*610*	*445*	*520*	*620*	*720*
M4	—	—	—	—	—	—	—	—	—	—	—	—	90	105	130	150	105	120	145	170	85	100	120	140	105	125	145	175
	—	—	—	—	—	—	—	—	—	—	—	—	*295*	*345*	*425*	*490*	*345*	*395*	*475*	*560*	*280*	*330*	*395*	*460*	*345*	*410*	*475*	*570*
M5	—	—	—	—	—	—	—	—	—	—	—	—	75	90	105	125	90	100	120	145	75	85	100	120	90	105	125	145
	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*295*	*345*	*410*	*295*	*330*	*395*	*475*	*245*	*280*	*330*	*395*	*295*	*345*	*410*	*475*
K1	150	180	215	250	225	265	315	365	175	205	250	295	170	200	240	280	—	—	—	—	160	190	225	265	—	—	—	—
	490	*590*	*710*	*820*	*740*	*870*	*1025*	*1200*	*570*	*670*	*820*	*970*	*560*	*660*	*790*	*920*	—	—	—	—	*520*	*620*	*740*	*870*	—	—	—	—
K2	135	160	190	225	200	235	280	335	160	185	220	260	150	180	215	250	—	—	—	—	145	170	200	235	—	—	—	—
	445	*520*	*620*	*740*	*660*	*770*	*920*	*1100*	*520*	*610*	*720*	*850*	*490*	*590*	*710*	*820*	—	—	—	—	*475*	*560*	*660*	*770*	—	—	—	—
K3	115	135	160	190	170	200	240	280	135	155	185	220	130	150	180	215	—	—	—	—	120	140	170	200	—	—	—	—
	375	*445*	*520*	*620*	*560*	*660*	*790*	*920*	*445*	*510*	*610*	*720*	*425*	*490*	*590*	*710*	—	—	—	—	*395*	*460*	*560*	*660*	—	—	—	—
K4	110	130	155	180	160	190	225	270	125	150	180	210	125	145	175	205	—	—	—	—	115	135	160	190	—	—	—	—
	360	*425*	*510*	*590*	*520*	*620*	*740*	*890*	*410*	*490*	*590*	*690*	*410*	*475*	*570*	*670*	—	—	—	—	*375*	*445*	*520*	*620*	—	—	—	—
K5	70	80	95	110	100	120	145	165	80	90	110	130	75	90	105	125	—	—	—	—	70	85	100	115	—	—	—	—
	230	*260*	*310*	*360*	*330*	*395*	*475*	*540*	*260*	*295*	*360*	*425*	*245*	*295*	*345*	*410*	—	—	—	—	*230*	*280*	*330*	*375*	—	—	—	—
K6	95	115	135	160	140	165	200	235	110	130	155	185	110	125	155	180	—	—	—	—	100	120	145	170	—	—	—	—
	310	*375*	*445*	*520*	*460*	*540*	*660*	*770*	*360*	*425*	*510*	*610*	*360*	*410*	*510*	*590*	—	—	—	—	*330*	*395*	*475*	*560*	—	—	—	—
K7	90	105	125	145	130	150	185	210	100	115	140	165	95	115	135	160	—	—	—	—	90	105	130	150	—	—	—	—
	295	*345*	*410*	*475*	*425*	*490*	*610*	*690*	*330*	*375*	*460*	*540*	*310*	*375*	*445*	*520*	—	—	—	—	*295*	*345*	*425*	*490*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	43	49	60	70	49	55	70	80	41	47	55	65	50	60	70	85
	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*160*	*195*	*230*	*160*	*180*	*230*	*260*	*135*	*155*	*180*	*215*	*165*	*195*	*230*	*280*
S2	—	—	—	—	—	—	—	—	—	—	—	—	34	40	48	55	40	46	55	65	33	38	46	55	42	49	60	70
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*130*	*155*	*180*	*130*	*150*	*180*	*215*	*110*	*125*	*150*	*180*	*140*	*160*	*195*	*230*
S3	—	—	—	—	—	—	—	—	—	—	—	—	30	35	42	49	35	40	48	55	29	33	40	47	37	43	50	60
	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*115*	*140*	*160*	*115*	*130*	*155*	*180*	*95*	*110*	*130*	*155*	*120*	*140*	*165*	*195*
S11	—	—	—	—	—	—	—	—	—	—	—	—	60	70	85	95	70	80	95	110	55	65	80	95	75	85	100	120
	—	—	—	—	—	—	—	—	—	—	—	—	*195*	*230*	*280*	*310*	*230*	*260*	*310*	*360*	*180*	*215*	*260*	*310*	*245*	*280*	*330*	*395*
S12	—	—	—	—	—	—	—	—	—	—	—	—	35	40	48	55	47	55	65	75	39	45	55	65	50	60	70	80
	—	—	—	—	—	—	—	—	—	—	—	—	*115*	*130*	*155*	*180*	*155*	*180*	*215*	*245*	*130*	*150*	*180*	*215*	*165*	*195*	*230*	*260*
S13	—	—	—	—	—	—	—	—	—	—	—	—	20	23	28	32	28	32	38	45	23	26	32	37	29	34	41	48
	—	—	—	—	—	—	—	—	—	—	—	—	*65*	*75*	*90*	*105*	*90*	*105*	*125*	*150*	*75*	*85*	*105*	*120*	*95*	*110*	*135*	*155*
H5	33	38	46	55	—	—	—	—	38	44	55	60	36	42	50	60	—	—	—	—	34	40	48	55	—	—	—	—
	110	*125*	*150*	*180*	—	—	—	—	*125*	*145*	*180*	*195*	*120*	*140*	*165*	*195*	—	—	—	—	*110*	*130*	*155*	*180*	—	—	—	—
H8	36	42	50	60	—	—	—	—	41	47	55	65	39	45	55	60	—	—	—	—	37	43	50	60	—	—	—	—
	120	*140*	*165*	*195*	—	—	—	—	*135*	*155*	*180*	*215*	*130*	*150*	*180*	*195*	—	—	—	—	*120*	*140*	*165*	*195*	—	—	—	—
H11	42	49	60	70	—	—	—	—	48	55	65	80	46	55	65	75	—	—	—	—	44	50	60	70	55	65	75	90
	140	*160*	*195*	*230*	—	—	—	—	*155*	*180*	*215*	*260*	*150*	*180*	*215*	*245*	—	—	—	—	*145*	*165*	*195*	*230*	*180*	*215*	*245*	*295*
H12	65	75	90	105	—	—	—	—	75	85	100	120	70	80	95	110	—	—	—	—	65	75	95	110	90	105	125	150
	215	*245*	*295*	*345*	—	—	—	—	*245*	*280*	*330*	*395*	*230*	*260*	*310*	*360*	—	—	—	—	*215*	*245*	*310*	*360*	*295*	*345*	*410*	*490*

R217/220.29-10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MP1501				MP2501				MS2500				T350M				T25M				MM4500			
	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%	100%	70%	30%	10%
P1	345 *1125*	390 *1275*	475 *1550*	530 *1750*	335 *1100*	375 *1225*	460 *1500*	510 *1675*	300 *980*	350 *1150*	425 *1400*	495 *1625*	240 *790*	280 *920*	340 *1125*	395 *1300*	255 *840*	300 *980*	355 *1175*	420 *1375*	190 *620*	220 *720*	265 *870*	310 *1025*
P2	335 *1100*	380 *1250*	450 *1475*	510 *1675*	325 *1075*	365 *1200*	435 *1425*	500 *1650*	290 *950*	340 *1125*	410 *1350*	485 *1600*	235 *770*	275 *900*	325 *1075*	385 *1275*	250 *820*	290 *950*	345 *1125*	410 *1350*	185 *610*	215 *710*	255 *840*	305 *1000*
P3	300 *980*	335 *1100*	400 *1300*	450 *1475*	290 *950*	325 *1075*	385 *1275*	440 *1450*	255 *840*	300 *980*	360 *1175*	425 *1400*	205 *670*	240 *790*	290 *950*	340 *1125*	215 *710*	255 *840*	305 *1000*	355 *1175*	160 *520*	185 *610*	225 *740*	260 *850*
P4	265 *870*	295 *970*	350 *1150*	400 *1300*	255 *840*	285 *940*	340 *1125*	385 *1275*	230 *750*	265 *870*	320 *1050*	375 *1225*	180 *590*	215 *710*	255 *840*	300 *980*	190 *620*	225 *740*	265 *870*	310 *1025*	140 *460*	165 *540*	195 *640*	230 *750*
P5	250 *820*	285 *940*	335 *1100*	385 *1275*	245 *800*	275 *900*	325 *1075*	375 *1225*	215 *710*	255 *840*	305 *1000*	360 *1175*	175 *570*	205 *670*	245 *800*	285 *940*	185 *610*	220 *720*	260 *850*	305 *1000*	135 *445*	160 *520*	190 *620*	225 *740*
P6	295 *970*	330 *1075*	390 *1275*	435 *1425*	285 *940*	320 *1050*	375 *1225*	425 *1400*	245 *800*	285 *940*	345 *1125*	400 *1300*	195 *640*	230 *750*	275 *900*	320 *1050*	210 *690*	245 *800*	290 *950*	345 *1125*	155 *510*	180 *590*	215 *710*	255 *840*
P7	275 *900*	310 *1025*	365 *1200*	410 *1350*	270 *890*	300 *980*	355 *1175*	400 *1300*	230 *750*	270 *890*	325 *1075*	380 *1250*	185 *610*	215 *710*	260 *850*	305 *1000*	195 *640*	230 *750*	275 *900*	325 *1075*	145 *475*	170 *560*	205 *670*	240 *790*
P8	250 *820*	285 *940*	335 *1100*	380 *1250*	245 *800*	275 *900*	325 *1075*	370 *1225*	215 *710*	250 *820*	305 *1000*	360 *1175*	170 *560*	200 *660*	245 *800*	285 *940*	185 *610*	215 *710*	255 *840*	295 *970*	135 *445*	160 *520*	190 *620*	220 *720*
P11	270 *890*	305 *1000*	355 *1175*	400 *1300*	260 *850*	295 *970*	345 *1125*	390 *1275*	225 *740*	260 *850*	320 *1050*	370 *1225*	180 *590*	210 *690*	255 *840*	295 *970*	190 *620*	225 *740*	265 *870*	315 *1025*	140 *460*	165 *540*	195 *640*	230 *750*
P12	180 *590*	200 *660*	235 *770*	260 *850*	175 *570*	195 *640*	230 *750*	255 *840*	150 *490*	175 *570*	210 *690*	245 *800*	120 *395*	140 *460*	165 *540*	195 *640*	125 *410*	145 *475*	175 *570*	205 *670*	90 *295*	105 *345*	130 *425*	150 *490*
M1	— —	— —	— —	— —	175 *570*	205 *670*	245 *800*	290 *950*	210 *690*	245 *800*	295 *970*	345 *1125*	180 *590*	210 *690*	250 *820*	300 *980*	200 *660*	235 *770*	280 *920*	330 *1075*	155 *510*	185 *610*	220 *720*	260 *850*
M2	— —	— —	— —	— —	145 *475*	170 *560*	205 *670*	245 *800*	175 *570*	205 *670*	245 *800*	285 *940*	150 *490*	175 *570*	210 *690*	245 *800*	165 *540*	195 *640*	235 *770*	275 *900*	130 *425*	155 *510*	185 *610*	215 *710*
M3	— —	— —	— —	— —	120 *395*	140 *460*	170 *560*	195 *640*	145 *475*	165 *540*	200 *660*	235 *770*	125 *410*	140 *460*	170 *560*	205 *670*	135 *445*	155 *510*	190 *620*	220 *720*	105 *345*	125 *410*	150 *490*	170 *560*
M4	— —	— —	— —	— —	95 *310*	110 *360*	130 *425*	155 *510*	110 *360*	130 *425*	155 *510*	180 *590*	95 *310*	110 *360*	135 *445*	155 *510*	105 *345*	120 *395*	145 *475*	170 *560*	85 *280*	95 *310*	115 *375*	135 *445*
M5	— —	— —	— —	— —	80 *260*	90 *295*	110 *360*	130 *425*	95 *310*	105 *345*	130 *425*	150 *490*	80 *260*	90 *295*	110 *360*	130 *425*	90 *295*	100 *330*	120 *395*	145 *475*	70 *230*	80 *260*	95 *310*	110 *360*
K1	340 *1125*	380 *1250*	455 *1500*	520 *1700*	325 *1075*	370 *1225*	440 *1450*	500 *1650*	230 *750*	270 *890*	325 *1075*	385 *1275*	185 *610*	215 *710*	260 *850*	305 *1000*	195 *640*	230 *750*	275 *900*	325 *1075*	— —	— —	— —	— —
K2	305 *1000*	345 *1125*	405 *1325*	470 *1550*	295 *970*	330 *1075*	395 *1300*	455 *1500*	205 *670*	240 *790*	290 *950*	340 *1125*	165 *540*	195 *640*	230 *750*	270 *890*	175 *570*	205 *670*	245 *800*	290 *950*	— —	— —	— —	— —
K3	260 *850*	290 *950*	340 *1125*	395 *1300*	250 *820*	280 *920*	330 *1075*	385 *1275*	175 *570*	205 *670*	245 *800*	290 *950*	140 *460*	165 *540*	195 *640*	230 *750*	150 *490*	175 *570*	210 *690*	245 *800*	— —	— —	— —	— —
K4	245 *800*	275 *900*	325 *1075*	380 *1250*	240 *790*	265 *870*	315 *1025*	370 *1225*	165 *540*	195 *640*	235 *770*	275 *900*	135 *445*	155 *510*	185 *610*	220 *720*	145 *475*	165 *540*	200 *660*	235 *770*	— —	— —	— —	— —
K5	160 *520*	180 *590*	210 *690*	230 *750*	155 *510*	170 *560*	205 *670*	225 *740*	100 *330*	120 *395*	145 *475*	165 *540*	80 *260*	95 *310*	115 *375*	135 *445*	85 *280*	100 *330*	120 *395*	145 *475*	— —	— —	— —	— —
K6	215 *710*	245 *800*	290 *950*	335 *1100*	210 *690*	235 *770*	280 *920*	325 *1075*	145 *475*	170 *560*	205 *670*	240 *790*	115 *375*	135 *445*	165 *540*	195 *640*	125 *410*	145 *475*	175 *570*	205 *670*	— —	— —	— —	— —
K7	200 *660*	225 *740*	265 *870*	295 *970*	195 *640*	220 *720*	260 *850*	285 *940*	130 *425*	155 *510*	185 *610*	215 *710*	105 *345*	120 *395*	150 *490*	170 *560*	110 *360*	130 *425*	155 *510*	185 *610*	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	90 *295*	45 *150*	50 *165*	60 *195*	75 *245*	— —	— —	— —	— —	25 *80*	29 *95*	35 *115*	41 *135*
S2	— —	— —	— —	— —	— —	— —	— —	— —	44 *145*	50 *165*	60 *195*	70 *230*	36 *120*	42 *140*	50 *165*	60 *195*	— —	— —	— —	— —	20 *65*	24 *80*	28 *90*	33 *110*
S3	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	44 *145*	55 *180*	65 *215*	32 *105*	36 *120*	44 *145*	50 *165*	— —	— —	— —	— —	18 *60*	21 *70*	25 *80*	29 *95*
S11	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	90 *295*	105 *345*	125 *410*	60 *195*	70 *230*	85 *280*	100 *330*	— —	— —	— —	— —	35 *115*	41 *135*	49 *160*	55 *180*
S12	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	60 *195*	75 *245*	85 *280*	43 *140*	50 *165*	60 *195*	70 *230*	— —	— —	— —	— —	32 *105*	38 *125*	45 *150*	55 *180*
S13	— —	— —	— —	— —	— —	— —	— —	— —	31 *100*	35 *115*	43 *140*	50 *165*	25 *80*	29 *95*	35 *115*	41 *135*	— —	— —	— —	— —	19 *60*	22 *70*	26 *85*	31 *100*
H5	47 *155*	55 *180*	65 *215*	75 *245*	— —	— —	— —	— —	45 *150*	50 *165*	60 *195*	75 *245*	40 *130*	46 *150*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —
H8	50 *165*	60 *195*	70 *230*	85 *280*	— —	— —	— —	— —	48 *155*	55 *180*	65 *215*	80 *260*	43 *140*	49 *160*	60 *195*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —
H11	60 *195*	70 *230*	85 *280*	95 *310*	— —	— —	— —	— —	55 *180*	65 *215*	80 *260*	95 *310*	50 *165*	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	— —	— —	— —	— —
H12	90 *295*	105 *345*	130 *425*	150 *490*	— —	— —	— —	— —	95 *310*	110 *360*	135 *445*	155 *510*	75 *245*	90 *295*	105 *345*	125 *410*	— —	— —	— —	— —	— —	— —	— —	— —



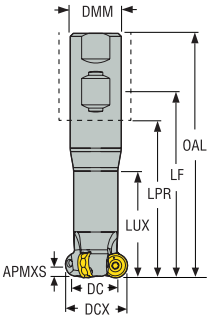
R217/220.28 ROUND INSERT CUTTERS

Our range of double-sided round inserts in size 12 and cutters, R217/220.28, is ideal for light copy milling applications, face milling, slot milling and side milling in all workpiece materials.

- Cutter range 32-100 mm (1.25 - 4 inch)
- Max depth of cut 6 mm (.236 inch)
- Recommended slotting depth of cut 3 mm (.118 inch)
- Up to 16 cutting edges

R217.28-06 – inch





- For insert selection and cutting data recommendations, see page(s) 661-662
- For complete insert programme, see page(s) 818
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R217.28-01.25-3-06-3A	03092089	Weldon	0.780	1.250	3	0.236	1.000	2.280	4.783	2.578	0,4	2.030	2.421	15600	1.100	RNMU12..

Spare Parts, included in delivery

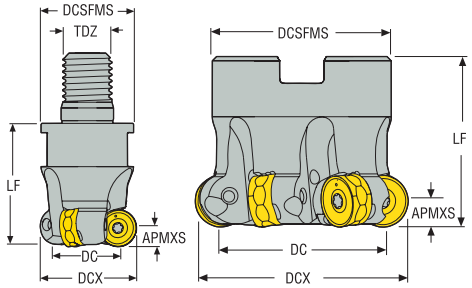
For cutter	Insert key	Insert screw
		
R217.28-..	H4B-T15P	C04009-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.28-..	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R220.28-06 – Metric

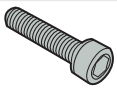




- For insert selection and cutting data recommendations, see page(s) 661-662
- For complete insert programme, see page(s) 818
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		mm	mm		kg	
R217.28-1632.RE-06.3A	03092078	Combimaster	20,1	32,0	3	6,0	–	M16	30,0	40,0	0,4	52,1	62,0	15600	0,3	RNMU12..
R220.28-0040-06.4A	03092080	Arbor	28,0	40,0	4	6,0	16,0	–	35,0	40,0	0,54	68,0	78,0	14000	0,3	RNMU12..
R220.28-0050-06.5A	03092081	Arbor	38,0	50,0	5	6,0	22,0	–	42,0	40,0	0,62	88,0	98,0	12500	0,3	RNMU12..
R220.28-0050-06.6A	03092082	Arbor	38,0	50,0	6	6,0	22,0	–	42,0	40,0	0,62	88,0	98,0	12500	0,4	RNMU12..
R220.28-0052-06.5A	03092083	Arbor	40,0	52,0	5	6,0	22,0	–	47,0	40,0	0,6	92,0	102,0	12300	0,4	RNMU12..
R220.28-0063-06.6A	03092084	Arbor	51,0	63,0	6	6,0	22,0	–	47,0	40,0	0,47	114,0	124,0	11200	0,5	RNMU12..
R220.28-0063-06.8A	03092086	Arbor	51,0	63,0	8	6,0	22,0	–	47,0	40,0	0,47	114,0	124,0	10000	0,5	RNMU12..
R220.28-0066-06.7A	03092087	Arbor	54,0	66,0	7	6,0	27,0	–	62,0	50,0	0,45	120,0	130,0	10900	0,9	RNMU12..
R220.28-0080-06.8A	03092088	Arbor	67,9	80,0	8	6,0	27,0	–	62,0	50,0	0,53	147,9	158,0	10000	1,1	RNMU12..

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.28-..	–	H4B-T15P	C04009-T15P
R220.28-0040-0063	220.17-692	H4B-T15P	C04009-T15P
R220.28-0066	MC6S12X40	H4B-T15P	C04009-T15P
R220.28-0080	MC6S12X40	H4B-T15P	C04009-T15P

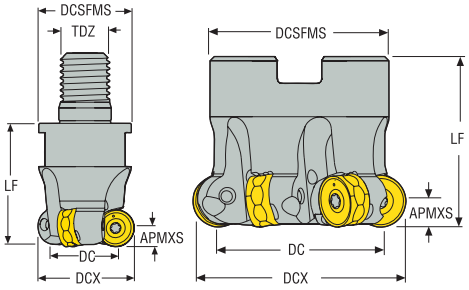
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.28-..	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R220.28-06 – inch

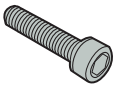




- For insert selection and cutting data recommendations, see page(s) 661-662
- For complete insert programme, see page(s) 818
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch	inch		inch	inch		inch	inch		inch	inch		lbs	
R220.28-02.00-06-5A	03092092	Arbor	1.528	2.000	5	0.236	0.750	–	1.654	1.500	0,61	3.528	3.921	12500	0.660	RNMU12..
R220.28-02.00-06-6A	03092093	Arbor	1.528	2.000	6	0.236	0.750	–	1.654	1.500	0,61	3.528	3.921	12500	0.660	RNMU12..
R220.28-02.50-06-7A	03092094	Arbor	2.028	2.500	7	0.236	0.750	–	1.850	1.500	0,47	4.528	4.921	11200	1.100	RNMU12..
R220.28-04.00-06-12A	03137204	Arbor	3.528	4.000	12	0.236	1.500	–	3.543	2.000	0,11	7.528	7.921	8800	3.970	RNMU12..

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.28-02.00-02.50	UC6S3/8UNFX1-1/4	H4B-T15P	C04009-T15P
R220.28-04.00	ULC6S3/4UNFX11/2	H4B-T15PL	C04009-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R220.28-..	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

R217/220.28 – Insert selection – mm/*Inch*

SMG		a_p	f_z			
			100%	70%	30%	10%
P1	RNMU1204M0-ME10 MP3501	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,34 *0.013*	0,55 *0.022*
P2	RNMU1204M0-ME10 MP3501	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,55 *0.022*
P3	RNMU1204M0-ME10 MP3501	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,34 *0.013*	0,55 *0.022*
P4	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
P5	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
P6	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
P7	RNMU1204M0T-M10 MP2501	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
P8	RNMU1204M0T-M10 MP2050	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,34 *0.013*	0,55 *0.022*
P11	RNMU1204M0T-M10 MP2050	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
P12	RNMU1204M0T-M10 MS2500	1,9 *0.075*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,40 *0.016*
M1	RNMU1204M0-ME10 MS2050	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,55 *0.022*
M2	RNMU1204M0-ME10 MS2050	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
M3	RNMU1204M0-ME10 MS2050	1,9 *0.075*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
M4	RNMU1204M0T-M10 MP3501	1,4 *0.055*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
M5	RNMU1204M0T-M10 MP3501	1,4 *0.055*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
K1	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,30 *0.012*	0,30 *0.012*	0,36 *0.014*	0,55 *0.022*
K2	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
K3	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
K4	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
K5	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,25 *0.010*	0,25 *0.010*	0,30 *0.012*	0,46 *0.018*
K6	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
K7	RNMU1204M0T-M10 MK2050	2,5 *0.10*	0,25 *0.010*	0,25 *0.010*	0,30 *0.012*	0,46 *0.018*
N1	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 *0.016*	0,40 *0.016*	0,46 *0.018*	0,70 *0.028*
N2	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 *0.016*	0,40 *0.016*	0,46 *0.018*	0,70 *0.028*
N3	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 *0.016*	0,40 *0.016*	0,46 *0.018*	0,70 *0.028*
N11	RNMU1204M0-ME10 F40M	2,5 *0.10*	0,40 *0.016*	0,40 *0.016*	0,46 *0.018*	0,70 *0.028*
S1	RNMU1204M0T-M10 MS2500	1,4 *0.055*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
S2	RNMU1204M0T-M10 MS2500	1,4 *0.055*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
S3	RNMU1204M0T-M10 MS2500	1,4 *0.055*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,44 *0.017*
S11	RNMU1204M0-ME10 MS2050	1,7 *0.065*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,48 *0.019*
S12	RNMU1204M0-ME10 MS2050	1,7 *0.065*	0,28 *0.011*	0,28 *0.011*	0,32 *0.013*	0,48 *0.019*
S13	RNMU1204M0-ME10 MS2050	1,4 *0.055*	0,26 *0.010*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
H5	RNMU1204M0T-M10 MP3501	1,9 *0.075*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,40 *0.016*
H8	RNMU1204M0T-M10 MP3501	1,7 *0.065*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*
H11	RNMU1204M0T-M10 MP3501	1,9 *0.075*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,40 *0.016*
H12	RNMU1204M0T-M10 MP3501	1,7 *0.065*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.28 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK2050				MS2050				F40M				MP2050				MP2501				MS2500				MP3501			
P1																												
	940	1075	1275	1500	800	900	1075	1275	720	820	980	1175	980	1125	1325	1575	1350	1475	1700	1900	1050	1175	1400	1675	1225	1300	1525	1750
P1	*275*	*310*	*380*	*445*	*230*	*265*	*320*	*380*	*210*	*240*	*290*	*345*	*285*	*325*	*395*	*470*	*395*	*430*	*500*	*570*	*305*	*345*	*420*	*495*	*350*	*385*	*455*	*510*
	900	1025	1250	1450	750	870	1050	1250	690	790	950	1125	940	1075	1300	1550	1300	1400	1650	1875	1000	1125	1375	1625	1150	1275	1500	1675
P2	*240*	*270*	*330*	*390*	*205*	*230*	*280*	*330*	*185*	*210*	*255*	*300*	*250*	*285*	*350*	*405*	*345*	*375*	*440*	*495*	*265*	*300*	*370*	*430*	*310*	*335*	*395*	*445*
	790	890	1075	1275	670	750	920	1075	610	690	840	980	820	940	1150	1325	1125	1225	1450	1625	870	980	1225	1400	1025	1100	1300	1450
P3	*215*	*245*	*290*	*345*	*185*	*205*	*245*	*290*	*165*	*190*	*225*	*265*	*225*	*255*	*305*	*360*	*310*	*340*	*390*	*435*	*240*	*270*	*325*	*380*	*280*	*305*	*350*	*390*
	710	800	950	1125	610	670	800	950	540	620	740	870	740	840	1000	1175	1025	1125	1275	1425	790	890	1075	1250	920	1000	1150	1275
P4	*205*	*235*	*280*	*330*	*175*	*200*	*235*	*280*	*160*	*180*	*215*	*255*	*215*	*245*	*290*	*345*	*295*	*325*	*370*	*420*	*230*	*260*	*310*	*365*	*265*	*290*	*335*	*380*
	670	770	920	1075	570	660	770	920	520	590	710	840	710	800	950	1125	970	1075	1225	1375	750	850	1025	1200	870	950	1100	1250
P5	*230*	*260*	*315*	*370*	*195*	*220*	*265*	*315*	*180*	*200*	*240*	*285*	*240*	*275*	*330*	*390*	*335*	*365*	*415*	*470*	*255*	*290*	*345*	*410*	*300*	*325*	*375*	*425*
	750	850	1025	1225	640	720	870	1025	590	660	790	940	790	900	1075	1275	1100	1200	1350	1550	840	950	1125	1350	980	1075	1225	1400
P6	*220*	*245*	*295*	*350*	*185*	*210*	*250*	*295*	*170*	*190*	*230*	*270*	*230*	*260*	*310*	*370*	*315*	*340*	*395*	*445*	*240*	*275*	*330*	*390*	*280*	*305*	*355*	*400*
	720	800	970	1150	610	690	820	970	560	620	750	890	750	850	1025	1225	1025	1125	1300	1450	790	900	1075	1275	920	1000	1175	1300
P7	*200*	*230*	*280*	*325*	*170*	*195*	*235*	*275*	*155*	*175*	*215*	*250*	*210*	*240*	*290*	*340*	*290*	*315*	*370*	*415*	*225*	*255*	*310*	*360*	*260*	*285*	*335*	*375*
	660	750	920	1075	560	640	770	900	510	570	710	820	690	790	950	1125	950	1025	1225	1350	740	840	1025	1175	850	940	1100	1225
P8	*210*	*240*	*285*	*340*	*180*	*205*	*245*	*290*	*165*	*185*	*220*	*260*	*220*	*250*	*300*	*355*	*305*	*330*	*380*	*430*	*235*	*265*	*320*	*380*	*275*	*300*	*345*	*390*
	690	790	940	1125	590	670	800	950	540	610	720	850	720	820	980	1175	1000	1075	1250	1400	770	870	1050	1250	900	980	1125	1275
P11	*140*	*155*	*190*	*220*	*115*	*135*	*160*	*185*	*105*	*120*	*145*	*170*	*145*	*165*	*195*	*230*	*195*	*215*	*245*	*270*	*155*	*175*	*210*	*245*	*180*	*195*	*220*	*245*
	460	510	620	720	375	445	520	610	345	395	475	560	475	540	640	750	640	710	800	890	510	570	690	800	590	640	720	800
P12	—	—	—	—	*185*	*210*	*260*	*305*	*170*	*190*	*235*	*275*	*205*	*235*	*285*	*335*	*200*	*225*	*275*	*325*	*220*	*245*	*300*	*355*	*185*	*210*	*260*	*305*
	—	—	—	—	610	690	850	1000	560	620	770	900	670	770	940	1100	660	740	900	1075	720	800	980	1175	610	690	850	1000
M1	—	—	—	—	*155*	*180*	*215*	*250*	*145*	*160*	*195*	*230*	*170*	*195*	*235*	*280*	*170*	*190*	*230*	*270*	*185*	*205*	*245*	*295*	*155*	*180*	*215*	*250*
	—	—	—	—	510	590	710	820	475	520	640	750	560	640	770	920	560	620	750	890	610	670	800	970	510	590	710	820
M2	—	—	—	—	*125*	*145*	*170*	*205*	*115*	*130*	*155*	*185*	*140*	*155*	*190*	*225*	*135*	*155*	*185*	*220*	*150*	*165*	*200*	*235*	*125*	*145*	*170*	*205*
	—	—	—	—	410	475	560	670	375	425	510	610	460	510	620	740	445	510	610	720	490	540	660	770	410	475	560	670
M3	—	—	—	—	*100*	*110*	*135*	*160*	*90*	*100*	*120*	*145*	*110*	*125*	*150*	*175*	*105*	*120*	*145*	*170*	*115*	*130*	*155*	*185*	*100*	*110*	*135*	*160*
	—	—	—	—	330	360	445	520	295	330	395	475	360	410	490	570	345	395	475	560	375	425	510	610	330	360	445	520
M4	—	—	—	—	*80*	*95*	*110*	*130*	*75*	*85*	*100*	*120*	*90*	*100*	*125*	*145*	*90*	*100*	*120*	*140*	*95*	*110*	*130*	*155*	*80*	*95*	*110*	*130*
	—	—	—	—	260	310	360	425	245	280	330	395	295	330	410	475	295	330	395	460	310	360	425	510	260	310	360	425
M5	*295*	*335*	*410*	*480*	—	—	—	—	*165*	*190*	*230*	*270*	—	—	—	—	*400*	*435*	*510*	*570*	*240*	*270*	*330*	*390*	*355*	*385*	*455*	*520*
	970	1100	1350	1575	—	—	—	—	540	620	750	890	—	—	—	—	1300	1425	1675	1875	790	890	1075	1275	1175	1275	1500	1700
K1	*265*	*300*	*360*	*430*	—	—	—	—	*150*	*170*	*205*	*240*	—	—	—	—	*360*	*390*	*450*	*510*	*215*	*245*	*295*	*350*	*320*	*350*	*405*	*455*
	870	980	1175	1400	—	—	—	—	490	560	670	790	—	—	—	—	1175	1275	1475	1675	710	800	970	1150	1050	1150	1325	1500
K2	*225*	*255*	*305*	*365*	—	—	—	—	*125*	*145*	*170*	*205*	—	—	—	—	*305*	*330*	*380*	*430*	*185*	*210*	*250*	*295*	*270*	*295*	*340*	*385*
	740	840	1000	1200	—	—	—	—	410	475	560	670	—	—	—	—	1000	1075	1250	1400	610	690	820	970	890	970	1125	1275
K3	*215*	*245*	*290*	*345*	—	—	—	—	*120*	*140*	*165*	*195*	—	—	—	—	*290*	*315*	*365*	*410*	*175*	*200*	*235*	*280*	*260*	*285*	*325*	*370*
	710	800	950	1125	—	—	—	—	395	460	540	640	—	—	—	—	950	1025	1200	1350	570	660	770	920	850	940	1075	1225
K4	*130*	*150*	*180*	*210*	—	—	—	—	*75*	*85*	*100*	*120*	—	—	—	—	*180*	*195*	*220*	*250*	*105*	*120*	*145*	*170*	*160*	*175*	*200*	*225*
	425	490	590	690	—	—	—	—	245	280	330	395	—	—	—	—	590	640	720	820	345	395	475	560	520	570	660	740
K5	*190*	*215*	*255*	*305*	—	—	—	—	*105*	*120*	*145*	*170*	—	—	—	—	*255*	*280*	*320*	*360*	*155*	*175*	*210*	*250*	*230*	*250*	*285*	*325*
	620	710	840	1000	—	—	—	—	345	395	475	560	—	—	—	—	840	920	1050	1175	510	570	690	820	750	820	940	1075
K6	*170*	*190*	*230*	*270*	—	—	—	—	*95*	*110*	*130*	*155*	—	—	—	—	*230*	*250*	*285*	*320*	*140*	*155*	*185*	*220*	*205*	*225*	*255*	*285*
	560	620	750	890	—	—	—	—	310	360	425	510	—	—	—	—	750	820	940	1050	460	510	610	720	670	740	840	940
K7	—	—	—	—	—	—	—	—	*1225*	*1400*	*1700*	*2025*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	4025	4600	5575	6650	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	*500*	*560*	*690*	*820*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	1650	1825	2275	2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	*335*	*375*	*460*	*540*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	1100	1225	1500	1775	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	*380*	*430*	*520*	*620*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	1250	1400	1700	2025	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	42	47	55	65	55	60	70	85	—	—	—	—	55	65	75	90	46	50	65	75
	—	—	—	—	150	165	215	245	140	155	180	215	180	195	230	280	—	—	—	—	180	215	245	295	150	165	215	245
S1	—	—	—	—	*37*	*42*	*50*	*60*	*34*	*38*	*46*	*55*	*43*	*48*	*60*	*70*	—	—	—	—	*45*	*50*	*60*	*70*	*37*	*42*	*50*	*60*
	—	—	—	—	120	140	165	195	110	125	150	180	140	155	195	230	—	—	—	—	150	165	195	230	120	140	165	195
S2	—	—	—	—	*33*	*37*	*45*	*50*	*30*	*34*	*41*	*47*	*38*	*42*	*50*	*60*	—	—	—	—	*40*	*45*	*55*	*65*	*33*	*37*	*45*	*50*
	—	—	—	—	110	120	150	165	100	110	135	155	125	140	165	195	—	—	—	—	130	150	180	215	110	120	150	165
S3	—	—	—	—	*65*	*70*	*85*	*105*	*60*	*65*	*80*	*95*	*75*	*85*	*100*	*120*	—	—	—	—	*80*	*90*	*105*	*125*	*65*	*70*	*85*	*105*
	—	—	—	—	215	230	280	345	195	215	260	310	245	280	330	395	—	—	—	—	260	295	345	410	215	230	280	345
S11	—	—	—	—	*44*	*50*	*60*	*70*	*40*	*45*	*55*	*65*	*50*	*55*	*70*	*80*	—	—	—	—	*55*	*60*	*75*	*85*	*44*	*50*	*60*	*70*
	—	—	—	—	145	165	195	230	130	150	180	215	165	180	230	260	—	—	—	—	180	195	245	280	145	165	195	230
S12	—	—	—	—	*26*	*29*	*35*	*41*	*24*	*27*	*32*	*38*	*30*	*34*	*41*	*48*	—	—	—	—	*32*	*36*	*43*	*50*	*26*	*29*	*35*	*41*
	—	—	—	—	85	95	115	135	80	90	105	125	100	110	135	155	—	—	—	—	105	120	140	165	85	95	115	135
S13	—	—	—	—	—	—	—	—	*35*	*40*	*48*	*55*	—	—	—	—	—	—	—	—	*46*	*50*	*60*	*75*	*41*	*46*	*55*	*65*
	—	—	—	—	—	—	—	—	115	130	155	180	—	—	—	—	—	—	—	—	150	165	195	245	135	150	180	215
H5	—	—	—	—	—	—	—	—	*38*	*43*	*50*	*60*	—	—	—	—	—	—	—	—	*49*	*55*	*65*	*75*	*43*	*49*	*60*	*70*
	—	—	—	—	—	—	—	—	125	140	165	195	—	—	—	—	—	—	—	—	160	180	215	245	140	160	195	230
H8	—	—	—	—	—	—	—	—	*45*	*50*	*60*	*70*	*55*	*65*	*75*	*90*	—	—	—	—	*60*	*65*	*80*	*95*	*50*	*60*	*70*	*80*
	—	—	—	—	—	—	—	—	150	165	195	230	180	215	245	295	—	—	—	—	195	215	260	310	165	195	230	260
H11	—	—	—	—	—	—	—	—	*70*	*75*	*90*	*105*	*90*	*105*	*125*	*145*	—	—	—	—	*95*	*110*	*130*	*155*	*80*	*90*	*105*	*120*
	—	—	—	—	—	—	—	—	230	245	295	345	295	345	410	475	—	—	—	—	310	360	425	510	260	295	345	395



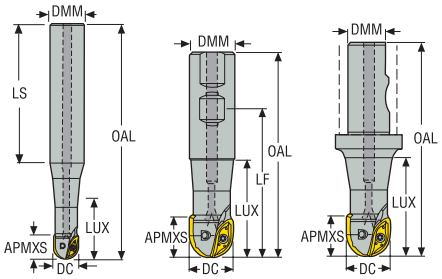
R218.20/19/24 BALLNOSE

We offer a variety of highly productive ballnose cutters for all materials and applications, ranging from general purpose to segment-oriented tools. The ballnose cutter is designed to deliver higher performance and better reliability in copy milling applications.

- Ballnose K=1, 3-cutting edge, cutter range 16-40 mm (0.75 - 1 inch)
- Ballnose K=2, 2-cutting edge, cutter range 12-50 mm (0.5 - 2 inch)
- Tapered Ballnose, 2-cutting edge, cutter range 16 mm

R218.20 – Metric





- For insert selection and cutting data recommendations, see page(s) 672-693
- For complete insert programme, see page(s) 837, 856
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LS	LF	OAL	LUX	RMPX°	RPMX	Weight	218.20	SPM.
			mm		mm	mm	mm	mm	mm	mm	mm			kg		
R218.20-1612.0-10.112A	02627903	Cylindrical	12,0	2	10,0	6,0	16,0	120,0	–	160,0	25,0	45,0	30000	0,3	-060(2)	–
R218.20-2016.0-14.070A	02722506	Cylindrical	16,0	2	14,0	8,0	20,0	70,0	–	120,0	36,0	45,0	28500	0,3	-080(2)	–
R218.20-1616.0-14.105E	00031596	Cylindrical	16,0	2	14,0	8,0	16,0	115,0	–	165,0	49,0	45,0	28500	0,5	-080(2)	–
R218.20-2520.0-18.120A	00031701	Cylindrical	20,0	2	18,0	10,0	25,0	104,0	–	176,0	54,0	45,0	20200	0,6	-100(2)	–
R218.20-3225.0-22.160A	00031940	Cylindrical	25,0	2	22,0	12,5	32,0	130,0	–	220,0	68,0	45,0	16900	1,1	-125(2)	–
R218.20-3230.0-26.160A	00032027	Cylindrical	30,0	2	27,0	15,0	32,0	130,0	–	220,0	73,0	45,0	12500	1,1	-150(2)	–
R218.20-3232.0-28.160A	00030730	Cylindrical	32,0	2	28,0	16,0	32,0	130,0	–	220,0	90,0	45,0	10900	1,2	-160(2)	–
R218.20-2520.3-18.070A	00031654	Weldon	20,0	2	18,0	10,0	25,0	56,0	93,94	126,0	54,0	45,0	20200	0,4	-100(2)	–
R218.20-2525.3-22.060A	00038464	Weldon	25,0	2	22,0	12,5	25,0	60,0	83,96	116,0	56,0	45,0	16900	0,4	-125(2)	–
R218.20-2525.3-22.080A	00031897	Weldon	25,0	2	22,0	12,5	25,0	60,0	103,96	136,0	75,5	45,0	16900	0,5	-125(2)	–
R218.20-3230.3-45.100A	00032046	Weldon	30,0	2	44,0	15,0	32,0	70,0	123,93	160,0	71,0	45,0	12500	0,8	-150(2)	SPMT10(2)
R218.20-3232.3-28.070A	00032245	Weldon	32,0	2	28,0	16,0	32,0	60,0	93,92	130,0	68,0	45,0	10900	0,7	-160(2)	–
R218.20-3232.3-28.100A	00030731	Weldon	32,0	2	28,0	16,0	32,0	70,0	123,92	160,0	89,0	45,0	10900	0,9	-160(2)	–
R218.20-3232.3-54.100A	00030733	Weldon	32,0	2	54,0	16,0	32,0	70,0	123,92	160,0	89,0	45,0	10900	0,8	-160(2)	SPMT10(3)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph
			
R218.20-1612	H4B-T06P	C01805-T06P	–
R218.20.. Ø16	H4B-T08P	C02506-T08P	–
R218.20.. Ø20	H4B-T09P	C03007-T09P	–
R218.20.. Ø25-30	H4B-T15P	C04009-T15P	–
R218.20.. Ø32	H4B-T15P	C04011-T15P	–
R218.20.. Ø30-100A	H4B-T15P	C04009-T15P	C03508-T15P
R218.20.. Ø32-100A	H4B-T15P	C04011-T15P	C03508-T15P

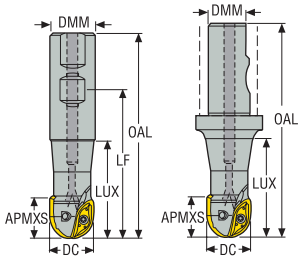
Accessories

For cutter	Insert clamping torque	Insert clamping torque 2	Torque key	Torque key 2
				
R218.20-1612	0.5NM	–	T00-06P05	–
R218.20.. Ø16	1.2NM	–	T00-08P12	–
R218.20.. Ø20	2.0NM	–	T00-09P20	–
R218.20.. Ø25-32	3.5NM	–	T00-15P35	–
R218.20.. Ø30-32-100A	3.5NM	3.0NM	T00-15P35	T00-15P30

Torque and fixed keys, see page 872

R218.20 – Metric

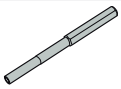
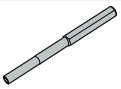




- For insert selection and cutting data recommendations, see page(s) 672-693
- For complete insert programme, see page(s) 821, 856
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LS	LF	OAL	LUX	RMPX°	RPMX	Weight	218.20	SCET
			mm		mm	mm	mm	mm	mm	mm	mm			kg		
R218.20-3240.3S-60.100	00032440	Seco-Weldon	40,0	2	60,0	20,0	32,0	59,5	–	159,4	89,0	45,0	7200	1,1	-200(2)	SC..12 (3)
R218.20-3250.3S-70.100	00032627	Seco-Weldon	50,0	2	70,0	25,0	32,0	59,5	–	159,37	91,0	45,0	3700	1,3	-250(2)	SC..12 (3)
R218.20-5050.3-70.150	00032677	Weldon	50,0	2	70,0	25,0	50,0	80,0	184,87	229,87	149,0	45,0	3700	2,8	-250(2)	SC..12 (3)

Spare Parts, included in delivery

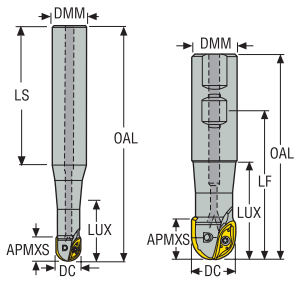
For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.20.. Ø40	H6B-T20P	C05013-T20P	C45011-T20P	–
R218.20.. Ø50	H6B-T25P	C06018-T25P	C45011-T20P	H6B-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R218.20.. Ø40	5.0NM	T00-20P50
R218.20.. Ø50	5.0NM	T00T-25P80

Torque and fixed keys, see page 872

R218.20 – inch





- For insert selection and cutting data recommendations, see page(s) 672-693
- For complete insert programme, see page(s) 837, 856
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LS	LF	OAL	LUX	RMPX°	RPMX	Weight	218.20
			inch		inch	inch	inch	inch	inch	inch	inch			lbs	
R218.20-0.500.0-11-111A	02687512	Cylindrical	0.500	2	0.433	0.250	0.625	4.724	–	6.298	1.142	45,0	30000	0.660	-0.250.R (2)
R218.20-0.625.0-14-070A	02740370	Cylindrical	0.625	2	0.551	0.313	0.750	2.819	–	4.785	1.398	45,0	28500	0.660	-080.R (2)
R218.20-0.750.0-17-120A	00040031	Cylindrical	0.750	2	0.669	0.375	1.000	4.248	–	7.002	2.087	45,0	20200	1.320	-0.375.R (2)
R218.20-01.00.0-22-160A	00040032	Cylindrical	1.000	2	0.866	0.500	1.250	4.996	–	8.577	2.795	45,0	16900	2.430	-125.R (2)
R218.20-0.500.3-11-060A	02687514	Weldon	0.500	2	0.433	0.250	0.750	2.362	3.313	4.331	0.827	45,0	30000	0.440	-0.250.R (2)
R218.20-0.625.3-14-050A	02740373	Weldon	0.625	2	0.551	0.313	0.625	2.299	2.919	3.874	1.500	45,0	28500	0.440	-080 (2)
R218.20-0.750.3-17-070A	00040022	Weldon	0.750	2	0.669	0.375	1.000	2.280	3.895	5.035	2.000	45,0	20200	0.880	-0.375.R (2)
R218.20-01.00.3-22-070A	00040024	Weldon	1.000	2	0.866	0.500	1.000	2.362	3.896	5.039	2.000	45,0	16900	1.100	-125.R (2)
R218.20-01.25.3-28-100A	00040025	Weldon	1.250	2	1.102	0.625	1.250	2.673	5.073	6.213	3.500	45,0	10900	1.760	-160.R (2)
R218.20-01.50.3-34-100A	00040027	Weldon	1.500	2	1.339	0.750	1.500	3.083	5.435	6.626	3.500	45,0	7200	2.650	-0.750.R (2)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0.500	H4B-T06P	C02052-T06P
R218.20-0.625	H4B-T08P	C02506-T08P
R218.20-0.750	H4B-T09P	C03006-T09P
R218.20-01.00	H4B-T15P	C04009-T15P
R218.20-01.25	H4B-T15P	C04011-T15P
R218.20-01.50	H6B-T20P	C05013-T20P

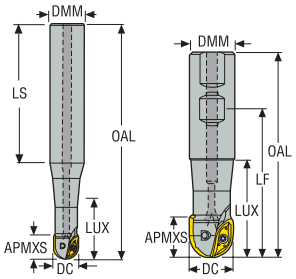
Accessories

For cutter	Insert clamping torque	Torque key
		
R218.20-0.500	0.5NM	T00-06P05
R218.20-0.625	1.2NM	T00-08P12
R218.20-0.750	2.0NM	T00-09P20
R218.20-01.00-01.25	3.5NM	T00-15P35
R218.20-01.50	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R218.20 – inch

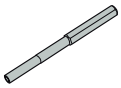
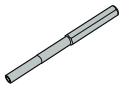




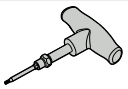
- For insert selection and cutting data recommendations, see page(s) 672-693
- For complete insert programme, see page(s) 821, 856
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DMM	LS	LF	OAL	LUX	RMPX°	RPMX	Weight	218.20	SCET
			inch		inch	inch	inch	inch	inch	inch	inch			lbs		
R218.20-02.00.3-70-120A	02740375	Weldon	2.000	2	2.756	1.000	2.000	3.243	6.124	7.967	4.705	45,0	3700	5.730	-250.R (2)	SC..12 (3)

Spare Parts, included in delivery

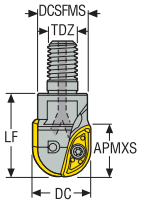
For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.20-02.00	H6B-T25P	C06018-T25P	C45011-T20P	H6B-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R218.20-02.00	70.8IN.LBS	T00T-25P80

Torque and fixed keys, see page 872

R218.20 – Metric





- For insert selection and cutting data recommendations, see page(s) 672-693
- For complete insert programme, see page(s) 856
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	TDZ	LF	RMPX°	RPMX	Weight	218.20
			mm		mm	mm	mm		mm			kg	
R218.20-0612.RE-10A	02731891	Combimaster	12,0	2	10,0	6,0	11,0	M6	20,0	45,0	30000	0,1	-060(2)
R218.20-0812.RE-10A	02627909	Combimaster	12,0	2	10,0	6,0	13,5	M8	23,0	45,0	30000	0,1	-060(2)
R218.20-0816.RE-14A	02742691	Combimaster	16,0	2	14,0	8,0	13,5	M8	23,0	45,0	28500	0,1	-080(2)
R218.20-1016.RE-14A	00031585	Combimaster	16,0	2	14,0	8,0	18,0	M10	28,0	45,0	28500	0,1	-080(2)
R218.20-1020.RE-18A	00039896	Combimaster	20,0	2	18,0	10,0	18,0	M10	28,0	45,0	20200	0,1	-100(2)
R218.20-1220.RE-18A	00031619	Combimaster	20,0	2	18,0	10,0	21,5	M12	35,0	45,0	20200	0,2	-100(2)
R218.20-1225.RE-22A	00031777	Combimaster	25,0	2	22,0	12,5	21,5	M12	35,0	45,0	16900	0,2	-125(2)
R218.20-1630.RE-26A	00032025	Combimaster	30,0	2	27,0	15,0	28,5	M16	40,0	45,0	12500	0,2	-150(2)
R218.20-1632.RE-28A	00030728	Combimaster	32,0	2	28,0	16,0	28,5	M16	40,0	45,0	10900	0,2	-160(2)
R218.20-1640.RE-35A	00032409	Combimaster	40,0	2	35,0	20,0	34,0	M16	50,0	45,0	7200	0,3	-200(2)
R218.20-2040.RE-35A	02928081	Combimaster	40,0	2	35,0	20,0	36,5	M20	55,0	45,0	7200	0,4	-200(2)
R218.20-2050.RE-44A	02928082	Combimaster	50,0	2	44,0	25,0	36,5	M20	65,0	45,0	5000	0,5	-250(2)

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

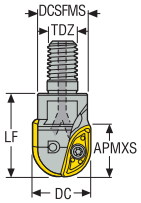
For cutter	Insert key	Insert screw
		
R218.20-0612-0812	H4B-T06P	C01805-T06P
R218.20-0816-1016	H4B-T08P	C02506-T08P
R218.20-1020-1220	H4B-T09P	C03007-T09P
R218.20-1225-1630	H4B-T15P	C04009-T15P
R218.20-1632	H4B-T15P	C04011-T15P
R218.20-1640-2040	H6B-T20P	C05013-T20P
R218.20-2050	H6B-T25P	C06018-T25P

Accessories

For cutter	Insert clamping torque	Torque key
		
R218.20-0612-0812	0.5NM	T00-06P05
R218.20-0816-1016	1.2NM	T00-08P12
R218.20-1020-1220	2.0NM	T00-09P20
R218.20-1225-1632	3.5NM	T00-15P35
R218.20-1640-2040	5.0NM	T00-20P50
R218.20-2050	8.0NM	T00T-25P80

Torque and fixed keys, see page 872

R218.20 – inch





- For insert selection and cutting data recommendations, see page(s) 672-693
- For complete insert programme, see page(s) 856
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	APMXE	DCSFMS	TDZ	LF	RMPX°	RPMX	Weight	218.20
			inch		inch	inch	inch		inch			lbs	
R218.20-0.500-06RE-11A	02687515	Combimaster	0.500	2	0.433	0.250	0.433	M6	0.787	45,0	30000	0.220	-0.250.R (2)
R218.20-0.500-08RE-11A	02687516	Combimaster	0.500	2	0.433	0.250	0.531	M8	0.906	45,0	28500	0.220	-0.250.R (2)
R218.20-0.750-10RE-17A	02428548	Combimaster	0.750	2	0.669	0.375	0.728	M10	1.102	45,0	20200	0.220	-0.375.R (2)
R218.20-01.00-12RE-22A	00040018	Combimaster	1.000	2	0.866	0.500	0.846	M12	1.378	45,0	16900	0.440	-125.R (2)
R218.20-01.25-16RE-28A	00040019	Combimaster	1.250	2	1.102	0.625	1.122	M16	1.575	45,0	10900	0.220	-160.R (2)
R218.20-01.50-16RE-34A	00040020	Combimaster	1.500	2	1.339	0.750	1.339	M16	1.969	45,0	7200	0.660	-0.750.R (2)
R218.20-02.00-20RE-44A	02928066	Combimaster	2.000	2	1.732	1.000	1.437	M20	2.559	45,0	5000	1.100	-250(2)

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.20-0.500	H4B-T06P	C02052-T06P
R218.20-0.750	H4B-T09P	C03006-T09P
R218.20-01.00	H4B-T15P	C04009-T15P
R218.20-01.25	H4B-T15P	C04011-T15P
R218.20-01.50	H6B-T20P	C05013-T20P
R218.20-02.00	H6B-T25P	C06018-T25P

Accessories

For cutter	Insert clamping torque	Torque key
		
R218.20-0.500	4.4IN.LBS	T00-06P05
R218.20-0.750	17.7IN.LBS	T00-09P20
R218.20-01.00-01.25	31.0IN.LBS	T00-15P35
R218.20-01.50	44.3IN.LBS	T00-20P50
R218.20-02.00	70.8IN.LBS	T00T-25P80

Torque and fixed keys, see page 872

R218.20-0.250 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,044 *0.0017*	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0030*	0,10 *0.0040*
P2	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,044 *0.0017*	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0030*	0,10 *0.0040*
P3	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,095 *0.0038*
P4	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0017*	0,070 *0.0028*	0,095 *0.0038*
P5	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
P6	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0036*
P7	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0036*
P8	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,095 *0.0038*
P11	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0036*
P12	218.20-0.250ER-M03 F40M	5,0 *0.20*	0,030 *0.0012*	0,030 *0.0012*	0,032 *0.0013*	0,046 *0.0018*	0,065 *0.0026*
M1	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,044 *0.0017*	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0030*	0,10 *0.0040*
M2	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
M3	218.20-0.250ER-ME03 F40M	5,0 *0.20*	0,034 *0.0013*	0,034 *0.0013*	0,036 *0.0014*	0,055 *0.0022*	0,075 *0.0030*
M4	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
M5	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
K1	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,044 *0.0017*	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0030*	0,10 *0.0040*
K2	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
K3	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
K4	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
K5	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,036 *0.0014*	0,036 *0.0014*	0,040 *0.0016*	0,060 *0.0024*	0,085 *0.0034*
K6	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,040 *0.0016*	0,040 *0.0016*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
K7	218.20-0.250ER-M03 F40M	7,0 *0.28*	0,036 *0.0014*	0,036 *0.0014*	0,040 *0.0016*	0,060 *0.0024*	0,085 *0.0034*
N1	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*	0,13 *0.0050*
N2	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*	0,13 *0.0050*
N3	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*	0,13 *0.0050*
N11	218.20-0.250ER-ME03 F40M	7,0 *0.28*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,095 *0.0038*	0,13 *0.0050*
S1	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
S2	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
S3	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,030 *0.0012*	0,030 *0.0012*	0,030 *0.0012*	0,046 *0.0018*	0,060 *0.0024*
S11	218.20-0.250ER-ME03 F40M	4,5 *0.18*	0,036 *0.0014*	0,036 *0.0014*	0,038 *0.0015*	0,055 *0.0022*	0,075 *0.0030*
S12	218.20-0.250ER-ME03 F40M	4,5 *0.18*	0,036 *0.0014*	0,036 *0.0014*	0,038 *0.0015*	0,055 *0.0022*	0,075 *0.0030*
S13	218.20-0.250ER-ME03 F40M	4,0 *0.16*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
H5	218.20-0.250ER-M03 F40M	5,0 *0.20*	0,030 *0.0012*	0,030 *0.0012*	0,032 *0.0013*	0,046 *0.0018*	0,065 *0.0026*
H8	218.20-0.250ER-M03 F40M	4,5 *0.18*	0,024 *0.00095*	0,024 *0.00095*	0,024 *0.00095*	0,036 *0.0014*	0,050 *0.0020*
H11	218.20-0.250ER-M03 F40M	5,0 *0.20*	0,030 *0.0012*	0,030 *0.0012*	0,032 *0.0013*	0,046 *0.0018*	0,065 *0.0026*
H12	218.20-0.250ER-M03 F40M	4,5 *0.18*	0,024 *0.00095*	0,024 *0.00095*	0,024 *0.00095*	0,036 *0.0014*	0,050 *0.0020*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-0.250 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M				
	100%	70%	30%	10%	5%
P1	290 *950*	315 *1025*	375 *1225*	435 *1425*	480 *1575*
P2	280 *920*	305 *1000*	365 *1200*	425 *1400*	465 *1525*
P3	245 *800*	265 *870*	315 *1025*	370 *1225*	405 *1325*
P4	215 *710*	235 *770*	275 *900*	325 *1075*	355 *1175*
P5	205 *670*	225 *740*	265 *870*	315 *1025*	340 *1125*
P6	230 *750*	255 *840*	300 *980*	350 *1150*	385 *1275*
P7	220 *720*	240 *790*	280 *920*	330 *1075*	360 *1175*
P8	205 *670*	225 *740*	265 *870*	310 *1025*	340 *1125*
P11	210 *690*	230 *750*	275 *900*	325 *1075*	350 *1150*
P12	140 *460*	150 *490*	175 *570*	200 *660*	215 *710*
M1	225 *740*	245 *800*	295 *970*	345 *1125*	375 *1225*
M2	185 *610*	205 *670*	240 *790*	280 *920*	305 *1000*
M3	155 *510*	170 *560*	195 *640*	220 *720*	240 *790*
M4	125 *410*	130 *425*	150 *490*	165 *540*	180 *590*
M5	105 *345*	110 *360*	125 *410*	140 *460*	150 *490*
K1	220 *720*	245 *800*	290 *950*	335 *1100*	370 *1225*
K2	195 *640*	215 *710*	255 *840*	300 *980*	320 *1050*
K3	165 *540*	180 *590*	215 *710*	250 *820*	270 *890*
K4	160 *520*	175 *570*	205 *670*	240 *790*	260 *850*
K5	95 *310*	105 *345*	125 *410*	145 *475*	155 *510*
K6	140 *460*	150 *490*	180 *590*	210 *690*	230 *750*
K7	120 *395*	135 *445*	160 *520*	185 *610*	200 *660*
N1	1700 *5575*	1850 *6075*	2200 *7225*	2575 *8450*	2800 *9175*
N2	680 *2225*	740 *2425*	890 *2925*	1025 *3375*	1125 *3700*
N3	455 *1500*	495 *1625*	590 *1925*	690 *2275*	750 *2450*
N11	520 *1700*	570 *1875*	680 *2225*	790 *2600*	860 *2825*
S1	60 *195*	60 *195*	70 *230*	80 *260*	85 *280*
S2	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*
S3	40 *130*	43 *140*	48 *155*	55 *180*	60 *195*
S11	80 *260*	85 *280*	100 *330*	110 *360*	120 *395*
S12	55 *180*	60 *195*	70 *230*	75 *245*	85 *280*
S13	32 *105*	34 *110*	39 *130*	44 *145*	48 *155*
H5	47 *155*	50 *165*	60 *195*	65 *215*	70 *230*
H8	49 *160*	50 *165*	60 *195*	70 *230*	75 *245*
H11	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*
H12	90 *295*	95 *310*	105 *345*	120 *395*	130 *425*

R218.20-0.375 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*	0,17 *0.0065*
P2	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*	0,17 *0.0065*
P3	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*	0,16 *0.0065*
P4	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0048*	0,16 *0.0065*
P5	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
P6	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,15 *0.0060*
P7	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,15 *0.0060*
P8	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,12 *0.0048*	0,16 *0.0065*
P11	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,15 *0.0060*
P12	218.20-0.375ER-M05 F40M	8,0 *0.32*	0,048 *0.0019*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0030*	0,11 *0.0044*
M1	218.20-0.375ER-ME05 MS2050	10,0 *0.40*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*	0,17 *0.0065*
M2	218.20-0.375ER-ME05 MS2050	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
M3	218.20-0.375ER-ME05 MS2050	8,0 *0.32*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*	0,13 *0.0050*
M4	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
M5	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
K1	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*	0,17 *0.0065*
K2	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
K3	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
K4	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
K5	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,060 *0.0024*	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*	0,14 *0.0055*
K6	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
K7	218.20-0.375ER-M05 F40M	10,0 *0.40*	0,060 *0.0024*	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*	0,14 *0.0055*
N1	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
N2	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
N3	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
N11	218.20-0.375ER-ME05 F40M	10,0 *0.40*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
S1	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
S2	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
S3	218.20-0.375ER-ME05 F40M	6,0 *0.24*	0,050 *0.0020*	0,050 *0.0020*	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
S11	218.20-0.375ER-ME05 MS2050	7,0 *0.28*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0024*	0,090 *0.0036*	0,13 *0.0050*
S12	218.20-0.375ER-ME05 MS2050	7,0 *0.28*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0024*	0,090 *0.0036*	0,13 *0.0050*
S13	218.20-0.375ER-ME05 MS2050	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
H5	218.20-0.375ER-M05 F40M	8,0 *0.32*	0,048 *0.0019*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0030*	0,11 *0.0044*
H8	218.20-0.375ER-M05 F40M	7,0 *0.28*	0,038 *0.0015*	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*	0,080 *0.0032*
H11	218.20-0.375ER-M05 F40M	8,0 *0.32*	0,048 *0.0019*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0030*	0,11 *0.0044*
H12	218.20-0.375ER-M05 F40M	7,0 *0.28*	0,038 *0.0015*	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*	0,080 *0.0032*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-0.375 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F25M					MS2050					F40M				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	280 *920*	305 *1000*	370 *1225*	435 *1425*	475 *1550*	300 *980*	325 *1075*	390 *1275*	460 *1500*	500 *1650*	255 *840*	280 *920*	335 *1100*	395 *1300*	430 *1400*
P2	275 *900*	300 *980*	360 *1175*	425 *1400*	460 *1500*	290 *950*	315 *1025*	380 *1250*	450 *1475*	490 *1600*	250 *820*	270 *890*	325 *1075*	385 *1275*	420 *1375*
P3	240 *790*	260 *850*	315 *1025*	365 *1200*	400 *1300*	255 *840*	275 *900*	330 *1075*	385 *1275*	425 *1400*	220 *720*	235 *770*	285 *940*	330 *1075*	365 *1200*
P4	210 *690*	230 *750*	275 *900*	320 *1050*	355 *1175*	225 *740*	245 *800*	290 *950*	340 *1125*	375 *1225*	190 *620*	210 *690*	250 *820*	290 *950*	320 *1050*
P5	200 *660*	220 *720*	265 *870*	310 *1025*	335 *1100*	215 *710*	230 *750*	280 *920*	330 *1075*	355 *1175*	185 *610*	200 *660*	240 *790*	285 *940*	305 *1000*
P6	225 *740*	245 *800*	295 *970*	350 *1150*	385 *1275*	240 *790*	260 *850*	315 *1025*	370 *1225*	405 *1325*	205 *670*	225 *740*	270 *890*	320 *1050*	350 *1150*
P7	215 *710*	230 *750*	280 *920*	330 *1075*	360 *1175*	225 *740*	245 *800*	295 *970*	350 *1150*	385 *1275*	195 *640*	210 *690*	255 *840*	300 *980*	330 *1075*
P8	200 *660*	220 *720*	265 *870*	305 *1000*	335 *1100*	215 *710*	230 *750*	280 *920*	325 *1075*	355 *1175*	185 *610*	200 *660*	240 *790*	280 *920*	305 *1000*
P11	205 *670*	225 *740*	270 *890*	320 *1050*	350 *1150*	220 *720*	240 *790*	285 *940*	340 *1125*	370 *1225*	190 *620*	205 *670*	245 *800*	290 *950*	320 *1050*
P12	140 *460*	150 *490*	170 *560*	200 *660*	220 *720*	150 *490*	160 *520*	180 *590*	215 *710*	230 *750*	125 *410*	135 *445*	155 *510*	185 *610*	200 *660*
M1	— —	— —	— —	— —	— —	235 *770*	255 *840*	305 *1000*	360 *1175*	395 *1300*	200 *660*	220 *720*	265 *870*	310 *1025*	335 *1100*
M2	— —	— —	— —	— —	— —	190 *620*	210 *690*	250 *820*	295 *970*	320 *1050*	165 *540*	180 *590*	215 *710*	255 *840*	275 *900*
M3	— —	— —	— —	— —	— —	165 *540*	175 *570*	200 *660*	235 *770*	255 *840*	140 *460*	150 *490*	170 *560*	200 *660*	220 *720*
M4	— —	— —	— —	— —	— —	130 *425*	135 *445*	160 *520*	180 *590*	195 *640*	110 *360*	115 *375*	135 *445*	155 *510*	170 *560*
M5	— —	— —	— —	— —	— —	110 *360*	115 *375*	130 *425*	150 *490*	165 *540*	95 *310*	95 *310*	115 *375*	130 *425*	140 *460*
K1	220 *720*	235 *770*	285 *940*	335 *1100*	365 *1200*	— —	— —	— —	— —	— —	200 *660*	215 *710*	260 *850*	305 *1000*	330 *1075*
K2	190 *620*	210 *690*	250 *820*	295 *970*	320 *1050*	— —	— —	— —	— —	— —	175 *570*	190 *620*	225 *740*	270 *890*	290 *950*
K3	160 *520*	175 *570*	210 *690*	250 *820*	270 *890*	— —	— —	— —	— —	— —	145 *475*	160 *520*	190 *620*	230 *750*	245 *800*
K4	155 *510*	170 *560*	200 *660*	240 *790*	260 *850*	— —	— —	— —	— —	— —	140 *460*	155 *510*	185 *610*	215 *710*	235 *770*
K5	95 *310*	105 *345*	125 *410*	145 *475*	155 *510*	— —	— —	— —	— —	— —	85 *280*	95 *310*	110 *360*	130 *425*	145 *475*
K6	135 *445*	150 *490*	180 *590*	210 *690*	230 *750*	— —	— —	— —	— —	— —	125 *410*	135 *445*	160 *520*	190 *620*	205 *670*
K7	120 *395*	130 *425*	160 *520*	185 *610*	200 *660*	— —	— —	— —	— —	— —	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1500 *4925*	1600 *5250*	1950 *6400*	2275 *7475*	2500 *8200*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	600 *1975*	650 *2125*	790 *2600*	920 *3025*	1000 *3275*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	400 *1300*	435 *1425*	530 *1750*	610 *2000*	670 *2200*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	460 *1500*	495 *1625*	600 *1975*	700 *2300*	770 *2525*
S1	— —	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	50 *165*	55 *180*	65 *215*	70 *230*	80 *260*
S2	— —	— —	— —	— —	— —	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*
S3	— —	— —	— —	— —	— —	43 *140*	44 *145*	50 *165*	60 *195*	65 *215*	37 *120*	38 *125*	44 *145*	50 *165*	55 *180*
S11	— —	— —	— —	— —	— —	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	70 *230*	75 *245*	90 *295*	100 *330*	110 *360*
S12	— —	— —	— —	— —	— —	60 *195*	60 *195*	70 *230*	80 *260*	90 *295*	50 *165*	55 *180*	60 *195*	70 *230*	75 *245*
S13	— —	— —	— —	— —	— —	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	29 *95*	31 *100*	35 *115*	40 *130*	44 *145*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	45 *150*	50 *165*	60 *195*	65 *215*
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	47 *155*	55 *180*	65 *215*	70 *230*
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	75 *245*	85 *280*
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	80 *260*	85 *280*	100 *330*	115 *375*	125 *410*

R218.20-0.750 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,24 *0.0095*	0,34 *0.013*
P2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*	0,34 *0.013*
P3	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*	0,32 *0.013*
P4	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
P5	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
P6	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,30 *0.012*
P7	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,30 *0.012*
P8	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 *0.0095*	0,32 *0.013*
P11	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,30 *0.012*
P12	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
M1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*	0,34 *0.013*
M2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
M3	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*	0,25 *0.010*
M4	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
M5	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
K1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 *0.010*	0,34 *0.013*
K2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
K3	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
K4	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
K5	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*	0,28 *0.011*
K6	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
K7	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*	0,28 *0.011*
N1	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*
N2	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*
N3	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*
N11	218.20-0.750ER-ME10 F40M	20,0 *0.80*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*
S1	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
S2	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
S3	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,15 *0.0060*	0,20 *0.0080*
S11	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,18 *0.0070*	0,25 *0.010*
S12	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,18 *0.0070*	0,25 *0.010*
S13	218.20-0.750ER-ME10 F40M	12,0 *0.48*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
H5	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
H8	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*	0,16 *0.0065*
H11	218.20-0.750ER-ME10 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
H12	218.20-0.750ER-ME10 F40M	14,0 *0.55*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*	0,16 *0.0065*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-0.750 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	225 *740*	240 *790*	295 *970*	350 *1150*	380 *1250*	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*
P2	215 *710*	235 *770*	285 *940*	335 *1100*	370 *1225*	165 *540*	180 *590*	220 *720*	255 *840*	280 *920*
P3	190 *620*	205 *670*	250 *820*	290 *950*	320 *1050*	145 *475*	155 *510*	190 *620*	225 *740*	245 *800*
P4	165 *540*	180 *590*	220 *720*	255 *840*	285 *940*	130 *425*	140 *460*	170 *560*	195 *640*	215 *710*
P5	160 *520*	170 *560*	210 *690*	250 *820*	270 *890*	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*
P6	180 *590*	195 *640*	235 *770*	280 *920*	310 *1025*	135 *445*	150 *490*	180 *590*	215 *710*	235 *770*
P7	170 *560*	180 *590*	220 *720*	265 *870*	290 *950*	130 *425*	140 *460*	170 *560*	205 *670*	220 *720*
P8	160 *520*	170 *560*	210 *690*	245 *800*	270 *890*	120 *395*	130 *425*	160 *520*	185 *610*	205 *670*
P11	165 *540*	175 *570*	215 *710*	260 *850*	280 *920*	125 *410*	135 *445*	165 *540*	195 *640*	215 *710*
P12	115 *375*	120 *395*	140 *460*	165 *540*	180 *590*	85 *280*	90 *295*	110 *360*	125 *410*	135 *445*
M1	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	140 *460*	155 *510*	185 *610*	220 *720*	240 *790*
M2	145 *475*	155 *510*	190 *620*	225 *740*	245 *800*	115 *375*	125 *410*	155 *510*	185 *610*	195 *640*
M3	125 *410*	130 *425*	155 *510*	180 *590*	195 *640*	100 *330*	105 *345*	125 *410*	145 *475*	160 *520*
M4	100 *330*	105 *345*	120 *395*	140 *460*	150 *490*	80 *260*	85 *280*	100 *330*	115 *375*	125 *410*
M5	85 *280*	85 *280*	100 *330*	115 *375*	125 *410*	65 *215*	70 *230*	80 *260*	95 *310*	100 *330*
K1	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*	— —	— —	— —	— —	— —
K2	150 *490*	165 *540*	200 *660*	240 *790*	255 *840*	— —	— —	— —	— —	— —
K3	130 *425*	140 *460*	170 *560*	200 *660*	215 *710*	— —	— —	— —	— —	— —
K4	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	— —	— —	— —	— —	— —
K5	75 *245*	80 *260*	100 *330*	115 *375*	125 *410*	— —	— —	— —	— —	— —
K6	110 *360*	115 *375*	140 *460*	170 *560*	180 *590*	— —	— —	— —	— —	— —
K7	95 *310*	105 *345*	125 *410*	150 *490*	165 *540*	— —	— —	— —	— —	— —
N1	1275 *4175*	1375 *4500*	1675 *5500*	1975 *6475*	2150 *7050*	— —	— —	— —	— —	— —
N2	510 *1675*	550 *1800*	680 *2225*	800 *2625*	870 *2850*	— —	— —	— —	— —	— —
N3	345 *1125*	370 *1225*	455 *1500*	530 *1750*	580 *1900*	— —	— —	— —	— —	— —
N11	390 *1275*	420 *1375*	520 *1700*	610 *2000*	660 *2175*	— —	— —	— —	— —	— —
S1	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	25 *80*	26 *85*	30 *100*	34 *110*	38 *125*
S2	37 *120*	39 *130*	45 *150*	50 *165*	55 *180*	20 *65*	21 *70*	24 *80*	28 *90*	30 *100*
S3	33 *110*	34 *110*	40 *130*	45 *150*	50 *165*	18 *60*	18 *60*	21 *70*	24 *80*	27 *90*
S11	65 *215*	65 *215*	80 *260*	90 *295*	100 *330*	34 *110*	35 *115*	42 *140*	48 *155*	55 *180*
S12	44 *145*	46 *150*	55 *180*	65 *215*	70 *230*	31 *100*	33 *110*	39 *130*	45 *150*	49 *160*
S13	26 *85*	28 *90*	32 *105*	36 *120*	40 *130*	19 *60*	20 *65*	23 *75*	26 *85*	28 *90*
H5	38 *125*	40 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H8	41 *135*	43 *140*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H11	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*	— —	— —	— —	— —	— —
H12	75 *245*	75 *245*	90 *295*	105 *345*	115 *375*	— —	— —	— —	— —	— —

R218.20-060 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-060ER-ME03 F40M	6,0 *0.24*	0,044 *0.0017*	0,044 *0.0017*	0,048 *0.0019*	0,075 *0.0030*	0,10 *0.0040*
P2	218.20-060ER-ME03 F40M	6,0 *0.24*	0,046 *0.0018*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
P3	218.20-060ER-ME03 F40M	6,0 *0.24*	0,044 *0.0017*	0,044 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,10 *0.0040*
P4	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,095 *0.0038*
P5	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,070 *0.0028*	0,095 *0.0038*
P6	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
P7	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
P8	218.20-060ER-ME03 F40M	6,0 *0.24*	0,044 *0.0017*	0,044 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,10 *0.0040*
P11	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,095 *0.0038*
P12	218.20-060ER-ME03 F40M	5,0 *0.20*	0,030 *0.0012*	0,030 *0.0012*	0,030 *0.0012*	0,046 *0.0018*	0,065 *0.0026*
M1	218.20-060ER-ME03 MS2050	6,0 *0.24*	0,046 *0.0018*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
M2	218.20-060ER-ME03 MS2050	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,070 *0.0028*	0,095 *0.0038*
M3	218.20-060ER-ME03 MS2050	5,0 *0.20*	0,034 *0.0013*	0,034 *0.0013*	0,036 *0.0014*	0,055 *0.0022*	0,075 *0.0030*
M4	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
M5	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
K1	218.20-060ER-ME03 F40M	6,0 *0.24*	0,046 *0.0018*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
K2	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,070 *0.0028*	0,095 *0.0038*
K3	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,070 *0.0028*	0,095 *0.0038*
K4	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,070 *0.0028*	0,095 *0.0038*
K5	218.20-060ER-ME03 F40M	6,0 *0.24*	0,038 *0.0015*	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*	0,085 *0.0034*
K6	218.20-060ER-ME03 F40M	6,0 *0.24*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,070 *0.0028*	0,095 *0.0038*
K7	218.20-060ER-ME03 F40M	6,0 *0.24*	0,038 *0.0015*	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*	0,085 *0.0034*
N1	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0026*	0,095 *0.0038*	0,13 *0.0050*
N2	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0026*	0,095 *0.0038*	0,13 *0.0050*
N3	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0026*	0,095 *0.0038*	0,13 *0.0050*
N11	218.20-060ER-ME03 F40M	6,0 *0.24*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0026*	0,095 *0.0038*	0,13 *0.0050*
S1	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
S2	218.20-060ER-ME03 F40M	3,5 *0.14*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
S3	218.20-060ER-ME03 F40M	3,5 *0.14*	0,030 *0.0012*	0,030 *0.0012*	0,030 *0.0012*	0,046 *0.0018*	0,060 *0.0024*
S11	218.20-060ER-ME03 MS2050	4,0 *0.16*	0,036 *0.0014*	0,036 *0.0014*	0,038 *0.0015*	0,055 *0.0022*	0,075 *0.0030*
S12	218.20-060ER-ME03 MS2050	4,0 *0.16*	0,036 *0.0014*	0,036 *0.0014*	0,038 *0.0015*	0,055 *0.0022*	0,075 *0.0030*
S13	218.20-060ER-ME03 MS2050	3,5 *0.14*	0,032 *0.0013*	0,032 *0.0013*	0,034 *0.0013*	0,048 *0.0019*	0,065 *0.0026*
H5	218.20-060ER-ME03 F40M	5,0 *0.20*	0,030 *0.0012*	0,030 *0.0012*	0,030 *0.0012*	0,046 *0.0018*	0,065 *0.0026*
H8	218.20-060ER-ME03 F40M	4,0 *0.16*	0,024 *0.00095*	0,024 *0.00095*	0,024 *0.00095*	0,036 *0.0014*	0,050 *0.0020*
H11	218.20-060ER-ME03 F40M	5,0 *0.20*	0,030 *0.0012*	0,030 *0.0012*	0,030 *0.0012*	0,046 *0.0018*	0,065 *0.0026*
H12	218.20-060ER-ME03 F40M	4,0 *0.16*	0,024 *0.00095*	0,024 *0.00095*	0,024 *0.00095*	0,036 *0.0014*	0,050 *0.0020*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-060 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050					F40M				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	335 *1100*	365 *1200*	435 *1425*	510 *1675*	560 *1825*	305 *1000*	335 *1100*	395 *1300*	465 *1525*	510 *1675*
P2	325 *1075*	355 *1175*	420 *1375*	495 *1625*	540 *1775*	295 *970*	320 *1050*	385 *1275*	450 *1475*	495 *1625*
P3	280 *920*	305 *1000*	365 *1200*	430 *1400*	470 *1550*	255 *840*	280 *920*	335 *1100*	390 *1275*	425 *1400*
P4	250 *820*	275 *900*	325 *1075*	380 *1250*	415 *1350*	230 *750*	250 *820*	295 *970*	345 *1125*	375 *1225*
P5	240 *790*	260 *850*	310 *1025*	360 *1175*	395 *1300*	215 *710*	235 *770*	280 *920*	330 *1075*	360 *1175*
P6	270 *890*	290 *950*	350 *1150*	410 *1350*	445 *1450*	245 *800*	265 *870*	315 *1025*	375 *1225*	405 *1325*
P7	255 *840*	275 *900*	330 *1075*	390 *1275*	420 *1375*	230 *750*	250 *820*	300 *980*	350 *1150*	380 *1250*
P8	235 *770*	260 *850*	310 *1025*	360 *1175*	395 *1300*	215 *710*	235 *770*	280 *920*	330 *1075*	360 *1175*
P11	245 *800*	270 *890*	320 *1050*	375 *1225*	410 *1350*	225 *740*	245 *800*	290 *950*	340 *1125*	370 *1225*
P12	160 *520*	170 *560*	200 *660*	230 *750*	250 *820*	145 *475*	155 *510*	180 *590*	210 *690*	230 *750*
M1	265 *870*	285 *940*	340 *1125*	400 *1300*	440 *1450*	240 *790*	260 *850*	310 *1025*	365 *1200*	400 *1300*
M2	215 *710*	235 *770*	280 *920*	325 *1075*	355 *1175*	195 *640*	215 *710*	255 *840*	295 *970*	325 *1075*
M3	175 *570*	190 *620*	220 *720*	255 *840*	280 *920*	160 *520*	175 *570*	200 *660*	235 *770*	255 *840*
M4	140 *460*	150 *490*	170 *560*	195 *640*	215 *710*	130 *425*	135 *445*	155 *510*	175 *570*	195 *640*
M5	120 *395*	125 *410*	145 *475*	165 *540*	180 *590*	110 *360*	110 *360*	130 *425*	150 *490*	160 *520*
K1	— —	— —	— —	— —	— —	235 *770*	255 *840*	305 *1000*	355 *1175*	390 *1275*
K2	— —	— —	— —	— —	— —	205 *670*	225 *740*	270 *890*	310 *1025*	340 *1125*
K3	— —	— —	— —	— —	— —	175 *570*	190 *620*	225 *740*	265 *870*	290 *950*
K4	— —	— —	— —	— —	— —	165 *540*	180 *590*	215 *710*	250 *820*	275 *900*
K5	— —	— —	— —	— —	— —	100 *330*	110 *360*	130 *425*	155 *510*	165 *540*
K6	— —	— —	— —	— —	— —	145 *475*	160 *520*	190 *620*	220 *720*	245 *800*
K7	— —	— —	— —	— —	— —	130 *425*	140 *460*	165 *540*	195 *640*	215 *710*
N1	— —	— —	— —	— —	— —	1775 *5825*	1925 *6325*	2325 *7625*	2725 *8950*	2975 *9750*
N2	— —	— —	— —	— —	— —	720 *2350*	780 *2550*	940 *3075*	1100 *3600*	1200 *3925*
N3	— —	— —	— —	— —	— —	475 *1550*	520 *1700*	630 *2075*	730 *2400*	800 *2625*
N11	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	720 *2350*	840 *2750*	920 *3025*
S1	65 *215*	70 *230*	80 *260*	90 *295*	100 *330*	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*
S2	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*
S3	46 *150*	48 *155*	55 *180*	65 *215*	70 *230*	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*
S11	95 *310*	95 *310*	115 *375*	130 *425*	140 *460*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*
S12	65 *215*	65 *215*	80 *260*	90 *295*	100 *330*	60 *195*	60 *195*	70 *230*	80 *260*	90 *295*
S13	37 *120*	39 *130*	45 *150*	50 *165*	55 *180*	34 *110*	35 *115*	41 *135*	47 *155*	50 *165*
H5	— —	— —	— —	— —	— —	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*
H8	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	70 *230*	80 *260*
H11	— —	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	90 *295*	95 *310*
H12	— —	— —	— —	— —	— —	90 *295*	100 *330*	115 *375*	130 *425*	140 *460*

R218.20-080 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
P2	218.20-080ER-M04 F40M	8,0 *0.32*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0065*	0,25 *0.0095*
P3	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
P4	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
P5	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P6	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P7	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P8	218.20-080ER-M04 F40M	8,0 *0.32*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
P11	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P12	218.20-080ER-M04 F40M	7,0 *0.28*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
M1	218.20-080ER-ME04 MS2050	8,0 *0.32*	0,060 *0.0024*	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*	0,14 *0.0055*
M2	218.20-080ER-ME04 MS2050	8,0 *0.32*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*	0,13 *0.0050*
M3	218.20-080ER-ME04 MS2050	7,0 *0.28*	0,046 *0.0018*	0,046 *0.0018*	0,048 *0.0019*	0,075 *0.0030*	0,10 *0.0040*
M4	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,090 *0.0036*
M5	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,090 *0.0036*
K1	218.20-080ER-M04 F40M	8,0 *0.32*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,18 *0.0065*	0,25 *0.0095*
K2	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K3	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K4	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K5	218.20-080ER-M04 F40M	8,0 *0.32*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*	0,20 *0.0080*
K6	218.20-080ER-M04 F40M	8,0 *0.32*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K7	218.20-080ER-M04 F40M	8,0 *0.32*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*	0,20 *0.0080*
N1	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
N2	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
N3	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
N11	218.20-080ER-ME04 F40M	8,0 *0.32*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 *0.0085*	0,32 *0.013*
S1	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,090 *0.0036*
S2	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,090 *0.0036*
S3	218.20-080ER-ME04 MP3501	5,0 *0.20*	0,040 *0.0016*	0,040 *0.0016*	0,040 *0.0016*	0,060 *0.0024*	0,085 *0.0034*
S11	218.20-080ER-ME04 MS2050	6,0 *0.24*	0,046 *0.0018*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
S12	218.20-080ER-ME04 MS2050	6,0 *0.24*	0,046 *0.0018*	0,046 *0.0018*	0,050 *0.0020*	0,075 *0.0030*	0,10 *0.0040*
S13	218.20-080ER-ME04 MS2050	5,0 *0.20*	0,042 *0.0017*	0,042 *0.0017*	0,044 *0.0017*	0,065 *0.0026*	0,090 *0.0036*
H5	218.20-080ER-M04 F40M	7,0 *0.28*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
H8	218.20-080ER-M04 F40M	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,085 *0.0034*	0,12 *0.0048*
H11	218.20-080ER-M04 F40M	7,0 *0.28*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
H12	218.20-080ER-M04 F40M	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,085 *0.0034*	0,12 *0.0048*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-080 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F25M					MS2050					F40M					MP3501					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	265 *870*	285 *940*	345 *1125*	405 *1325*	440 *1450*	305 *1000*	330 *1075*	395 *1300*	465 *1525*	500 *1650*	240 *790*	260 *850*	315 *1025*	370 *1225*	400 *1300*	420 *1375*	450 *1475*	490 *1600*	530 *1750*	560 *1825*	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*
P2	250 *820*	270 *890*	335 *1100*	390 *1275*	425 *1400*	295 *970*	320 *1050*	385 *1275*	450 *1475*	490 *1600*	230 *750*	250 *820*	305 *1000*	355 *1175*	385 *1275*	410 *1350*	435 *1425*	475 *1550*	520 *1700*	550 *1800*	185 *610*	200 *660*	245 *800*	285 *940*	315 *1025*
P3	220 *720*	240 *790*	290 *950*	340 *1125*	370 *1225*	255 *840*	275 *900*	335 *1100*	390 *1275*	425 *1400*	200 *660*	220 *720*	260 *850*	310 *1025*	335 *1100*	350 *1150*	375 *1225*	410 *1350*	445 *1450*	470 *1550*	165 *540*	175 *570*	210 *690*	250 *820*	270 *890*
P4	195 *640*	210 *690*	255 *840*	305 *1000*	330 *1075*	230 *750*	245 *800*	295 *970*	345 *1125*	375 *1225*	180 *590*	190 *620*	230 *750*	275 *900*	300 *980*	310 *1025*	330 *1075*	360 *1175*	390 *1275*	415 *1350*	145 *475*	155 *510*	185 *610*	225 *740*	245 *800*
P5	190 *620*	205 *670*	245 *800*	290 *950*	315 *1025*	215 *710*	235 *770*	280 *920*	330 *1075*	360 *1175*	170 *560*	185 *610*	225 *740*	265 *870*	285 *940*	295 *970*	315 *1025*	345 *1125*	375 *1225*	395 *1300*	140 *460*	150 *490*	180 *590*	215 *710*	235 *770*
P6	210 *690*	230 *750*	280 *920*	325 *1075*	355 *1175*	245 *800*	265 *870*	315 *1025*	370 *1225*	410 *1350*	195 *640*	210 *690*	255 *840*	295 *970*	325 *1075*	330 *1075*	355 *1175*	385 *1275*	420 *1375*	440 *1450*	155 *510*	170 *560*	205 *670*	240 *790*	260 *850*
P7	200 *660*	215 *710*	260 *850*	305 *1000*	335 *1100*	230 *750*	250 *820*	300 *980*	350 *1150*	385 *1275*	180 *590*	195 *640*	240 *790*	280 *920*	305 *1000*	315 *1025*	335 *1100*	365 *1200*	395 *1300*	415 *1350*	145 *475*	160 *520*	195 *640*	225 *740*	245 *800*
P8	185 *610*	200 *660*	240 *790*	285 *940*	310 *1025*	215 *710*	230 *750*	280 *920*	330 *1075*	360 *1175*	170 *560*	185 *610*	220 *720*	260 *850*	280 *920*	295 *970*	315 *1025*	345 *1125*	375 *1225*	395 *1300*	140 *460*	150 *490*	180 *590*	210 *690*	230 *750*
P11	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*	225 *740*	245 *800*	290 *950*	340 *1125*	375 *1225*	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	305 *1000*	325 *1075*	355 *1175*	385 *1275*	405 *1325*	145 *475*	155 *510*	190 *620*	220 *720*	240 *790*
P12	125 *410*	135 *445*	160 *520*	190 *620*	205 *670*	145 *475*	155 *510*	180 *590*	215 *710*	230 *750*	115 *375*	125 *410*	145 *475*	170 *560*	190 *620*	180 *590*	190 *620*	200 *660*	215 *710*	225 *740*	95 *310*	100 *330*	120 *395*	140 *460*	150 *490*
M1	— —	— —	— —	— —	— —	240 *790*	260 *850*	310 *1025*	365 *1200*	395 *1300*	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*	240 *790*	260 *850*	310 *1025*	365 *1200*	395 *1300*	160 *520*	170 *560*	210 *690*	245 *800*	270 *890*
M2	— —	— —	— —	— —	— —	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*	155 *510*	165 *540*	200 *660*	235 *770*	260 *850*	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*	135 *445*	145 *475*	175 *570*	205 *670*	225 *740*
M3	— —	— —	— —	— —	— —	160 *520*	170 *560*	200 *660*	235 *770*	255 *840*	125 *410*	135 *445*	160 *520*	190 *620*	205 *670*	160 *520*	170 *560*	200 *660*	235 *770*	255 *840*	110 *360*	120 *395*	140 *460*	160 *520*	175 *570*
M4	— —	— —	— —	— —	— —	130 *425*	135 *445*	155 *510*	180 *590*	195 *640*	105 *345*	110 *360*	125 *410*	145 *475*	160 *520*	130 *425*	135 *445*	155 *510*	180 *590*	195 *640*	90 *295*	95 *310*	110 *360*	125 *410*	135 *445*
M5	— —	— —	— —	— —	— —	110 *360*	115 *375*	130 *425*	150 *490*	165 *540*	85 *280*	90 *295*	105 *345*	120 *395*	135 *445*	110 *360*	115 *375*	130 *425*	150 *490*	165 *540*	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*
K1	200 *660*	215 *710*	265 *870*	310 *1025*	335 *1100*	— —	— —	— —	— —	— —	180 *590*	195 *640*	240 *790*	280 *920*	305 *1000*	415 *1350*	440 *1450*	480 *1575*	530 *1750*	550 *1800*	— —	— —	— —	— —	— —
K2	180 *590*	195 *640*	235 *770*	275 *900*	300 *980*	— —	— —	— —	— —	— —	165 *540*	175 *570*	215 *710*	250 *820*	275 *900*	360 *1175*	385 *1275*	415 *1350*	450 *1475*	480 *1575*	— —	— —	— —	— —	— —
K3	150 *490*	165 *540*	200 *660*	230 *750*	255 *840*	— —	— —	— —	— —	— —	140 *460*	150 *490*	180 *590*	210 *690*	230 *750*	305 *1000*	325 *1075*	350 *1150*	380 *1250*	405 *1325*	— —	— —	— —	— —	— —
K4	145 *475*	155 *510*	190 *620*	220 *720*	240 *790*	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	200 *660*	220 *720*	290 *950*	310 *1025*	335 *1100*	365 *1200*	385 *1275*	— —	— —	— —	— —	— —
K5	90 *295*	95 *310*	115 *375*	135 *445*	145 *475*	— —	— —	— —	— —	— —	80 *260*	85 *280*	105 *345*	125 *410*	135 *445*	170 *560*	185 *610*	200 *660*	215 *710*	225 *740*	— —	— —	— —	— —	— —
K6	130 *425*	140 *460*	165 *540*	195 *640*	215 *710*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	180 *590*	195 *640*	255 *840*	270 *890*	295 *970*	320 *1050*	340 *1125*	— —	— —	— —	— —	— —
K7	115 *375*	120 *395*	145 *475*	175 *570*	190 *620*	— —	— —	— —	— —	— —	105 *345*	110 *360*	135 *445*	160 *520*	170 *560*	220 *720*	235 *770*	255 *840*	275 *900*	290 *950*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1350 *4425*	1450 *4750*	1775 *5825*	2125 *6975*	2300 *7550*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	720 *2350*	860 *2825*	920 *3025*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	480 *1575*	570 *1875*	620 *2025*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	415 *1350*	450 *1475*	550 *1800*	650 *2125*	700 *2300*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	27 *90*	29 *95*	33 *110*	38 *125*	42 *140*
S2	— —	— —	— —	— —	— —	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	39 *130*	41 *135*	47 *155*	55 *180*	60 *195*	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	22 *70*	23 *75*	27 *90*	31 *100*	34 *110*
S3	— —	— —	— —	— —	— —	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	34 *110*	36 *120*	41 *135*	48 *155*	50 *165*	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	19 *60*	20 *65*	23 *75*	27 *90*	30 *100*
S11	— —	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	120 *395*	130 *425*	65 *215*	70 *230*	80 *260*	95 *310*	105 *345*	85 *280*	90 *295*	100 *330*	120 *395*	130 *425*	38 *125*	40 *130*	46 *150*	55 *180*	60 *195*
S12	— —	— —	— —	— —	— —	60 *195*	60 *195*	70 *230*	85 *280*	90 *295*	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	60 *195*	60 *195*	70 *230*	85 *280*	90 *295*	35 *115*	37 *120*	42 *140*	50 *165*	55 *180*
S13	— —	— —	— —	— —	— —	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	27 *90*	28 *90*	33 *110*	38 *125*	42 *140*	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	21 *70*	21 *70*	25 *80*	29 *95*	31 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	41 *135*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	49 *160*	55 *180*	60 *195*	75 *245*	80 *260*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	110 *360*	120 *395*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —

R218.20-100 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
P2	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
P3	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
P4	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
P5	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P6	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P7	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P8	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
P11	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P12	218.20-100ER-M05 F40M	9,0 *0.36*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
M1	218.20-100ER-ME05 MS2050	11,0 *0.44*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*	0,17 *0.0065*
M2	218.20-100ER-ME05 MS2050	11,0 *0.44*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
M3	218.20-100ER-ME05 MS2050	9,0 *0.36*	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0024*	0,090 *0.0036*	0,13 *0.0050*
M4	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
M5	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
K1	218.20-100ER-M05 F40M	11,0 *0.44*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
K2	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K3	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K4	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K5	218.20-100ER-M05 F40M	11,0 *0.44*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*	0,20 *0.0080*
K6	218.20-100ER-M05 F40M	11,0 *0.44*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K7	218.20-100ER-M05 F40M	11,0 *0.44*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*	0,20 *0.0080*
N1	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 *0.013*
N2	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 *0.013*
N3	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 *0.013*
N11	218.20-100ER-ME05 F40M	11,0 *0.44*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,32 *0.013*
S1	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
S2	218.20-100ER-ME05 F40M	6,0 *0.24*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
S3	218.20-100ER-ME05 F40M	6,0 *0.24*	0,070 *0.0028*	0,070 *0.0028*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
S11	218.20-100ER-ME05 MS2050	8,0 *0.32*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0024*	0,090 *0.0036*	0,13 *0.0050*
S12	218.20-100ER-ME05 MS2050	8,0 *0.32*	0,060 *0.0024*	0,060 *0.0024*	0,060 *0.0024*	0,090 *0.0036*	0,13 *0.0050*
S13	218.20-100ER-ME05 MS2050	6,0 *0.24*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,080 *0.0032*	0,11 *0.0044*
H5	218.20-100ER-M05 F40M	9,0 *0.36*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
H8	218.20-100ER-M05 F40M	8,0 *0.32*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,085 *0.0034*	0,12 *0.0048*
H11	218.20-100ER-M05 F40M	9,0 *0.36*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
H12	218.20-100ER-M05 F40M	8,0 *0.32*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,085 *0.0034*	0,12 *0.0048*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-100 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F25M					MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	260 *850*	280 *920*	340 *1125*	400 *1300*	430 *1400*	280 *920*	305 *1000*	365 *1200*	430 *1400*	465 *1525*	235 *770*	255 *840*	310 *1025*	360 *1175*	395 *1300*	190 *620*	205 *670*	250 *820*	295 *970*	320 *1050*
P2	255 *840*	275 *900*	330 *1075*	390 *1275*	420 *1375*	270 *890*	295 *970*	355 *1175*	420 *1375*	455 *1500*	230 *750*	250 *820*	300 *980*	355 *1175*	385 *1275*	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*
P3	215 *710*	235 *770*	285 *940*	340 *1125*	370 *1225*	235 *770*	260 *850*	310 *1025*	360 *1175*	395 *1300*	200 *660*	215 *710*	260 *850*	310 *1025*	335 *1100*	160 *520*	175 *570*	210 *690*	250 *820*	270 *890*
P4	195 *640*	210 *690*	250 *820*	300 *980*	325 *1075*	210 *690*	225 *740*	270 *890*	325 *1075*	350 *1150*	175 *570*	190 *620*	225 *740*	270 *890*	295 *970*	145 *475*	155 *510*	185 *610*	220 *720*	240 *790*
P5	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*	200 *660*	215 *710*	260 *850*	310 *1025*	335 *1100*	170 *560*	180 *590*	220 *720*	260 *850*	280 *920*	135 *445*	150 *490*	180 *590*	210 *690*	230 *750*
P6	205 *670*	225 *740*	275 *900*	320 *1050*	350 *1150*	225 *740*	245 *800*	290 *950*	345 *1125*	380 *1250*	190 *620*	205 *670*	250 *820*	290 *950*	315 *1025*	155 *510*	165 *540*	200 *660*	235 *770*	255 *840*
P7	195 *640*	215 *710*	260 *850*	300 *980*	330 *1075*	215 *710*	235 *770*	275 *900*	325 *1075*	355 *1175*	180 *590*	195 *640*	235 *770*	275 *900*	300 *980*	145 *475*	155 *510*	190 *620*	220 *720*	240 *790*
P8	185 *610*	200 *660*	240 *790*	285 *940*	310 *1025*	200 *660*	215 *710*	260 *850*	305 *1000*	335 *1100*	165 *540*	180 *590*	215 *710*	260 *850*	280 *920*	135 *445*	145 *475*	175 *570*	210 *690*	230 *750*
P11	190 *620*	205 *670*	250 *820*	295 *970*	320 *1050*	210 *690*	225 *740*	270 *890*	320 *1050*	345 *1125*	175 *570*	190 *620*	230 *750*	265 *870*	290 *950*	140 *460*	150 *490*	185 *610*	215 *710*	235 *770*
P12	130 *425*	140 *460*	165 *540*	185 *610*	205 *670*	135 *445*	150 *490*	175 *570*	200 *660*	215 *710*	115 *375*	125 *410*	150 *490*	170 *560*	185 *610*	95 *310*	100 *330*	120 *395*	135 *445*	150 *490*
M1	— —	— —	— —	— —	— —	220 *720*	240 *790*	285 *940*	340 *1125*	365 *1200*	185 *610*	200 *660*	240 *790*	285 *940*	310 *1025*	160 *520*	175 *570*	210 *690*	245 *800*	265 *870*
M2	— —	— —	— —	— —	— —	180 *590*	195 *640*	235 *770*	280 *920*	300 *980*	150 *490*	165 *540*	200 *660*	235 *770*	255 *840*	130 *425*	140 *460*	170 *560*	200 *660*	220 *720*
M3	— —	— —	— —	— —	— —	150 *490*	165 *540*	190 *620*	220 *720*	240 *790*	125 *410*	135 *445*	160 *520*	185 *610*	205 *670*	110 *360*	120 *395*	140 *460*	160 *520*	175 *570*
M4	— —	— —	— —	— —	— —	125 *410*	130 *425*	150 *490*	165 *540*	180 *590*	105 *345*	110 *360*	125 *410*	145 *475*	155 *510*	90 *295*	95 *310*	110 *360*	125 *410*	135 *445*
M5	— —	— —	— —	— —	— —	105 *345*	110 *360*	125 *410*	140 *460*	150 *490*	90 *295*	90 *295*	105 *345*	120 *395*	130 *425*	75 *245*	80 *260*	90 *295*	105 *345*	110 *360*
K1	200 *660*	215 *710*	260 *850*	305 *1000*	335 *1100*	— —	— —	— —	— —	— —	180 *590*	195 *640*	235 *770*	280 *920*	305 *1000*	— —	— —	— —	— —	— —
K2	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	245 *800*	270 *890*	— —	— —	— —	— —	— —
K3	150 *490*	160 *520*	195 *640*	230 *750*	250 *820*	— —	— —	— —	— —	— —	135 *445*	145 *475*	180 *590*	210 *690*	225 *740*	— —	— —	— —	— —	— —
K4	140 *460*	155 *510*	185 *610*	220 *720*	240 *790*	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	200 *660*	215 *710*	— —	— —	— —	— —	— —
K5	85 *280*	95 *310*	110 *360*	135 *445*	145 *475*	— —	— —	— —	— —	— —	80 *260*	85 *280*	100 *330*	120 *395*	130 *425*	— —	— —	— —	— —	— —
K6	125 *410*	135 *445*	165 *540*	190 *620*	210 *690*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	175 *570*	190 *620*	— —	— —	— —	— —	— —
K7	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*	— —	— —	— —	— —	— —	100 *330*	110 *360*	130 *425*	155 *510*	170 *560*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1350 *4425*	1450 *4750*	1775 *5825*	2075 *6800*	2250 *7375*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	720 *2350*	840 *2750*	910 *2975*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	480 *1575*	560 *1825*	600 *1975*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	415 *1350*	450 *1475*	550 *1800*	640 *2100*	690 *2275*	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	49 *160*	50 *165*	60 *195*	65 *215*	75 *245*	28 *90*	29 *95*	33 *110*	38 *125*	41 *135*
S2	— —	— —	— —	— —	— —	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	40 *130*	41 *135*	48 *155*	55 *180*	60 *195*	22 *70*	23 *75*	27 *90*	30 *100*	33 *110*
S3	— —	— —	— —	— —	— —	40 *130*	42 *140*	49 *160*	55 *180*	60 *195*	35 *115*	36 *120*	42 *140*	47 *155*	50 *165*	20 *65*	20 *65*	23 *75*	27 *90*	29 *95*
S11	— —	— —	— —	— —	— —	75 *245*	85 *280*	95 *310*	110 *360*	120 *395*	65 *215*	70 *230*	80 *260*	95 *310*	105 *345*	37 *120*	40 *130*	46 *150*	55 *180*	60 *195*
S12	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	85 *280*	46 *150*	49 *160*	55 *180*	65 *215*	70 *230*	35 *115*	37 *120*	42 *140*	49 *160*	55 *180*
S13	— —	— —	— —	— —	— —	32 *105*	34 *110*	39 *130*	44 *145*	48 *155*	28 *90*	28 *90*	33 *110*	38 *125*	41 *135*	21 *70*	21 *70*	25 *80*	28 *90*	31 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	42 *140*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	70 *230*	80 *260*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*	— —	— —	— —	— —	— —

R218.20-125 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
P2	218.20-125ER-M07 F40M	13,0 *0.50*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
P3	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
P4	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
P5	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P6	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P7	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P8	218.20-125ER-M07 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*	0,22 *0.0085*
P11	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
P12	218.20-125ER-M07 F40M	11,0 *0.44*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
M1	218.20-125ER-ME07 MS2050	13,0 *0.50*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
M2	218.20-125ER-ME07 MS2050	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
M3	218.20-125ER-ME07 MS2050	11,0 *0.44*	0,080 *0.0032*	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*	0,18 *0.0070*
M4	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
M5	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
K1	218.20-125ER-M07 F40M	13,0 *0.50*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 *0.0065*	0,24 *0.0095*
K2	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K3	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K4	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K5	218.20-125ER-M07 F40M	13,0 *0.50*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*	0,20 *0.0080*
K6	218.20-125ER-M07 F40M	13,0 *0.50*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 *0.0085*
K7	218.20-125ER-M07 F40M	13,0 *0.50*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,14 *0.0055*	0,20 *0.0080*
N1	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*	0,30 *0.012*
N2	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*	0,30 *0.012*
N3	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*	0,30 *0.012*
N11	218.20-125ER-ME07 F40M	13,0 *0.50*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,22 *0.0085*	0,30 *0.012*
S1	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
S2	218.20-125ER-ME07 F40M	8,0 *0.32*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
S3	218.20-125ER-ME07 F40M	8,0 *0.32*	0,070 *0.0028*	0,070 *0.0028*	0,070 *0.0028*	0,11 *0.0044*	0,14 *0.0060*
S11	218.20-125ER-ME07 MS2050	9,0 *0.36*	0,085 *0.0034*	0,085 *0.0034*	0,085 *0.0034*	0,13 *0.0050*	0,18 *0.0070*
S12	218.20-125ER-ME07 MS2050	9,0 *0.36*	0,085 *0.0034*	0,085 *0.0034*	0,085 *0.0034*	0,13 *0.0050*	0,18 *0.0070*
S13	218.20-125ER-ME07 MS2050	8,0 *0.32*	0,075 *0.0030*	0,075 *0.0030*	0,075 *0.0030*	0,11 *0.0044*	0,16 *0.0065*
H5	218.20-125ER-M07 F40M	11,0 *0.44*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
H8	218.20-125ER-M07 F40M	9,0 *0.36*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,085 *0.0034*	0,12 *0.0048*
H11	218.20-125ER-M07 F40M	11,0 *0.44*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 *0.0060*
H12	218.20-125ER-M07 F40M	9,0 *0.36*	0,055 *0.0022*	0,055 *0.0022*	0,055 *0.0022*	0,085 *0.0034*	0,12 *0.0048*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-125 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F25M					MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	260 *850*	285 *940*	340 *1125*	400 *1300*	435 *1425*	280 *920*	305 *1000*	365 *1200*	430 *1400*	470 *1550*	240 *790*	255 *840*	310 *1025*	365 *1200*	395 *1300*	205 *670*	225 *740*	270 *890*	320 *1050*	345 *1125*
P2	250 *820*	270 *890*	330 *1075*	390 *1275*	425 *1400*	270 *890*	290 *950*	355 *1175*	420 *1375*	455 *1500*	225 *740*	245 *800*	300 *980*	355 *1175*	385 *1275*	200 *660*	215 *710*	265 *870*	310 *1025*	335 *1100*
P3	220 *720*	235 *770*	285 *940*	340 *1125*	370 *1225*	235 *770*	255 *840*	305 *1000*	365 *1200*	400 *1300*	200 *660*	215 *710*	260 *850*	310 *1025*	340 *1125*	175 *570*	190 *620*	225 *740*	270 *890*	295 *970*
P4	195 *640*	210 *690*	250 *820*	300 *980*	325 *1075*	210 *690*	225 *740*	270 *890*	320 *1050*	350 *1150*	175 *570*	190 *620*	230 *750*	270 *890*	300 *980*	155 *510*	165 *540*	200 *660*	240 *790*	260 *850*
P5	185 *610*	200 *660*	245 *800*	285 *940*	315 *1025*	200 *660*	215 *710*	265 *870*	310 *1025*	335 *1100*	170 *560*	185 *610*	225 *740*	260 *850*	285 *940*	150 *490*	160 *520*	195 *640*	225 *740*	250 *820*
P6	210 *690*	225 *740*	275 *900*	320 *1050*	350 *1150*	225 *740*	245 *800*	295 *970*	345 *1125*	375 *1225*	190 *620*	205 *670*	250 *820*	290 *950*	320 *1050*	165 *540*	180 *590*	220 *720*	255 *840*	280 *920*
P7	200 *660*	215 *710*	260 *850*	305 *1000*	330 *1075*	215 *710*	230 *750*	280 *920*	325 *1075*	355 *1175*	180 *590*	195 *640*	235 *770*	275 *900*	300 *980*	155 *510*	170 *560*	205 *670*	240 *790*	260 *850*
P8	185 *610*	200 *660*	240 *790*	285 *940*	315 *1025*	200 *660*	215 *710*	260 *850*	310 *1025*	335 *1100*	170 *560*	180 *590*	220 *720*	260 *850*	285 *940*	145 *475*	160 *520*	190 *620*	225 *740*	250 *820*
P11	190 *620*	210 *690*	250 *820*	295 *970*	320 *1050*	205 *670*	225 *740*	270 *890*	315 *1025*	345 *1125*	175 *570*	190 *620*	230 *750*	270 *890*	290 *950*	150 *490*	165 *540*	200 *660*	235 *770*	255 *840*
P12	130 *425*	140 *460*	165 *540*	185 *610*	205 *670*	140 *460*	150 *490*	175 *570*	200 *660*	220 *720*	115 *375*	125 *410*	150 *490*	170 *560*	185 *610*	100 *330*	110 *360*	130 *425*	150 *490*	160 *520*
M1	— —	— —	— —	— —	— —	215 *710*	235 *770*	285 *940*	340 *1125*	370 *1225*	185 *610*	195 *640*	245 *800*	285 *940*	310 *1025*	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*
M2	— —	— —	— —	— —	— —	180 *590*	195 *640*	235 *770*	275 *900*	305 *1000*	155 *510*	165 *540*	200 *660*	235 *770*	255 *840*	140 *460*	155 *510*	185 *610*	215 *710*	235 *770*
M3	— —	— —	— —	— —	— —	150 *490*	160 *520*	190 *620*	220 *720*	245 *800*	125 *410*	135 *445*	160 *520*	185 *610*	205 *670*	120 *395*	125 *410*	150 *490*	175 *570*	190 *620*
M4	— —	— —	— —	— —	— —	120 *395*	130 *425*	150 *490*	170 *560*	185 *610*	105 *345*	110 *360*	125 *410*	145 *475*	155 *510*	95 *310*	100 *330*	115 *375*	135 *445*	145 *475*
M5	— —	— —	— —	— —	— —	100 *330*	105 *345*	125 *410*	140 *460*	155 *510*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	80 *260*	85 *280*	100 *330*	110 *360*	120 *395*
K1	195 *640*	215 *710*	265 *870*	310 *1025*	335 *1100*	— —	— —	— —	— —	— —	180 *590*	195 *640*	240 *790*	280 *920*	305 *1000*	— —	— —	— —	— —	— —
K2	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	245 *800*	270 *890*	— —	— —	— —	— —	— —
K3	150 *490*	160 *520*	195 *640*	230 *750*	250 *820*	— —	— —	— —	— —	— —	135 *445*	145 *475*	180 *590*	210 *690*	230 *750*	— —	— —	— —	— —	— —
K4	145 *475*	155 *510*	190 *620*	220 *720*	240 *790*	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	200 *660*	220 *720*	— —	— —	— —	— —	— —
K5	85 *280*	95 *310*	115 *375*	135 *445*	145 *475*	— —	— —	— —	— —	— —	80 *260*	85 *280*	105 *345*	120 *395*	130 *425*	— —	— —	— —	— —	— —
K6	125 *410*	135 *445*	165 *540*	195 *640*	210 *690*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	175 *570*	190 *620*	— —	— —	— —	— —	— —
K7	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*	— —	— —	— —	— —	— —	100 *330*	110 *360*	130 *425*	155 *510*	170 *560*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1375 *4500*	1475 *4850*	1750 *5750*	2100 *6900*	2300 *7550*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	550 *1800*	590 *1925*	710 *2325*	850 *2800*	930 *3050*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	475 *1550*	560 *1825*	620 *2025*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	420 *1375*	450 *1475*	540 *1775*	650 *2125*	710 *2325*	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	48 *155*	50 *165*	60 *195*	65 *215*	75 *245*	29 *95*	31 *100*	36 *120*	41 *135*	45 *150*
S2	— —	— —	— —	— —	— —	46 *150*	48 *155*	55 *180*	65 *215*	70 *230*	39 *130*	41 *135*	47 *155*	55 *180*	60 *195*	24 *80*	25 *80*	29 *95*	33 *110*	36 *120*
S3	— —	— —	— —	— —	— —	40 *130*	42 *140*	49 *160*	55 *180*	60 *195*	34 *110*	36 *120*	41 *135*	47 *155*	50 *165*	21 *70*	22 *70*	25 *80*	29 *95*	31 *100*
S11	— —	— —	— —	— —	— —	80 *260*	85 *280*	95 *310*	110 *360*	125 *410*	65 *215*	70 *230*	80 *260*	95 *310*	105 *345*	40 *130*	43 *140*	50 *165*	55 *180*	65 *215*
S12	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	85 *280*	46 *150*	48 *155*	55 *180*	65 *215*	70 *230*	37 *120*	39 *130*	46 *150*	55 *180*	60 *195*
S13	— —	— —	— —	— —	— —	32 *105*	34 *110*	39 *130*	45 *150*	49 *160*	27 *90*	28 *90*	33 *110*	38 *125*	41 *135*	22 *70*	23 *75*	27 *90*	31 *100*	34 *110*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	39 *130*	42 *140*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	70 *230*	80 *260*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*	— —	— —	— —	— —	— —

R218.20-150 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
P2	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P3	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P4	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P6	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P7	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P8	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P11	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P12	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 *0.85*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
M1	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	26,0 *1.0*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
M2	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,22 0.0085
M3	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	21,0 *0.85*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 0.0048	0,17 0.0065
M4	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
M5	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
K1	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
K2	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K3	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K4	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
K6	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K7	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
N1	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
N2	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
N3	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
N11	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,44 0.017
S1	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S2	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S3	218.20-150ER-ME07 F40M	SPMT100408T-M08 F40M	16,0 *0.65*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
S11	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	18,0 *0.70*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,13 0.0050	0,17 0.0065
S12	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	18,0 *0.70*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,13 0.0050	0,17 0.0065
S13	218.20-150ER-ME07 MS2050	SPMT100408T-M08 F40M	16,0 *0.65*	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 0.0044	0,15 0.0060
H5	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 *0.85*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
H8	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,12 0.0048	0,16 0.0065
H11	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	21,0 *0.85*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
H12	218.20-150ER-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,12 0.0048	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-150 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	270 *890*	290 *950*	350 *1150*	415 *1350*	450 *1475*	210 *690*	225 *740*	275 *900*	325 *1075*	355 *1175*	170 *560*	180 *590*	225 *740*	265 *870*	285 *940*
P2	255 *840*	280 *920*	340 *1125*	405 *1325*	435 *1425*	205 *670*	220 *720*	265 *870*	315 *1025*	345 *1125*	165 *540*	180 *590*	215 *710*	255 *840*	280 *920*
P3	225 *740*	245 *800*	295 *970*	350 *1150*	385 *1275*	180 *590*	190 *620*	235 *770*	275 *900*	300 *980*	145 *475*	155 *510*	190 *620*	220 *720*	245 *800*
P4	200 *660*	215 *710*	260 *850*	310 *1025*	335 *1100*	155 *510*	170 *560*	205 *670*	240 *790*	265 *870*	125 *410*	135 *445*	165 *540*	195 *640*	215 *710*
P5	190 *620*	210 *690*	255 *840*	295 *970*	320 *1050*	150 *490*	160 *520*	195 *640*	235 *770*	255 *840*	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*
P6	215 *710*	235 *770*	285 *940*	330 *1075*	360 *1175*	170 *560*	180 *590*	220 *720*	265 *870*	285 *940*	135 *445*	145 *475*	180 *590*	215 *710*	230 *750*
P7	205 *670*	220 *720*	270 *890*	315 *1025*	340 *1125*	160 *520*	170 *560*	210 *690*	250 *820*	270 *890*	130 *425*	140 *460*	170 *560*	200 *660*	215 *710*
P8	190 *620*	205 *670*	245 *800*	295 *970*	320 *1050*	150 *490*	160 *520*	195 *640*	230 *750*	255 *840*	120 *395*	130 *425*	160 *520*	185 *610*	205 *670*
P11	200 *660*	215 *710*	260 *850*	305 *1000*	330 *1075*	155 *510*	165 *540*	200 *660*	240 *790*	260 *850*	125 *410*	135 *445*	165 *540*	195 *640*	210 *690*
P12	130 *425*	140 *460*	165 *540*	195 *640*	210 *690*	105 *345*	115 *375*	135 *445*	155 *510*	165 *540*	85 *280*	90 *295*	110 *360*	125 *410*	135 *445*
M1	205 *670*	225 *740*	275 *900*	325 *1075*	350 *1150*	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	140 *460*	150 *490*	185 *610*	220 *720*	240 *790*
M2	175 *570*	185 *610*	225 *740*	265 *870*	290 *950*	135 *445*	145 *475*	175 *570*	210 *690*	230 *750*	115 *375*	125 *410*	155 *510*	185 *610*	195 *640*
M3	145 *475*	155 *510*	180 *590*	210 *690*	235 *770*	115 *375*	125 *410*	145 *475*	170 *560*	185 *610*	100 *330*	105 *345*	125 *410*	145 *475*	160 *520*
M4	115 *375*	125 *410*	140 *460*	165 *540*	180 *590*	95 *310*	100 *330*	115 *375*	130 *425*	140 *460*	80 *260*	85 *280*	100 *330*	110 *360*	120 *395*
M5	100 *330*	105 *345*	120 *395*	135 *445*	150 *490*	80 *260*	85 *280*	95 *310*	110 *360*	120 *395*	70 *230*	70 *230*	85 *280*	95 *310*	100 *330*
K1	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	250 *820*	275 *900*	— —	— —	— —	— —	— —
K2	— —	— —	— —	— —	— —	140 *460*	155 *510*	185 *610*	225 *740*	240 *790*	— —	— —	— —	— —	— —
K3	— —	— —	— —	— —	— —	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	— —	— —	— —	— —	— —
K4	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	180 *590*	195 *640*	— —	— —	— —	— —	— —
K5	— —	— —	— —	— —	— —	70 *230*	75 *245*	95 *310*	110 *360*	120 *395*	— —	— —	— —	— —	— —
K6	— —	— —	— —	— —	— —	100 *330*	110 *360*	135 *445*	160 *520*	170 *560*	— —	— —	— —	— —	— —
K7	— —	— —	— —	— —	— —	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	1200 *3925*	1275 *4175*	1575 *5175*	1850 *6075*	2025 *6650*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	480 *1575*	520 *1700*	640 *2100*	750 *2450*	820 *2700*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	320 *1050*	345 *1125*	425 *1400*	500 *1650*	540 *1775*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	485 *1600*	570 *1875*	620 *2025*	— —	— —	— —	— —	— —
S1	55 *180*	55 *180*	65 *215*	75 *245*	85 *280*	44 *145*	46 *150*	55 *180*	60 *195*	65 *215*	25 *80*	26 *85*	30 *100*	34 *110*	37 *120*
S2	44 *145*	46 *150*	55 *180*	60 *195*	65 *215*	36 *120*	37 *120*	43 *140*	49 *160*	55 *180*	20 *65*	21 *70*	24 *80*	28 *90*	30 *100*
S3	38 *125*	40 *130*	47 *155*	55 *180*	60 *195*	31 *100*	32 *105*	38 *125*	43 *140*	47 *155*	18 *60*	18 *60*	21 *70*	24 *80*	26 *85*
S11	75 *245*	80 *260*	90 *295*	105 *345*	120 *395*	60 *195*	60 *195*	75 *245*	85 *280*	95 *310*	34 *110*	35 *115*	41 *135*	48 *155*	55 *180*
S12	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	41 *135*	43 *140*	50 *165*	60 *195*	65 *215*	31 *100*	33 *110*	38 *125*	45 *150*	49 *160*
S13	31 *100*	32 *105*	37 *120*	43 *140*	47 *155*	25 *80*	26 *85*	30 *100*	34 *110*	37 *120*	19 *60*	20 *65*	23 *75*	26 *85*	28 *90*
H5	— —	— —	— —	— —	— —	35 *115*	38 *125*	44 *145*	50 *165*	55 *180*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	39 *130*	40 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	45 *150*	48 *155*	55 *180*	65 *215*	70 *230*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	70 *230*	70 *230*	85 *280*	95 *310*	105 *345*	— —	— —	— —	— —	— —

R218.20-160 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P2	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P3	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P4	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P6	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P7	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P8	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,22 0.0085	0,32 0.013
P11	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
P12	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
M1	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	32,0 *1.3*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
M2	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	32,0 *1.3*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
M3	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	26,0 *1.0*	0,085 *0.0034*	0,085 *0.0034*	0,090 *0.0036*	0,14 0.0055	0,19 0.0075
M4	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
M5	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
K1	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
K2	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K3	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K4	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
K6	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K7	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
N1	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
N2	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
N3	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
N11	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	32,0 *1.3*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
S1	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S2	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S3	218.20-160ER-ME08 F40M	SPMT100408T-M08 F40M	19,0 *0.75*	0,085 *0.0034*	0,085 *0.0034*	0,095 *0.0038*	0,15 0.0055	0,20 0.0080
S11	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	23,0 *0.90*	0,085 *0.0034*	0,085 *0.0034*	0,090 *0.0036*	0,14 0.0055	0,20 0.0080
S12	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	23,0 *0.90*	0,085 *0.0034*	0,085 *0.0034*	0,090 *0.0036*	0,14 0.0055	0,20 0.0080
S13	218.20-160ER-ME08 MS2050	SPMT100408T-M08 F40M	19,0 *0.75*	0,075 *0.0030*	0,075 *0.0030*	0,080 *0.0032*	0,12 0.0048	0,17 0.0065
H5	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
H8	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	23,0 *0.90*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,16 0.0065
H11	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	26,0 *1.0*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,15 0.0060	0,20 0.0080
H12	218.20-160ER-M08 F40M	SPMT100408T-M08 F40M	23,0 *0.90*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,16 0.0065

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-160 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F25M					MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	230 *750*	250 *820*	300 *980*	360 *1175*	390 *1275*	260 *850*	280 *920*	340 *1125*	405 *1325*	435 *1425*	210 *690*	225 *740*	275 *900*	325 *1075*	355 *1175*	180 *590*	195 *640*	235 *770*	280 *920*	305 *1000*
P2	225 *740*	240 *790*	295 *970*	345 *1125*	380 *1250*	250 *820*	270 *890*	330 *1075*	390 *1275*	425 *1400*	205 *670*	220 *720*	270 *890*	315 *1025*	345 *1125*	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*
P3	195 *640*	210 *690*	260 *850*	300 *980*	330 *1075*	220 *720*	240 *790*	290 *950*	340 *1125*	370 *1225*	180 *590*	190 *620*	235 *770*	275 *900*	300 *980*	155 *510*	165 *540*	200 *660*	235 *770*	260 *850*
P4	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*	195 *640*	210 *690*	255 *840*	300 *980*	330 *1075*	155 *510*	170 *560*	205 *670*	240 *790*	265 *870*	135 *445*	145 *475*	175 *570*	210 *690*	230 *750*
P5	165 *540*	180 *590*	215 *710*	260 *850*	280 *920*	185 *610*	200 *660*	245 *800*	290 *950*	315 *1025*	150 *490*	160 *520*	195 *640*	235 *770*	255 *840*	130 *425*	140 *460*	170 *560*	205 *670*	220 *720*
P6	185 *610*	200 *660*	245 *800*	290 *950*	315 *1025*	210 *690*	225 *740*	270 *890*	325 *1075*	350 *1150*	170 *560*	180 *590*	220 *720*	265 *870*	285 *940*	145 *475*	155 *510*	190 *620*	225 *740*	245 *800*
P7	175 *570*	190 *620*	230 *750*	275 *900*	295 *970*	195 *640*	215 *710*	255 *840*	305 *1000*	330 *1075*	160 *520*	170 *560*	210 *690*	250 *820*	270 *890*	135 *445*	145 *475*	180 *590*	215 *710*	230 *750*
P8	165 *540*	180 *590*	215 *710*	255 *840*	280 *920*	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*	150 *490*	160 *520*	195 *640*	230 *750*	255 *840*	130 *425*	140 *460*	170 *560*	200 *660*	220 *720*
P11	170 *560*	185 *610*	225 *740*	265 *870*	285 *940*	190 *620*	205 *670*	250 *820*	295 *970*	325 *1075*	155 *510*	165 *540*	205 *670*	240 *790*	260 *850*	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*
P12	120 *395*	125 *410*	145 *475*	170 *560*	185 *610*	130 *425*	140 *460*	165 *540*	190 *620*	205 *670*	105 *345*	115 *375*	135 *445*	155 *510*	170 *560*	90 *295*	100 *330*	115 *375*	135 *445*	145 *475*
M1	— —	— —	— —	— —	— —	205 *670*	220 *720*	265 *870*	315 *1025*	340 *1125*	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	150 *490*	160 *520*	200 *660*	235 *770*	255 *840*
M2	— —	— —	— —	— —	— —	165 *540*	180 *590*	220 *720*	260 *850*	280 *920*	135 *445*	145 *475*	175 *570*	210 *690*	230 *750*	125 *410*	135 *445*	160 *520*	195 *640*	210 *690*
M3	— —	— —	— —	— —	— —	145 *475*	150 *490*	180 *590*	210 *690*	225 *740*	115 *375*	125 *410*	145 *475*	170 *560*	185 *610*	105 *345*	115 *375*	135 *445*	155 *510*	170 *560*
M4	— —	— —	— —	— —	— —	115 *375*	120 *395*	140 *460*	160 *520*	175 *570*	95 *310*	100 *330*	115 *375*	130 *425*	140 *460*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*
M5	— —	— —	— —	— —	— —	95 *310*	100 *330*	115 *375*	130 *425*	145 *475*	80 *260*	80 *260*	95 *310*	110 *360*	120 *395*	70 *230*	75 *245*	85 *280*	100 *330*	110 *360*
K1	175 *570*	190 *620*	235 *770*	275 *900*	300 *980*	— —	— —	— —	— —	— —	160 *520*	175 *570*	210 *690*	250 *820*	275 *900*	— —	— —	— —	— —	— —
K2	155 *510*	170 *560*	205 *670*	245 *800*	265 *870*	— —	— —	— —	— —	— —	140 *460*	155 *510*	185 *610*	225 *740*	240 *790*	— —	— —	— —	— —	— —
K3	130 *425*	145 *475*	175 *570*	210 *690*	225 *740*	— —	— —	— —	— —	— —	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	— —	— —	— —	— —	— —
K4	125 *410*	135 *445*	165 *540*	200 *660*	215 *710*	— —	— —	— —	— —	— —	115 *375*	125 *410*	150 *490*	180 *590*	195 *640*	— —	— —	— —	— —	— —
K5	80 *260*	85 *280*	100 *330*	120 *395*	130 *425*	— —	— —	— —	— —	— —	70 *230*	75 *245*	95 *310*	110 *360*	120 *395*	— —	— —	— —	— —	— —
K6	110 *360*	120 *395*	145 *475*	175 *570*	190 *620*	— —	— —	— —	— —	— —	100 *330*	110 *360*	135 *445*	160 *520*	170 *560*	— —	— —	— —	— —	— —
K7	100 *330*	110 *360*	130 *425*	155 *510*	170 *560*	— —	— —	— —	— —	— —	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1200 *3925*	1275 *4175*	1575 *5175*	1850 *6075*	2025 *6650*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	480 *1575*	520 *1700*	640 *2100*	750 *2450*	820 *2700*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	320 *1050*	345 *1125*	425 *1400*	500 *1650*	540 *1775*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	365 *1200*	395 *1300*	485 *1600*	570 *1875*	620 *2025*	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	44 *145*	46 *150*	55 *180*	60 *195*	65 *215*	26 *85*	28 *90*	32 *105*	36 *120*	40 *130*
S2	— —	— —	— —	— —	— —	43 *140*	45 *150*	55 *180*	60 *195*	65 *215*	35 *115*	37 *120*	43 *140*	49 *160*	55 *180*	21 *70*	22 *70*	26 *85*	29 *95*	32 *105*
S3	— —	— —	— —	— —	— —	38 *125*	40 *130*	46 *150*	50 *165*	55 *180*	31 *100*	32 *105*	38 *125*	43 *140*	47 *155*	19 *60*	19 *60*	23 *75*	26 *85*	28 *90*
S11	— —	— —	— —	— —	— —	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*	60 *195*	65 *215*	75 *245*	85 *280*	95 *310*	36 *120*	38 *125*	45 *150*	50 *165*	55 *180*
S12	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	75 *245*	80 *260*	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	33 *110*	35 *115*	41 *135*	47 *155*	50 *165*
S13	— —	— —	— —	— —	— —	30 *100*	31 *100*	37 *120*	42 *140*	46 *150*	25 *80*	26 *85*	30 *100*	34 *110*	37 *120*	20 *65*	21 *70*	24 *80*	27 *90*	30 *100*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	35 *115*	38 *125*	44 *145*	50 *165*	55 *180*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	38 *125*	41 *135*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	48 *155*	55 *180*	65 *215*	70 *230*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	70 *230*	75 *245*	85 *280*	95 *310*	105 *345*	— —	— —	— —	— —	— —

R218.20-200 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.018
P2	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P3	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P4	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P6	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P7	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P8	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P11	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P12	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M1	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	36,0 *1.4*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
M2	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	36,0 *1.4*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M3	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	29,0 *1.1*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,24 0.0095
M4	218.20-200ER-ME10 F40M	SCET120612T-ME10 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M5	218.20-200ER-ME10 F40M	SCET120612T-ME10 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K1	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
K2	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K3	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K4	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
K6	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K7	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	36,0 *1.4*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
N1	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
N2	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
N3	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
N11	218.20-200ER-ME10 F40M	SCET120612T-M14 HX	36,0 *1.4*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,44 0.017	0,60 0.024
S1	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S2	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0 *0.85*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S3	218.20-200ER-ME10 F40M	SCET120612T-M14 F40M	22,0 *0.85*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
S11	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	25,0 *1.0*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,25 0.010
S12	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	25,0 *1.0*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,25 0.010
S13	218.20-200ER-ME10 MS2050	SCET120612T-ME10 MS2050	22,0 *0.85*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
H5	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	25,0 *1.0*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085
H11	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.20-200ER-M10 F40M	SCET120612T-M14 F40M	25,0 *1.0*	0,095 *0.0038*	0,095 *0.0038*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-200 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	245 *800*	265 *870*	320 *1050*	385 *1275*	415 *1350*	195 *640*	210 *690*	255 *840*	300 *980*	325 *1075*	165 *540*	180 *590*	220 *720*	260 *850*	280 *920*
P2	240 *790*	255 *840*	315 *1025*	370 *1225*	405 *1325*	185 *610*	195 *640*	245 *800*	290 *950*	315 *1025*	160 *520*	170 *560*	210 *690*	250 *820*	270 *890*
P3	210 *690*	225 *740*	275 *900*	320 *1050*	355 *1175*	160 *520*	175 *570*	210 *690*	255 *840*	275 *900*	140 *460*	150 *490*	180 *590*	220 *720*	235 *770*
P4	185 *610*	200 *660*	240 *790*	290 *950*	310 *1025*	145 *475*	155 *510*	185 *610*	225 *740*	245 *800*	125 *410*	130 *425*	160 *520*	195 *640*	210 *690*
P5	175 *570*	190 *620*	230 *750*	275 *900*	295 *970*	140 *460*	150 *490*	185 *610*	215 *710*	235 *770*	120 *395*	130 *425*	160 *520*	185 *610*	200 *660*
P6	195 *640*	215 *710*	260 *850*	310 *1025*	340 *1125*	155 *510*	165 *540*	205 *670*	240 *790*	265 *870*	135 *445*	145 *475*	175 *570*	205 *670*	225 *740*
P7	185 *610*	200 *660*	245 *800*	290 *950*	320 *1050*	145 *475*	160 *520*	195 *640*	225 *740*	250 *820*	125 *410*	135 *445*	165 *540*	195 *640*	215 *710*
P8	175 *570*	190 *620*	230 *750*	270 *890*	295 *970*	135 *445*	145 *475*	180 *590*	215 *710*	230 *750*	115 *375*	125 *410*	155 *510*	185 *610*	200 *660*
P11	180 *590*	195 *640*	235 *770*	285 *940*	310 *1025*	140 *460*	155 *510*	190 *620*	220 *720*	240 *790*	120 *395*	130 *425*	160 *520*	190 *620*	210 *690*
P12	125 *410*	135 *445*	155 *510*	180 *590*	195 *640*	95 *310*	105 *345*	125 *410*	145 *475*	155 *510*	85 *280*	90 *295*	105 *345*	125 *410*	135 *445*
M1	190 *620*	205 *670*	255 *840*	300 *980*	325 *1075*	150 *490*	160 *520*	200 *660*	235 *770*	255 *840*	135 *445*	145 *475*	180 *590*	215 *710*	235 *770*
M2	160 *520*	170 *560*	210 *690*	250 *820*	265 *870*	125 *410*	135 *445*	165 *540*	195 *640*	210 *690*	115 *375*	125 *410*	150 *490*	175 *570*	195 *640*
M3	135 *445*	145 *475*	170 *560*	200 *660*	215 *710*	105 *345*	115 *375*	135 *445*	155 *510*	170 *560*	95 *310*	105 *345*	120 *395*	145 *475*	155 *510*
M4	110 *360*	115 *375*	135 *445*	150 *490*	165 *540*	85 *280*	90 *295*	105 *345*	120 *395*	135 *445*	80 *260*	80 *260*	95 *310*	110 *360*	120 *395*
M5	90 *295*	95 *310*	110 *360*	125 *410*	140 *460*	70 *230*	75 *245*	90 *295*	100 *330*	110 *360*	65 *215*	70 *230*	80 *260*	95 *310*	100 *330*
K1	— —	— —	— —	— —	— —	145 *475*	155 *510*	195 *640*	230 *750*	250 *820*	— —	— —	— —	— —	— —
K2	— —	— —	— —	— —	— —	130 *425*	140 *460*	175 *570*	205 *670*	220 *720*	— —	— —	— —	— —	— —
K3	— —	— —	— —	— —	— —	110 *360*	120 *395*	145 *475*	170 *560*	190 *620*	— —	— —	— —	— —	— —
K4	— —	— —	— —	— —	— —	105 *345*	115 *375*	140 *460*	165 *540*	180 *590*	— —	— —	— —	— —	— —
K5	— —	— —	— —	— —	— —	65 *215*	70 *230*	85 *280*	100 *330*	110 *360*	— —	— —	— —	— —	— —
K6	— —	— —	— —	— —	— —	95 *310*	100 *330*	125 *410*	145 *475*	160 *520*	— —	— —	— —	— —	— —
K7	— —	— —	— —	— —	— —	85 *280*	90 *295*	110 *360*	130 *425*	140 *460*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	1100 *3600*	1175 *3850*	1450 *4750*	1700 *5575*	1850 *6075*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	440 *1450*	470 *1550*	580 *1900*	690 *2275*	750 *2450*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	295 *970*	315 *1025*	385 *1275*	455 *1500*	500 *1650*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	335 *1100*	360 *1175*	445 *1450*	520 *1700*	570 *1875*	— —	— —	— —	— —	— —
S1	50 *165*	55 *180*	60 *195*	70 *230*	80 *260*	40 *130*	42 *140*	49 *160*	55 *180*	60 *195*	24 *80*	25 *80*	30 *100*	34 *110*	37 *120*
S2	41 *135*	43 *140*	50 *165*	55 *180*	65 *215*	32 *105*	33 *110*	40 *130*	46 *150*	50 *165*	20 *65*	20 *65*	24 *80*	27 *90*	30 *100*
S3	36 *120*	38 *125*	44 *145*	50 *165*	55 *180*	28 *90*	30 *100*	35 *115*	40 *130*	44 *145*	17 *55*	18 *60*	21 *70*	24 *80*	26 *85*
S11	70 *230*	75 *245*	85 *280*	100 *330*	110 *360*	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	33 *110*	35 *115*	41 *135*	48 *155*	50 *165*
S12	48 *155*	50 *165*	60 *195*	70 *230*	75 *245*	38 *125*	40 *130*	47 *155*	55 *180*	60 *195*	31 *100*	32 *105*	38 *125*	44 *145*	47 *155*
S13	29 *95*	30 *100*	35 *115*	40 *130*	44 *145*	23 *75*	23 *75*	28 *90*	32 *105*	35 *115*	18 *60*	19 *60*	22 *70*	26 *85*	28 *90*
H5	— —	— —	— —	— —	— —	32 *105*	34 *110*	41 *135*	48 *155*	50 *165*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	35 *115*	37 *120*	44 *145*	50 *165*	55 *180*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	65 *215*	65 *215*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	— —

R218.20-250 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.018
P2	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.019
P3	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P4	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P6	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P7	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P8	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
P11	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
P12	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M1	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	42,0 *1.7*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,28 0.011	0,40 0.016
M2	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	42,0 *1.7*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
M3	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
M4	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
M5	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
K1	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,46 0.019
K2	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K3	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K4	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
K6	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,30 0.012	0,42 0.017
K7	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	42,0 *1.7*	0,16 *0.0065*	0,16 *0.0065*	0,18 *0.0070*	0,28 0.011	0,38 0.015
N1	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
N2	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
N3	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
N11	218.20-250ER-ME12 F40M	SCET120612T-M14 HX	42,0 *1.7*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
S1	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S2	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S3	218.20-250ER-ME12 F40M	SCET120612T-ME10 F40M	25,0 *1.0*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,18 0.0070	0,24 0.0095
S11	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S12	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	29,0 *1.1*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S13	218.20-250ER-ME12 MS2050	SCET120612T-ME10 MS2050	25,0 *1.0*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
H5	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085
H11	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	34,0 *1.3*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.20-250TR-M14 F40M	SCET120612T-M14 F40M	29,0 *1.1*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085

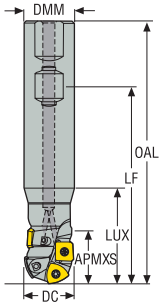
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.20-250 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050					F40M					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	210 *690*	230 *750*	280 *920*	335 *1100*	360 *1175*	170 *560*	185 *610*	230 *750*	270 *890*	295 *970*	155 *510*	170 *560*	210 *690*	245 *800*	265 *870*
P2	205 *670*	225 *740*	270 *890*	325 *1075*	350 *1150*	165 *540*	180 *590*	220 *720*	265 *870*	285 *940*	150 *490*	165 *540*	200 *660*	240 *790*	255 *840*
P3	180 *590*	195 *640*	235 *770*	280 *920*	305 *1000*	145 *475*	160 *520*	195 *640*	230 *750*	250 *820*	130 *425*	145 *475*	175 *570*	205 *670*	225 *740*
P4	160 *520*	170 *560*	210 *690*	250 *820*	270 *890*	130 *425*	140 *460*	175 *570*	205 *670*	220 *720*	115 *375*	125 *410*	155 *510*	185 *610*	195 *640*
P5	150 *490*	165 *540*	200 *660*	240 *790*	260 *850*	125 *410*	135 *445*	165 *540*	195 *640*	215 *710*	110 *360*	120 *395*	150 *490*	175 *570*	190 *620*
P6	170 *560*	185 *610*	225 *740*	270 *890*	290 *950*	140 *460*	150 *490*	185 *610*	220 *720*	240 *790*	125 *410*	135 *445*	165 *540*	200 *660*	215 *710*
P7	160 *520*	175 *570*	215 *710*	255 *840*	275 *900*	130 *425*	145 *475*	175 *570*	210 *690*	225 *740*	120 *395*	130 *425*	160 *520*	185 *610*	200 *660*
P8	150 *490*	165 *540*	200 *660*	235 *770*	255 *840*	125 *410*	135 *445*	165 *540*	195 *640*	210 *690*	110 *360*	120 *395*	145 *475*	175 *570*	190 *620*
P11	155 *510*	170 *560*	210 *690*	245 *800*	265 *870*	130 *425*	140 *460*	170 *560*	205 *670*	220 *720*	115 *375*	125 *410*	155 *510*	180 *590*	195 *640*
P12	105 *345*	110 *360*	135 *445*	160 *520*	170 *560*	85 *280*	90 *295*	110 *360*	135 *445*	145 *475*	75 *245*	85 *280*	100 *330*	115 *375*	125 *410*
M1	165 *540*	180 *590*	220 *720*	260 *850*	280 *920*	135 *445*	145 *475*	180 *590*	210 *690*	230 *750*	130 *425*	140 *460*	170 *560*	205 *670*	220 *720*
M2	135 *445*	150 *490*	180 *590*	215 *710*	235 *770*	110 *360*	120 *395*	150 *490*	175 *570*	190 *620*	105 *345*	115 *375*	140 *460*	170 *560*	185 *610*
M3	110 *360*	120 *395*	145 *475*	170 *560*	185 *610*	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	90 *295*	95 *310*	115 *375*	135 *445*	145 *475*
M4	95 *310*	100 *330*	115 *375*	135 *445*	145 *475*	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*	75 *245*	80 *260*	90 *295*	105 *345*	115 *375*
M5	75 *245*	85 *280*	95 *310*	110 *360*	120 *395*	65 *215*	70 *230*	80 *260*	90 *295*	100 *330*	60 *195*	65 *215*	75 *245*	90 *295*	95 *310*
K1	— —	— —	— —	— —	— —	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*	— —	— —	— —	— —	— —
K2	— —	— —	— —	— —	— —	120 *395*	130 *425*	155 *510*	185 *610*	200 *660*	— —	— —	— —	— —	— —
K3	— —	— —	— —	— —	— —	100 *330*	110 *360*	135 *445*	160 *520*	170 *560*	— —	— —	— —	— —	— —
K4	— —	— —	— —	— —	— —	95 *310*	105 *345*	125 *410*	150 *490*	165 *540*	— —	— —	— —	— —	— —
K5	— —	— —	— —	— —	— —	60 *195*	65 *215*	80 *260*	90 *295*	100 *330*	— —	— —	— —	— —	— —
K6	— —	— —	— —	— —	— —	85 *280*	90 *295*	110 *360*	135 *445*	145 *475*	— —	— —	— —	— —	— —
K7	— —	— —	— —	— —	— —	75 *245*	80 *260*	100 *330*	115 *375*	130 *425*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	970 *3175*	1050 *3450*	1300 *4275*	1525 *5000*	1675 *5500*	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	390 *1275*	425 *1400*	520 *1700*	620 *2025*	670 *2200*	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	260 *850*	280 *920*	350 *1150*	410 *1350*	450 *1475*	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	295 *970*	320 *1050*	400 *1300*	470 *1550*	510 *1675*	— —	— —	— —	— —	— —
S1	43 *140*	47 *155*	55 *180*	65 *215*	70 *230*	36 *120*	38 *125*	44 *145*	50 *165*	55 *180*	22 *70*	24 *80*	28 *90*	32 *105*	35 *115*
S2	35 *115*	38 *125*	43 *140*	50 *165*	55 *180*	29 *95*	31 *100*	36 *120*	41 *135*	45 *150*	18 *60*	19 *60*	22 *70*	26 *85*	28 *90*
S3	31 *100*	32 *105*	38 *125*	44 *145*	48 *155*	25 *80*	27 *90*	31 *100*	36 *120*	39 *130*	16 *50*	17 *55*	19 *60*	23 *75*	25 *80*
S11	60 *195*	65 *215*	75 *245*	85 *280*	95 *310*	48 *155*	50 *165*	60 *195*	70 *230*	80 *260*	30 *100*	32 *105*	38 *125*	44 *145*	48 *155*
S12	40 *130*	43 *140*	50 *165*	60 *195*	65 *215*	33 *110*	36 *120*	42 *140*	50 *165*	55 *180*	28 *90*	30 *100*	35 *115*	41 *135*	45 *150*
S13	24 *80*	26 *85*	30 *100*	35 *115*	38 *125*	20 *65*	22 *70*	25 *80*	29 *95*	31 *100*	17 *55*	18 *60*	21 *70*	24 *80*	26 *85*
H5	— —	— —	— —	— —	— —	28 *90*	31 *100*	37 *120*	44 *145*	48 *155*	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	31 *100*	34 *110*	40 *130*	46 *150*	50 *165*	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	36 *120*	39 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	85 *280*	90 *295*	— —	— —	— —	— —	— —

R218.19 – Metric





- For insert selection and cutting data recommendations, see page(s) 697-709
- For complete insert programme, see page(s) 837, 855
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	LUX	RPMX	Weight	218.19	SPMT
			mm		mm	mm	mm	mm	mm		kg		
R218.19-2016.3-17.050A	75069117	Weldon	16,0	1	17,5	20,0	60,0	100,0	31,0	41600	0,3	-080(2)	-0602(2)
R218.19-2520.3-21.069A	75069118	Weldon	20,0	1	21,6	25,0	82,5	125,0	31,0	26200	0,4	-100(2)	-0703(2)
R218.19-2525.3-26.074HA	75069119	Weldon	25,0	1	26,6	25,0	82,5	130,0	46,0	21700	0,5	-125(2)	-0903(2)
R218.19-3232.3-30.070HA	75069120	Weldon	32,0	1	31,2	32,0	82,5	130,0	46,0	14800	0,7	-160(2)	–

Spare Parts, included in delivery

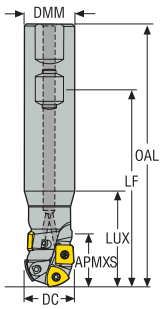
For cutter	Insert key	Insert screw
		
R218.19-2016	H4B-T07P	C02205-T07P
R218.19-2520	H4B-T07P	C02506-T07P
R218.19-2525	H4B-T09P	C03006-T09P
R218.19-3232	H4B-T15P	C03508-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R218.19-2016	0.9NM	T00-07P09
R218.19-2520	0.9NM	T00-07P09
R218.19-2525	2.0NM	T00-09P20
R218.19-3232	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R218.19 – inch





- For insert selection and cutting data recommendations, see page(s) 697-709
- For complete insert programme, see page(s) 837, 855
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	LUX	RPMX	Weight	218.19	SPMX
			inch		inch	inch	inch	inch	inch		lbs		
R218.19-00.75-3-21M	00087573	Weldon	0.750	1	0.835	0.750	2.583	4.031	1.425	26200	0.660	100 (2)	0703 (2)
R218.19-01.00-3-26H	00087575	Weldon	1.000	1	1.063	1.000	2.835	5.031	2.173	21700	1.100	125 (2)	0903 (2)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.19-00.75	H4B-T07P	C02506-T07P
R218.19-01.00	H4B-T09P	C03006-T09P

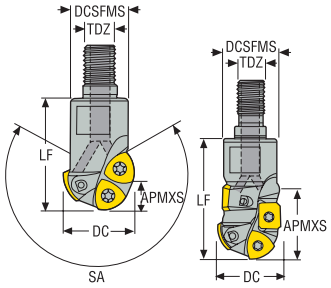
Accessories

For cutter	Insert clamping torque	Torque key
		
R218.19-00.750	8.0IN.LBS	T00-07P09
R218.19-01.00	17.7IN.LBS	T00-09P20

Torque and fixed keys, see page 872

R218.19 – Metric





- For insert selection and cutting data recommendations, see page(s) 697-709
- For complete insert programme, see page(s) 837, 855
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	TDZ	LF	RPMX	Weight	218.19	SPMX	SPMT
			mm		mm	mm		mm		kg			
R218.19-0816.RE-12A	02644033	Combimaster	16,0	1	12,0	13,5	M8	23,0	41600	0,1	-080(2)	-0602	–
R218.19-1020.RE-16A	02644034	Combimaster	20,0	1	16,0	18,0	M10	28,0	26200	0,1	-100(2)	-0703	–
R218.19-1220.RE-21A	75077649	Combimaster	20,0	1	21,6	21,0	M12	45,0	26200	0,2	-100(2)	-0703(2)	–
R218.19-1225.RE-26HA	75094632	Combimaster	25,0	1	26,6	21,0	M12	45,0	21700	0,1	-125(2)	-0903(2)	–
R218.19-1632.RE-36HA	75077650	Combimaster	32,0	1	38,6	28,0	M16	55,0	14800	0,3	-160(2)	–	-1004(3)
R218.19-1225.RE-14HFA	75094633	Combimaster	25,0	1	12,5	21,0	M12	40,0	21700	0,2	-125(3)	–	–
R218.19-1632.RE-18HFA	75094580	Combimaster	32,0	1	16,0	28,0	M16	40,0	14800	0,2	-160(3)	–	–
R218.19-1640.RE-25HFA	00089918	Combimaster	40,0	1	20,0	28,0	M16	50,0	10400	0,3	-200(3)	–	–

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R218.19-0816	H4B-T07P	C02205-T07P
R218.19-1020	H4B-T07P	C02506-T07P
R218.19-1220	H4B-T07P	C02506-T07P
R218.19-1225	H4B-T09P	C03006-T09P
R218.19-1632	H4B-T15P	C03508-T15P
R218.19-1640	H6B-T20P	C45011-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R218.19-0816-1220	0.9NM	T00-07P09
R218.19-1225	2.0NM	T00-09P20
R218.19-1632	3.0NM	T00-15P30
R218.19-1640	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R218.19-080 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
P2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 0.010	0,36 0.014
P3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P4	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
P5	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
P6	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P7	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P8	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
P11	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
P12	218.19-080T-M04 F40M	SPMX060204-75 F40M	9,0 *0.36*	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
M1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 0.010	0,36 0.014
M2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
M3	218.19-080T-M04 F40M	SPMX060204-75 F40M	9,0 *0.36*	0,11 *0.0044*	0,11 *0.0044*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
M4	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
M5	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
K1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,15 *0.0060*	0,15 *0.0060*	0,17 *0.0065*	0,26 0.010	0,36 0.014
K2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K4	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K5	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
K6	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,34 0.013
K7	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,12 *0.0048*	0,12 *0.0048*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
N1	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
N2	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
N3	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
N11	218.19-080T-M04 F40M	SPMX060204-75 F40M	11,0 *0.44*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,34 0.013	0,48 0.019
S1	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
S2	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
S3	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,10 *0.0040*	0,10 *0.0040*	0,10 *0.0040*	0,16 0.0065	0,22 0.0085
S11	218.19-080T-M04 F40M	SPMX060204-75 F40M	8,0 *0.32*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S12	218.19-080T-M04 F40M	SPMX060204-75 F40M	8,0 *0.32*	0,12 *0.0048*	0,12 *0.0048*	0,12 *0.0048*	0,19 0.0075	0,26 0.010
S13	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,11 *0.0044*	0,11 *0.0044*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
H5	218.19-080T-M04 F40M	SPMX060204-75 F40M	7,0 *0.28*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,14 0.0055	0,20 0.0080
H8	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,15 0.0060
H11	218.19-080T-M04 F40M	SPMX060204-75 F40M	7,0 *0.28*	0,090 *0.0036*	0,090 *0.0036*	0,095 *0.0038*	0,14 0.0055	0,20 0.0080
H12	218.19-080T-M04 F40M	SPMX060204-75 F40M	6,0 *0.24*	0,070 *0.0028*	0,070 *0.0028*	0,075 *0.0030*	0,11 0.0044	0,15 0.0060

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-080 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M					F30M					F40M					MP2501					MS2500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	235 *770*	260 *850*	315 *1025*	370 *1225*	400 *1300*	220 *720*	240 *790*	290 *950*	340 *1125*	370 *1225*	210 *690*	225 *740*	275 *900*	325 *1075*	350 *1150*	390 *1275*	410 *1350*	480 *1575*	540 *1775*	560 *1825*	285 *940*	310 *1025*	380 *1250*	445 *1450*	480 *1575*
P2	230 *750*	250 *820*	300 *980*	360 *1175*	390 *1275*	210 *690*	230 *750*	280 *920*	330 *1075*	360 *1175*	200 *660*	220 *720*	265 *870*	315 *1025*	340 *1125*	380 *1250*	400 *1300*	460 *1500*	520 *1700*	550 *1800*	275 *900*	300 *980*	360 *1175*	430 *1400*	465 *1525*
P3	200 *660*	220 *720*	265 *870*	315 *1025*	340 *1125*	185 *610*	205 *670*	245 *800*	290 *950*	310 *1025*	175 *570*	195 *640*	230 *750*	275 *900*	300 *980*	330 *1075*	350 *1150*	400 *1300*	455 *1500*	475 *1550*	240 *790*	265 *870*	315 *1025*	375 *1225*	405 *1325*
P4	180 *590*	195 *640*	235 *770*	275 *900*	300 *980*	165 *540*	180 *590*	220 *720*	255 *840*	275 *900*	155 *510*	170 *560*	210 *690*	245 *800*	260 *850*	290 *950*	310 *1025*	355 *1175*	400 *1300*	420 *1375*	215 *710*	235 *770*	285 *940*	330 *1075*	360 *1175*
P5	170 *560*	185 *610*	225 *740*	265 *870*	285 *940*	155 *510*	170 *560*	210 *690*	245 *800*	265 *870*	150 *490*	165 *540*	200 *660*	230 *750*	250 *820*	280 *920*	295 *970*	340 *1125*	380 *1250*	400 *1300*	205 *670*	220 *720*	270 *890*	315 *1025*	340 *1125*
P6	190 *620*	210 *690*	255 *840*	295 *970*	325 *1075*	175 *570*	190 *620*	235 *770*	275 *900*	300 *980*	165 *540*	180 *590*	225 *740*	260 *850*	285 *940*	310 *1025*	330 *1075*	385 *1275*	425 *1400*	455 *1500*	230 *750*	250 *820*	305 *1000*	355 *1175*	390 *1275*
P7	180 *590*	195 *640*	240 *790*	280 *920*	305 *1000*	165 *540*	180 *590*	220 *720*	260 *850*	285 *940*	160 *520*	170 *560*	210 *690*	245 *800*	270 *890*	295 *970*	310 *1025*	360 *1175*	405 *1325*	430 *1400*	215 *710*	235 *770*	285 *940*	335 *1100*	370 *1225*
P8	170 *560*	185 *610*	220 *720*	265 *870*	285 *940*	155 *510*	170 *560*	205 *670*	245 *800*	265 *870*	150 *490*	165 *540*	195 *640*	230 *750*	250 *820*	280 *920*	295 *970*	335 *1100*	380 *1250*	400 *1300*	205 *670*	220 *720*	265 *870*	315 *1025*	340 *1125*
P11	175 *570*	190 *620*	230 *750*	270 *890*	300 *980*	160 *520*	175 *570*	215 *710*	250 *820*	275 *900*	155 *510*	165 *540*	205 *670*	240 *790*	260 *850*	285 *940*	305 *1000*	350 *1150*	390 *1275*	415 *1350*	210 *690*	230 *750*	280 *920*	325 *1075*	355 *1175*
P12	— —	— —	— —	— —	— —	110 *360*	120 *395*	140 *460*	165 *540*	175 *570*	105 *345*	115 *375*	135 *445*	155 *510*	170 *560*	190 *620*	200 *660*	220 *720*	245 *800*	255 *840*	140 *460*	155 *510*	185 *610*	215 *710*	230 *750*
M1	— —	— —	— —	— —	— —	170 *560*	185 *610*	225 *740*	265 *870*	290 *950*	165 *540*	180 *590*	215 *710*	255 *840*	275 *900*	190 *620*	210 *690*	250 *820*	300 *980*	325 *1075*	200 *660*	215 *710*	260 *850*	310 *1025*	335 *1100*
M2	— —	— —	— —	— —	— —	140 *460*	155 *510*	185 *610*	220 *720*	235 *770*	135 *445*	145 *475*	180 *590*	210 *690*	225 *740*	160 *520*	175 *570*	210 *690*	245 *800*	265 *870*	165 *540*	180 *590*	215 *710*	255 *840*	275 *900*
M3	— —	— —	— —	— —	— —	120 *395*	130 *425*	155 *510*	180 *590*	190 *620*	115 *375*	125 *410*	145 *475*	170 *560*	185 *610*	135 *445*	145 *475*	170 *560*	200 *660*	215 *710*	140 *460*	150 *490*	175 *570*	210 *690*	220 *720*
M4	— —	— —	— —	— —	— —	100 *330*	105 *345*	120 *395*	140 *460*	150 *490*	95 *310*	100 *330*	115 *375*	135 *445*	140 *460*	115 *375*	120 *395*	135 *445*	155 *510*	170 *560*	115 *375*	120 *395*	140 *460*	160 *520*	175 *570*
M5	— —	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	115 *375*	125 *410*	80 *260*	85 *280*	95 *310*	110 *360*	120 *395*	95 *310*	100 *330*	110 *360*	130 *425*	140 *460*	95 *310*	100 *330*	115 *375*	135 *445*	145 *475*
K1	185 *610*	200 *660*	240 *790*	285 *940*	310 *1025*	170 *560*	185 *610*	220 *720*	260 *850*	285 *940*	160 *520*	175 *570*	210 *690*	250 *820*	270 *890*	380 *1250*	405 *1325*	465 *1525*	520 *1700*	550 *1800*	— —	— —	— —	— —	— —
K2	160 *520*	175 *570*	215 *710*	250 *820*	270 *890*	150 *490*	160 *520*	200 *660*	230 *750*	250 *820*	140 *460*	155 *510*	190 *620*	220 *720*	235 *770*	335 *1100*	355 *1175*	410 *1350*	460 *1500*	485 *1600*	— —	— —	— —	— —	— —
K3	135 *445*	150 *490*	180 *590*	210 *690*	230 *750*	125 *410*	135 *445*	165 *540*	195 *640*	210 *690*	120 *395*	130 *425*	160 *520*	185 *610*	200 *660*	285 *940*	300 *980*	350 *1150*	390 *1275*	410 *1350*	— —	— —	— —	— —	— —
K4	130 *425*	140 *460*	175 *570*	205 *670*	220 *720*	120 *395*	130 *425*	160 *520*	185 *610*	200 *660*	115 *375*	125 *410*	150 *490*	180 *590*	190 *620*	270 *890*	285 *940*	335 *1100*	370 *1225*	390 *1275*	— —	— —	— —	— —	— —
K5	80 *260*	90 *295*	105 *345*	125 *410*	135 *445*	75 *245*	80 *260*	95 *310*	115 *375*	125 *410*	70 *230*	75 *245*	90 *295*	110 *360*	120 *395*	165 *540*	175 *570*	200 *660*	225 *740*	240 *790*	— —	— —	— —	— —	— —
K6	115 *375*	125 *410*	150 *490*	180 *590*	190 *620*	105 *345*	115 *375*	140 *460*	165 *540*	175 *570*	100 *330*	110 *360*	135 *445*	155 *510*	170 *560*	240 *790*	255 *840*	295 *970*	325 *1075*	345 *1125*	— —	— —	— —	— —	— —
K7	105 *345*	115 *375*	135 *445*	160 *520*	170 *560*	95 *310*	105 *345*	125 *410*	145 *475*	160 *520*	90 *295*	100 *330*	120 *395*	140 *460*	150 *490*	215 *710*	225 *740*	255 *840*	285 *940*	305 *1000*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	1250 *4100*	1350 *4425*	1625 *5325*	1925 *6325*	2075 *6800*	1175 *3850*	1300 *4275*	1550 *5075*	1825 *6000*	1975 *6475*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	500 *1650*	550 *1800*	660 *2175*	780 *2550*	840 *2750*	480 *1575*	520 *1700*	620 *2025*	740 *2425*	800 *2625*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	335 *1100*	365 *1200*	435 *1425*	520 *1700*	560 *1825*	320 *1050*	345 *1125*	415 *1350*	495 *1625*	530 *1750*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	385 *1275*	415 *1350*	500 *1650*	590 *1925*	640 *2100*	365 *1200*	395 *1300*	475 *1550*	560 *1825*	610 *2000*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	45 *150*	47 *155*	55 *180*	60 *195*	65 *215*	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*
S2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	36 *120*	38 *125*	43 *140*	50 *165*	55 *180*	— —	— —	— —	— —	— —	46 *150*	48 *155*	55 *180*	65 *215*	70 *230*
S3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	32 *105*	33 *110*	38 *125*	44 *145*	47 *155*	— —	— —	— —	— —	— —	40 *130*	42 *140*	48 *155*	55 *180*	60 *195*
S11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	65 *215*	75 *245*	85 *280*	95 *310*	— —	— —	— —	— —	— —	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*
S12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	40 *130*	44 *145*	50 *165*	60 *195*	65 *215*	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	75 *245*	85 *280*
S13	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	25 *80*	26 *85*	30 *100*	35 *115*	37 *120*	— —	— —	— —	— —	— —	32 *105*	34 *110*	38 *125*	44 *145*	47 *155*
H5	43 *140*	46 *150*	55 *180*	65 *215*	70 *230*	40 *130*	42 *140*	50 *165*	60 *195*	65 *215*	38 *125*	40 *130*	49 *160*	60 *195*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	47 *155*	50 *165*	60 *195*	70 *230*	75 *245*	43 *140*	46 *150*	55 *180*	65 *215*	70 *230*	41 *135*	44 *145*	55 *180*	60 *195*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	55 *180*	60 *195*	70 *230*	85 *280*	90 *295*	50 *165*	55 *180*	65 *215*	80 *260*	85 *280*	48 *155*	50 *165*	60 *195*	75 *245*	80 *260*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	85 *280*	90 *295*	105 *345*	125 *410*	135 *445*	80 *260*	85 *280*	100 *330*	115 *375*	125 *410*	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*	— —	— —	— —	— —	— —	100 *330*	105 *345*	130 *425*	150 *490*	165 *540*

R218.19-100 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
P2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P4	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P5	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
P6	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
P7	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
P8	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,48 0.019
P11	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
P12	218.19-100T-M06 F40M	SPMX070304-75 F40M	16,0 *0.65*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,32 0.013
M1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
M2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
M3	218.19-100T-M06 F40M	SPMX070304-75 F40M	16,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,38 0.015
M4	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
M5	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
K1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K4	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K5	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,42 0.017
K6	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,19 *0.0075*	0,19 *0.0075*	0,22 *0.0085*	0,32 0.013	0,46 0.018
K7	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,42 0.017
N1	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
N2	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
N3	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
N11	218.19-100T-M06 F40M	SPMX070304-75 F40M	19,0 *0.75*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 0.018	0,65 0.026
S1	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
S2	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
S3	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
S11	218.19-100T-M06 F40M	SPMX070304-75 F40M	14,0 *0.55*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,38 0.015
S12	218.19-100T-M06 F40M	SPMX070304-75 F40M	14,0 *0.55*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,38 0.015
S13	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
H5	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
H8	218.19-100T-M06 F40M	SPMX070304-75 F40M	11,0 *0.44*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080
H11	218.19-100T-M06 F40M	SPMX070304-75 F40M	12,0 *0.48*	0,12 *0.0048*	0,12 *0.0048*	0,13 *0.0050*	0,20 0.0080	0,28 0.011
H12	218.19-100T-M06 F40M	SPMX070304-75 F40M	11,0 *0.44*	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 0.0060	0,20 0.0080

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-100 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000					F15M					F25M					F30M					MP3000				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	—	—	—	—	—	195	210	260	305	330	180	195	240	280	300	195	210	260	310	335	230	250	305	365	400
	—	—	—	—	—	*640*	*690*	*850*	*1000*	*1075*	*590*	*640*	*790*	*920*	*980*	*640*	*690*	*850*	*1025*	*1100*	*750*	*820*	*1000*	*1200*	*1300*
P2	—	—	—	—	—	190	205	250	295	320	175	190	230	270	290	190	205	250	300	325	225	245	300	355	385
	—	—	—	—	—	*620*	*670*	*820*	*970*	*1050*	*570*	*620*	*750*	*890*	*950*	*620*	*670*	*820*	*980*	*1075*	*740*	*800*	*980*	*1175*	*1275*
P3	—	—	—	—	—	165	175	220	260	280	150	160	200	240	255	165	180	220	265	280	200	215	265	315	335
	—	—	—	—	—	*540*	*570*	*720*	*850*	*920*	*490*	*520*	*660*	*790*	*840*	*540*	*590*	*720*	*870*	*920*	*660*	*710*	*870*	*1025*	*1100*
P4	—	—	—	—	—	145	160	195	230	245	135	145	175	210	225	145	160	195	230	250	175	190	235	275	295
	—	—	—	—	—	*475*	*520*	*640*	*750*	*800*	*445*	*475*	*570*	*690*	*740*	*475*	*520*	*640*	*750*	*820*	*570*	*620*	*770*	*900*	*970*
P5	170	185	225	270	285	140	155	190	220	235	130	140	170	205	215	140	155	185	220	240	170	180	220	265	285
	560	*610*	*740*	*890*	*940*	*460*	*510*	*620*	*720*	*770*	*425*	*460*	*560*	*670*	*710*	*460*	*510*	*610*	*720*	*790*	*560*	*590*	*720*	*870*	*940*
P6	190	205	255	300	320	160	170	210	250	265	145	155	195	230	245	160	175	210	250	270	190	210	250	300	320
	620	*670*	*840*	*980*	*1050*	*520*	*560*	*690*	*820*	*870*	*475*	*510*	*640*	*750*	*800*	*520*	*570*	*690*	*820*	*890*	*620*	*690*	*820*	*980*	*1050*
P7	180	195	240	285	300	150	160	200	235	250	135	150	185	215	230	150	165	200	240	255	180	195	235	285	305
	590	*640*	*790*	*940*	*980*	*490*	*520*	*660*	*770*	*820*	*445*	*490*	*610*	*710*	*750*	*490*	*540*	*660*	*790*	*840*	*590*	*640*	*770*	*940*	*1000*
P8	165	180	225	265	285	135	150	185	220	235	125	135	170	200	215	140	155	185	220	235	170	180	220	265	280
	540	*590*	*740*	*870*	*940*	*445*	*490*	*610*	*720*	*770*	*410*	*445*	*560*	*660*	*710*	*460*	*510*	*610*	*720*	*770*	*560*	*590*	*720*	*870*	*920*
P11	175	190	235	275	295	145	155	195	230	245	135	145	180	210	225	145	160	190	230	250	175	190	230	275	295
	570	*620*	*770*	*900*	*970*	*475*	*510*	*640*	*750*	*800*	*445*	*475*	*590*	*690*	*740*	*475*	*520*	*620*	*750*	*820*	*570*	*620*	*750*	*900*	*970*
P12	120	130	155	180	195	—	—	—	—	—	90	100	115	140	150	95	105	125	150	160	115	125	150	180	190
	395	*425*	*510*	*590*	*640*	—	—	—	—	—	*295*	*330*	*375*	*460*	*490*	*310*	*345*	*410*	*490*	*520*	*375*	*410*	*490*	*590*	*620*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	150	165	205	240	260	170	185	225	265	290
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*490*	*540*	*670*	*790*	*850*	*560*	*610*	*740*	*870*	*950*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	140	170	200	215	140	150	185	220	235
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*410*	*460*	*560*	*660*	*710*	*460*	*490*	*610*	*720*	*770*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	105	115	140	165	175	115	125	155	180	190
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*345*	*375*	*460*	*540*	*570*	*375*	*410*	*510*	*590*	*620*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	95	110	125	135	100	105	125	140	150
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*295*	*310*	*360*	*410*	*445*	*330*	*345*	*410*	*460*	*490*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75	80	95	105	115	80	85	100	115	125
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*245*	*260*	*310*	*345*	*375*	*260*	*280*	*330*	*375*	*410*
K1	180	195	240	280	305	150	165	200	235	255	140	150	180	215	230	150	165	200	240	260	180	195	235	285	305
	590	*640*	*790*	*920*	*1000*	*490*	*540*	*660*	*770*	*840*	*460*	*490*	*590*	*710*	*750*	*490*	*540*	*660*	*790*	*850*	*590*	*640*	*770*	*940*	*1000*
K2	160	175	215	255	270	135	145	180	210	225	120	135	165	195	205	135	145	175	210	225	160	175	210	250	270
	520	*570*	*710*	*840*	*890*	*445*	*475*	*590*	*690*	*740*	*395*	*445*	*540*	*640*	*670*	*445*	*475*	*570*	*690*	*740*	*520*	*570*	*690*	*820*	*890*
K3	135	150	185	215	230	115	125	150	180	190	105	110	140	165	175	115	125	150	175	190	135	145	180	210	230
	445	*490*	*610*	*710*	*750*	*375*	*410*	*490*	*590*	*620*	*345*	*360*	*460*	*540*	*570*	*375*	*410*	*490*	*570*	*620*	*445*	*475*	*590*	*690*	*750*
K4	130	140	175	205	220	110	115	145	170	180	100	105	130	155	165	110	115	145	170	185	130	140	170	200	215
	425	*460*	*570*	*670*	*720*	*360*	*375*	*475*	*560*	*590*	*330*	*345*	*425*	*510*	*540*	*360*	*375*	*475*	*560*	*610*	*425*	*460*	*560*	*660*	*710*
K5	80	85	105	125	135	65	70	90	105	115	60	65	80	95	105	65	70	90	105	115	80	85	105	125	135
	260	*280*	*345*	*410*	*445*	*215*	*230*	*295*	*345*	*375*	*195*	*215*	*260*	*310*	*345*	*215*	*230*	*295*	*345*	*375*	*260*	*280*	*345*	*410*	*445*
K6	115	125	155	180	195	95	105	125	150	160	85	95	115	135	145	95	105	125	150	160	115	125	150	175	190
	375	*410*	*510*	*590*	*640*	*310*	*345*	*410*	*490*	*520*	*280*	*310*	*375*	*445*	*475*	*310*	*345*	*410*	*490*	*520*	*375*	*410*	*490*	*570*	*620*
K7	100	110	135	160	175	85	90	110	135	145	75	85	105	120	135	85	90	115	135	145	100	110	135	160	170
	330	*360*	*445*	*520*	*570*	*280*	*295*	*360*	*445*	*475*	*245*	*280*	*345*	*395*	*445*	*280*	*295*	*375*	*445*	*475*	*330*	*360*	*445*	*520*	*560*
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1100	1200	1475	1725	1875	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*3600*	*3925*	*4850*	*5650*	*6150*	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	445	480	590	700	760	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1450*	*1575*	*1925*	*2300*	*2500*	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	295	320	395	465	510	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*970*	*1050*	*1300*	*1525*	*1675*	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	340	365	455	530	580	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*1125*	*1200*	*1500*	*1750*	*1900*	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H5	45	48	60	70	75	37	39	48	55	60	—	—	—	—	—	37	39	47	55	60	41	44	55	60	70
	150	*155*	*195*	*230*	*245*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*135*	*145*	*180*	*195*	*230*
H8	49	50	60	75	80	40	43	50	60	65	—	—	—	—	—	40	42	50	60	65	44	47	55	65	70
	160	*165*	*195*	*245*	*260*	*130*	*140*	*165*	*195*	*215*	—	—	—	—	—	*130*	*140*	*165*	*195*	*215*	*145*	*155*	*180*	*215*	*230*
H11	55	60	75	90	95	47	50	60	75	80	—	—	—	—	—	47	50	60	70	80	50	55	65	80	85
	180	*195*	*245*	*295*	*310*	*155*	*165*	*195*	*245*	*260*	—	—	—	—	—	*155*	*165*	*195*	*230*	*260*	*165*	*180*	*215*	*260*	*280*
H12	85	90	110	130	145	70	75	95	110	120	—	—	—	—	—	70	75	90	105	115	85	90	110	125	140
	280	*295*	*360*	*425*	*475*	*230*	*245*	*310*	*360*	*395*	—	—	—	—	—	*230*	*245*	*295*	*345*	*375*	*280*	*295*	*360*	*410*	*460*

R218.19-100 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050					F40M					MP2501					MS2500					MP3501				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	205 *670*	220 *720*	270 *890*	325 *1075*	350 *1150*	185 *610*	200 *660*	245 *800*	295 *970*	320 *1050*	345 *1125*	360 *1175*	430 *1400*	495 *1625*	520 *1700*	265 *870*	290 *950*	355 *1175*	425 *1400*	460 *1500*	305 *1000*	320 *1050*	385 *1275*	440 *1450*	470 *1550*
P2	200 *660*	215 *710*	265 *870*	315 *1025*	340 *1125*	180 *590*	195 *640*	240 *790*	285 *940*	310 *1025*	335 *1100*	350 *1150*	420 *1375*	480 *1575*	510 *1675*	260 *850*	280 *920*	345 *1125*	410 *1350*	445 *1450*	300 *980*	315 *1025*	375 *1225*	430 *1400*	455 *1500*
P3	175 *570*	190 *620*	230 *750*	275 *900*	295 *970*	160 *520*	175 *570*	210 *690*	250 *820*	265 *870*	300 *980*	315 *1025*	370 *1225*	420 *1375*	440 *1450*	230 *750*	250 *820*	305 *1000*	360 *1175*	385 *1275*	265 *870*	280 *920*	330 *1075*	375 *1225*	390 *1275*
P4	155 *510*	170 *560*	205 *670*	240 *790*	260 *850*	140 *460*	155 *510*	185 *610*	220 *720*	240 *790*	260 *850*	275 *900*	325 *1075*	370 *1225*	390 *1275*	200 *660*	220 *720*	270 *890*	315 *1025*	340 *1125*	235 *770*	245 *800*	290 *950*	330 *1075*	350 *1150*
P5	145 *475*	160 *520*	195 *640*	230 *750*	250 *820*	135 *445*	145 *475*	180 *590*	210 *690*	225 *740*	250 *820*	265 *870*	310 *1025*	350 *1150*	370 *1225*	195 *640*	210 *690*	255 *840*	305 *1000*	325 *1075*	225 *740*	235 *770*	280 *920*	315 *1025*	335 *1100*
P6	170 *560*	185 *610*	220 *720*	265 *870*	285 *940*	155 *510*	165 *540*	200 *660*	240 *790*	260 *850*	285 *940*	300 *980*	350 *1150*	400 *1300*	420 *1375*	220 *720*	240 *790*	285 *940*	345 *1125*	370 *1225*	255 *840*	270 *890*	310 *1025*	360 *1175*	380 *1250*
P7	160 *520*	170 *560*	205 *670*	250 *820*	270 *890*	145 *475*	155 *510*	190 *620*	225 *740*	245 *800*	270 *890*	285 *940*	330 *1075*	380 *1250*	400 *1300*	210 *690*	225 *740*	270 *890*	325 *1075*	350 *1150*	240 *790*	255 *840*	295 *970*	340 *1125*	355 *1175*
P8	145 *475*	160 *520*	195 *640*	230 *750*	245 *800*	135 *445*	145 *475*	180 *590*	210 *690*	225 *740*	250 *820*	265 *870*	310 *1025*	350 *1150*	370 *1225*	195 *640*	210 *690*	255 *840*	305 *1000*	325 *1075*	225 *740*	235 *770*	280 *920*	315 *1025*	330 *1075*
P11	155 *510*	170 *560*	200 *660*	240 *790*	260 *850*	140 *460*	150 *490*	185 *610*	220 *720*	235 *770*	260 *850*	275 *900*	320 *1050*	370 *1225*	385 *1275*	200 *660*	220 *720*	265 *870*	315 *1025*	340 *1125*	235 *770*	245 *800*	285 *940*	330 *1075*	345 *1125*
P12	100 *330*	110 *360*	135 *445*	160 *520*	170 *560*	95 *310*	100 *330*	120 *395*	145 *475*	155 *510*	175 *570*	180 *590*	210 *690*	235 *770*	245 *800*	135 *445*	145 *475*	175 *570*	205 *670*	220 *720*	155 *510*	165 *540*	185 *610*	210 *690*	220 *720*
M1	160 *520*	175 *570*	210 *690*	255 *840*	275 *900*	145 *475*	160 *520*	195 *640*	230 *750*	250 *820*	170 *560*	185 *610*	230 *750*	270 *890*	295 *970*	185 *610*	200 *660*	245 *800*	295 *970*	320 *1050*	160 *520*	175 *570*	210 *690*	255 *840*	275 *900*
M2	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*	120 *395*	130 *425*	160 *520*	190 *620*	205 *670*	140 *460*	155 *510*	190 *620*	225 *740*	240 *790*	155 *510*	170 *560*	205 *670*	240 *790*	260 *850*	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*
M3	110 *360*	120 *395*	145 *475*	170 *560*	180 *590*	100 *330*	110 *360*	130 *425*	155 *510*	165 *540*	120 *395*	130 *425*	155 *510*	185 *610*	195 *640*	130 *425*	140 *460*	170 *560*	200 *660*	210 *690*	110 *360*	120 *395*	145 *475*	170 *560*	180 *590*
M4	90 *295*	100 *330*	115 *375*	130 *425*	145 *475*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	100 *330*	105 *345*	125 *410*	140 *460*	155 *510*	110 *360*	115 *375*	135 *445*	155 *510*	165 *540*	90 *295*	100 *330*	115 *375*	130 *425*	145 *475*
M5	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*	70 *230*	75 *245*	90 *295*	100 *330*	110 *360*	85 *280*	90 *295*	105 *345*	120 *395*	130 *425*	90 *295*	95 *310*	115 *375*	130 *425*	140 *460*	75 *245*	80 *260*	95 *310*	110 *360*	120 *395*
K1	— —	— —	— —	— —	— —	145 *475*	155 *510*	190 *620*	225 *740*	245 *800*	340 *1125*	355 *1175*	420 *1375*	485 *1600*	510 *1675*	205 *670*	225 *740*	275 *900*	325 *1075*	355 *1175*	300 *980*	315 *1025*	380 *1250*	435 *1425*	460 *1500*
K2	— —	— —	— —	— —	— —	125 *410*	140 *460*	170 *560*	200 *660*	215 *710*	305 *1000*	320 *1050*	375 *1225*	425 *1400*	450 *1475*	185 *610*	200 *660*	245 *800*	285 *940*	310 *1025*	270 *890*	285 *940*	335 *1100*	380 *1250*	405 *1325*
K3	— —	— —	— —	— —	— —	110 *360*	115 *375*	145 *475*	170 *560*	180 *590*	255 *840*	270 *890*	315 *1025*	360 *1175*	380 *1250*	155 *510*	170 *560*	205 *670*	245 *800*	260 *850*	230 *750*	240 *790*	285 *940*	325 *1075*	340 *1125*
K4	— —	— —	— —	— —	— —	105 *345*	110 *360*	135 *445*	160 *520*	175 *570*	245 *800*	255 *840*	305 *1000*	345 *1125*	365 *1200*	150 *490*	160 *520*	195 *640*	230 *750*	250 *820*	220 *720*	230 *750*	270 *890*	310 *1025*	325 *1075*
K5	— —	— —	— —	— —	— —	65 *215*	70 *230*	85 *280*	100 *330*	105 *345*	150 *490*	160 *520*	185 *610*	210 *690*	225 *740*	90 *295*	100 *330*	120 *395*	145 *475*	155 *510*	135 *445*	140 *460*	170 *560*	190 *620*	200 *660*
K6	— —	— —	— —	— —	— —	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*	215 *710*	225 *740*	265 *870*	305 *1000*	320 *1050*	130 *425*	140 *460*	175 *570*	205 *670*	220 *720*	195 *640*	200 *660*	240 *790*	270 *890*	285 *940*
K7	— —	— —	— —	— —	— —	80 *260*	90 *295*	110 *360*	125 *410*	140 *460*	190 *620*	205 *670*	240 *790*	270 *890*	285 *940*	115 *375*	125 *410*	155 *510*	185 *610*	200 *660*	170 *560*	180 *590*	215 *710*	245 *800*	255 *840*
N1	— —	— —	— —	— —	— —	1050 *3450*	1125 *3700*	1400 *4600*	1650 *5425*	1800 *5900*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	420 *1375*	455 *1500*	570 *1875*	660 *2175*	730 *2400*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	280 *920*	305 *1000*	375 *1225*	445 *1450*	485 *1600*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	320 *1050*	350 *1150*	430 *1400*	510 *1675*	550 *1800*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	43 *140*	46 *150*	55 *180*	60 *195*	65 *215*	39 *130*	42 *140*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —	55 *180*	55 *180*	65 *215*	75 *245*	80 *260*	43 *140*	46 *150*	55 *180*	60 *195*	65 *215*
S2	35 *115*	37 *120*	44 *145*	50 *165*	55 *180*	32 *105*	34 *110*	40 *130*	45 *150*	49 *160*	— —	— —	— —	— —	— —	42 *140*	45 *150*	55 *180*	60 *195*	65 *215*	35 *115*	37 *120*	44 *145*	50 *165*	55 *180*
S3	31 *100*	33 *110*	38 *125*	44 *145*	47 *155*	28 *90*	30 *100*	35 *115*	40 *130*	43 *140*	— —	— —	— —	— —	— —	37 *120*	40 *130*	47 *155*	55 *180*	55 *180*	31 *100*	33 *110*	38 *125*	44 *145*	47 *155*
S11	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*	55 *180*	60 *195*	70 *230*	80 *260*	85 *280*	— —	— —	— —	— —	— —	70 *230*	80 *260*	90 *295*	105 *345*	110 *360*	60 *195*	65 *215*	75 *245*	85 *280*	90 *295*
S12	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*	37 *120*	40 *130*	47 *155*	55 *180*	60 *195*	— —	— —	— —	— —	— —	50 *165*	55 *180*	65 *215*	75 *245*	80 *260*	41 *135*	44 *145*	50 *165*	60 *195*	65 *215*
S13	24 *80*	26 *85*	31 *100*	35 *115*	38 *125*	22 *70*	24 *80*	28 *90*	31 *100*	34 *110*	— —	— —	— —	— —	— —	30 *100*	32 *105*	37 *120*	42 *140*	46 *150*	24 *80*	26 *85*	31 *100*	35 *115*	38 *125*
H5	— —	— —	— —	— —	— —	35 *115*	37 *120*	45 *150*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	38 *125*	40 *130*	49 *160*	55 *180*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	44 *145*	48 *155*	55 *180*	70 *230*	75 *245*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	70 *230*	70 *230*	90 *295*	100 *330*	110 *360*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —

R218.19-125 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
P2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
P3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
P6	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,50 0.019
P7	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,50 0.019
P8	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 0.013	0,50 0.019
P12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	19,0 *0.75*	0,14 *0.0055*	0,14 *0.0055*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
M1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
M2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
M3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	19,0 *0.75*	0,17 *0.0065*	0,17 *0.0065*	0,18 *0.0070*	0,28 0.011	0,40 0.016
M4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
M5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
K1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
K2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K4	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
K6	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,36 0.014	0,50 0.020
K7	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,44 0.017
N1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	24,0 *0.95*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
S1	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
S2	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
S3	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,14 *0.0055*	0,14 *0.0055*	0,15 *0.0060*	0,24 0.0095	0,32 0.013
S11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	17,0 *0.65*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,28 0.011	0,40 0.016
S12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	17,0 *0.65*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,28 0.011	0,40 0.016
S13	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	14,0 *0.55*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,36 0.014
H5	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	15,0 *0.60*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085
H11	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	15,0 *0.60*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.19-125T-T3-M07 F40M	SPMX090304-75 F40M	13,0 *0.50*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,16 0.0065	0,22 0.0085

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-125 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000					F15M					F25M					F30M					MP3000					MS2050				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	—	—	—	—	—	180	195	240	285	300	165	180	220	260	275	190	210	250	300	320	230	245	300	355	380	200	220	265	315	335
	—	—	—	—	—	*590*	*640*	*790*	*940*	*980*	*540*	*590*	*720*	*850*	*900*	*620*	*690*	*820*	*980*	*1050*	*750*	*800*	*980*	*1175*	*1250*	*660*	*720*	*870*	*1025*	*1100*
P2	—	—	—	—	—	175	190	230	275	295	160	175	210	255	270	185	200	245	290	315	220	240	290	350	370	195	210	255	305	325
	—	—	—	—	—	*570*	*620*	*750*	*900*	*970*	*520*	*570*	*690*	*840*	*890*	*610*	*660*	*800*	*950*	*1025*	*720*	*790*	*950*	*1150*	*1225*	*640*	*690*	*840*	*1000*	*1075*
P3	—	—	—	—	—	155	165	205	235	260	140	155	185	215	235	160	175	215	255	275	190	205	255	305	330	170	180	225	265	290
	—	—	—	—	—	*510*	*540*	*670*	*770*	*850*	*460*	*510*	*610*	*710*	*770*	*520*	*570*	*710*	*840*	*900*	*620*	*670*	*840*	*1000*	*1075*	*560*	*590*	*740*	*870*	*950*
P4	—	—	—	—	—	135	145	180	215	230	125	135	165	200	210	140	155	190	225	245	170	180	225	270	290	150	160	195	235	255
	—	—	—	—	—	*445*	*475*	*590*	*710*	*750*	*410*	*445*	*540*	*660*	*690*	*460*	*510*	*620*	*740*	*800*	*560*	*590*	*740*	*890*	*950*	*490*	*520*	*640*	*770*	*840*
P5	155	170	210	250	270	130	140	175	205	225	120	130	160	190	205	140	150	185	215	235	165	180	220	255	275	145	160	195	225	245
	510	*560*	*690*	*820*	*890*	*425*	*460*	*570*	*670*	*740*	*395*	*425*	*520*	*620*	*670*	*460*	*490*	*610*	*710*	*770*	*540*	*590*	*720*	*840*	*900*	*475*	*520*	*640*	*740*	*800*
P6	175	190	235	280	300	145	155	195	230	250	135	145	180	210	230	155	170	205	245	260	185	200	245	290	310	165	175	215	255	275
	570	*620*	*770*	*920*	*980*	*475*	*510*	*640*	*750*	*820*	*445*	*475*	*590*	*690*	*750*	*510*	*560*	*670*	*800*	*850*	*610*	*660*	*800*	*950*	*1025*	*540*	*570*	*710*	*840*	*900*
P7	165	180	225	265	285	135	150	185	220	235	125	135	170	200	215	145	160	195	230	245	175	190	230	275	295	155	165	205	240	260
	540	*590*	*740*	*870*	*940*	*445*	*490*	*610*	*720*	*770*	*410*	*445*	*560*	*660*	*710*	*475*	*520*	*640*	*750*	*800*	*570*	*620*	*750*	*900*	*970*	*510*	*540*	*670*	*790*	*850*
P8	155	170	205	240	265	130	140	170	200	220	120	130	155	185	200	135	145	180	215	235	160	175	215	255	275	140	155	190	225	245
	510	*560*	*670*	*790*	*870*	*425*	*460*	*560*	*660*	*720*	*395*	*425*	*510*	*610*	*660*	*445*	*475*	*590*	*710*	*770*	*520*	*570*	*710*	*840*	*900*	*460*	*510*	*620*	*740*	*800*
P11	160	175	215	255	275	135	145	180	210	230	120	130	165	195	210	145	155	190	225	240	170	185	225	265	285	150	165	200	235	250
	520	*570*	*710*	*840*	*900*	*445*	*475*	*590*	*690*	*750*	*395*	*425*	*540*	*640*	*690*	*475*	*510*	*620*	*740*	*790*	*560*	*610*	*740*	*870*	*940*	*490*	*540*	*660*	*770*	*820*
P12	110	120	145	170	185	—	—	—	—	—	85	90	110	130	140	95	105	125	145	160	115	125	145	175	190	100	110	130	155	165
	360	*395*	*475*	*560*	*610*	—	—	—	—	—	*280*	*295*	*360*	*425*	*460*	*310*	*345*	*410*	*475*	*520*	*375*	*410*	*475*	*570*	*620*	*330*	*360*	*425*	*510*	*540*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	150	165	200	235	250	165	180	220	260	280	155	170	205	245	265
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*490*	*540*	*660*	*770*	*820*	*540*	*590*	*720*	*850*	*920*	*510*	*560*	*670*	*800*	*870*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	125	135	165	195	210	140	150	185	215	230	130	140	175	200	220
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*410*	*445*	*540*	*640*	*690*	*460*	*490*	*610*	*710*	*750*	*425*	*460*	*570*	*660*	*720*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	110	135	160	170	110	120	150	175	190	105	115	140	165	180
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*520*	*560*	*360*	*395*	*490*	*570*	*620*	*345*	*375*	*460*	*540*	*590*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	85	90	105	125	135	90	100	115	135	145	85	95	110	130	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*280*	*295*	*345*	*410*	*445*	*295*	*330*	*375*	*445*	*475*	*280*	*310*	*360*	*425*	*460*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70	75	90	100	110	75	80	95	115	125	75	80	90	105	115
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*295*	*330*	*360*	*245*	*260*	*310*	*375*	*410*	*245*	*260*	*295*	*345*	*375*
K1	165	180	220	265	280	140	150	185	220	235	125	135	170	200	215	150	160	195	230	250	175	190	230	275	295	—	—	—	—	—
	540	*590*	*720*	*870*	*920*	*460*	*490*	*610*	*720*	*770*	*410*	*445*	*560*	*660*	*710*	*490*	*520*	*640*	*750*	*820*	*570*	*620*	*750*	*900*	*970*	—	—	—	—	—
K2	150	160	200	235	255	125	135	165	195	210	110	120	150	180	195	130	145	175	205	220	155	170	210	240	265	—	—	—	—	—
	490	*520*	*660*	*770*	*840*	*410*	*445*	*540*	*640*	*690*	*360*	*395*	*490*	*590*	*640*	*425*	*475*	*570*	*670*	*720*	*510*	*560*	*690*	*790*	*870*	—	—	—	—	—
K3	125	135	170	200	215	105	110	140	165	180	95	105	130	150	165	110	120	150	170	185	135	145	175	205	220	—	—	—	—	—
	410	*445*	*560*	*660*	*710*	*345*	*360*	*460*	*540*	*590*	*310*	*345*	*425*	*490*	*540*	*360*	*395*	*490*	*560*	*610*	*445*	*475*	*570*	*670*	*720*	—	—	—	—	—
K4	120	130	160	190	205	100	105	135	160	170	90	100	120	145	155	105	115	140	165	180	125	140	170	195	210	—	—	—	—	—
	395	*425*	*520*	*620*	*670*	*330*	*345*	*445*	*520*	*560*	*295*	*330*	*395*	*475*	*510*	*345*	*375*	*460*	*540*	*590*	*410*	*460*	*560*	*640*	*690*	—	—	—	—	—
K5	75	80	100	115	125	60	65	80	95	105	55	60	75	90	95	65	70	85	100	110	75	85	105	120	130	—	—	—	—	—
	245	*260*	*330*	*375*	*410*	*195*	*215*	*260*	*310*	*345*	*180*	*195*	*245*	*295*	*310*	*215*	*230*	*280*	*330*	*360*	*245*	*280*	*345*	*395*	*425*	—	—	—	—	—
K6	105	115	140	170	180	85	95	115	140	150	80	85	110	125	140	95	100	125	145	155	110	120	150	175	185	—	—	—	—	—
	345	*375*	*460*	*560*	*590*	*280*	*310*	*375*	*460*	*490*	*260*	*280*	*360*	*410*	*460*	*310*	*330*	*410*	*475*	*510*	*360*	*395*	*490*	*570*	*610*	—	—	—	—	—
K7	95	105	125	150	160	80	85	105	125	135	75	80	95	115	120	80	90	110	130	140	100	105	130	155	170	—	—	—	—	—
	310	*345*	*410*	*490*	*520*	*260*	*280*	*345*	*410*	*445*	*245*	*260*	*310*	*375*	*395*	*260*	*295*	*360*	*425*	*460*	*330*	*345*	*425*	*510*	*560*	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39	41	49	55	60	43	46	55	65	70	41	43	50	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*135*	*160*	*180*	*195*	*140*	*150*	*180*	*215*	*230*	*135*	*140*	*165*	*195*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	33	40	46	50	35	37	44	50	55	33	35	41	48	55
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*110*	*130*	*150*	*165*	*115*	*120*	*145*	*165*	*180*	*110*	*115*	*135*	*155*	*180*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	29	35	41	44	30	32	38	45	49	29	31	36	43	46
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*95*	*115*	*135*	*145*	*100*	*105*	*125*	*150*	*160*	*95*	*100*	*120*	*140*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55	60	70	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*230*	*280*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38	41	50	60	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*125*	*135*	*165*	*195*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23	24	29	34	37
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*75*	*80*	*95*	*110*	*120*
H5	39	42	50	60	65	32	35	43	50	55	—	—	—	—	—	33	36	44	50	55	37	40	49	60	65	—	—	—	—	—
	130	*140*	*165*	*195*	*215*	*105*	*115*	*140*	*165*	*180*	—	—	—	—	—	*110*	*120*	*145*	*165*	*180*	*120*	*130*	*160*	*195*	*215*	—	—	—	—	—
H8	44	47	55	65	70	36	39	47	55	60	—	—	—	—	—	37	40	47	55	60	41	45	55	60	65	—	—	—	—	—
	145	*155*	*180*	*215*	*230*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*135*	*150*	*180*	*195*	*215*	—	—	—	—	—
H11	50	55	65	80	85	41	45	55	65	70	—	—	—	—	—	42	46	55	65	70	47	50	60	75	80	—	—	—	—	—
	165	*180*	*215*	*260*	*280*	*135*	*150*	*180*	*215*	*230*	—	—	—	—	—	*140*	*150*	*180*	*215*	*230*	*155*	*165*	*195*	*245*	*260*	—	—	—	—	—
H12	80	85	100	115	130	65	70	85	95	105	—	—	—	—	—	65	70	85	100	110	80	85	100	120	130	—	—	—	—	—
	260	*280*	*330*	*375*	*425*	*215*	*230*	*280*	*310*	*345*	—	—	—	—	—	*215*	*230*	*280*	*330*	*360*	*260*	*280*	*330*	*395*	*425*	—	—	—	—	—

R218.19-125 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M					MP1501					MP2501					MS2500					MP3501					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	180	200	240	285	305	280	290	350	405	420	340	355	420	480	500	265	285	345	410	440	300	315	375	430	450	150	160	195	230	250
	590	*660*	*790*	*940*	*1000*	*920*	*950*	*1150*	*1325*	*1375*	*1125*	*1175*	*1375*	*1575*	*1650*	*870*	*940*	*1125*	*1350*	*1450*	*980*	*1025*	*1225*	*1400*	*1475*	*490*	*520*	*640*	*750*	*820*
P2	175	195	235	280	300	270	280	340	395	410	330	345	405	465	490	255	275	335	400	430	295	305	365	415	440	145	155	190	225	240
	570	*640*	*770*	*920*	*980*	*890*	*920*	*1125*	*1300*	*1350*	*1075*	*1125*	*1325*	*1525*	*1600*	*840*	*900*	*1100*	*1300*	*1400*	*970*	*1000*	*1200*	*1350*	*1450*	*475*	*510*	*620*	*740*	*790*
P3	155	165	205	245	265	240	250	300	340	360	285	295	355	410	435	220	240	295	350	380	250	265	315	365	390	125	135	165	195	215
	510	*540*	*670*	*800*	*870*	*790*	*820*	*980*	*1125*	*1175*	*940*	*970*	*1175*	*1350*	*1425*	*720*	*790*	*970*	*1150*	*1250*	*820*	*870*	*1025*	*1200*	*1275*	*410*	*445*	*540*	*640*	*710*
P4	135	145	180	215	230	210	220	265	310	320	250	260	310	360	380	195	210	260	310	335	220	230	280	320	340	110	120	145	175	190
	445	*475*	*590*	*710*	*750*	*690*	*720*	*870*	*1025*	*1050*	*820*	*850*	*1025*	*1175*	*1250*	*640*	*690*	*850*	*1025*	*1100*	*720*	*750*	*920*	*1050*	*1125*	*360*	*395*	*475*	*570*	*620*
P5	130	145	175	205	220	200	210	255	295	310	245	260	305	345	365	190	205	255	295	320	220	230	275	305	325	105	115	140	165	180
	425	*475*	*570*	*670*	*720*	*660*	*690*	*840*	*970*	*1025*	*800*	*850*	*1000*	*1125*	*1200*	*620*	*670*	*840*	*970*	*1050*	*720*	*750*	*900*	*1000*	*1075*	*345*	*375*	*460*	*540*	*590*
P6	150	160	195	235	250	225	235	290	330	350	275	290	345	390	410	215	230	285	335	360	245	260	310	350	365	120	130	160	190	200
	490	*520*	*640*	*770*	*820*	*740*	*770*	*950*	*1075*	*1150*	*900*	*950*	*1125*	*1275*	*1350*	*710*	*750*	*940*	*1100*	*1175*	*800*	*850*	*1025*	*1150*	*1200*	*395*	*425*	*520*	*620*	*660*
P7	140	150	185	220	235	215	225	270	310	330	260	275	325	370	385	200	220	270	315	340	235	245	290	330	345	115	125	150	180	190
	460	*490*	*610*	*720*	*770*	*710*	*740*	*890*	*1025*	*1075*	*850*	*900*	*1075*	*1225*	*1275*	*660*	*720*	*890*	*1025*	*1125*	*770*	*800*	*950*	*1075*	*1125*	*375*	*410*	*490*	*590*	*620*
P8	130	140	170	205	220	200	210	250	285	305	240	250	300	345	365	185	200	245	295	320	210	220	265	305	325	105	115	140	165	180
	425	*460*	*560*	*670*	*720*	*660*	*690*	*820*	*940*	*1000*	*790*	*820*	*980*	*1125*	*1200*	*610*	*660*	*800*	*970*	*1050*	*690*	*720*	*870*	*1000*	*1075*	*345*	*375*	*460*	*540*	*590*
P11	135	150	180	215	230	205	215	265	300	320	255	265	315	360	375	195	215	260	310	330	225	235	280	320	335	110	120	145	175	185
	445	*490*	*590*	*710*	*750*	*670*	*710*	*870*	*980*	*1050*	*840*	*870*	*1025*	*1175*	*1225*	*640*	*710*	*850*	*1025*	*1075*	*740*	*770*	*920*	*1050*	*1100*	*360*	*395*	*475*	*570*	*610*
P12	90	100	120	140	150	145	150	180	200	210	170	180	205	230	240	130	140	170	200	215	150	160	185	205	220	75	80	95	115	120
	295	*330*	*395*	*460*	*490*	*475*	*490*	*590*	*660*	*690*	*560*	*590*	*670*	*750*	*790*	*425*	*460*	*560*	*660*	*710*	*490*	*520*	*610*	*670*	*720*	*245*	*260*	*310*	*375*	*395*
M1	145	155	190	225	240	—	—	—	—	—	170	185	220	265	285	185	200	240	285	305	155	170	205	245	265	125	135	160	195	205
	475	*510*	*620*	*740*	*790*	—	—	—	—	—	*560*	*610*	*720*	*870*	*940*	*610*	*660*	*790*	*940*	*1000*	*510*	*560*	*670*	*800*	*870*	*410*	*445*	*520*	*640*	*670*
M2	120	130	160	185	200	—	—	—	—	—	140	155	185	215	235	150	165	200	235	255	130	140	175	200	220	105	110	135	160	170
	395	*425*	*520*	*610*	*660*	—	—	—	—	—	*460*	*510*	*610*	*710*	*770*	*490*	*540*	*660*	*770*	*840*	*425*	*460*	*570*	*660*	*720*	*345*	*360*	*445*	*520*	*560*
M3	95	105	130	150	160	—	—	—	—	—	115	125	150	180	190	125	135	165	195	210	105	115	140	165	180	85	90	110	130	140
	310	*345*	*425*	*490*	*520*	—	—	—	—	—	*375*	*410*	*490*	*590*	*620*	*410*	*445*	*540*	*640*	*690*	*345*	*375*	*460*	*540*	*590*	*280*	*295*	*360*	*425*	*460*
M4	80	85	100	115	125	—	—	—	—	—	95	100	120	140	150	100	110	130	150	165	85	95	110	130	140	70	75	85	100	110
	260	*280*	*330*	*375*	*410*	—	—	—	—	—	*310*	*330*	*395*	*460*	*490*	*330*	*360*	*425*	*490*	*540*	*280*	*310*	*360*	*425*	*460*	*230*	*245*	*280*	*330*	*360*
M5	65	70	85	95	105	—	—	—	—	—	80	85	100	115	125	85	90	105	125	135	75	80	90	105	115	55	60	70	85	90
	215	*230*	*280*	*310*	*345*	—	—	—	—	—	*260*	*280*	*330*	*375*	*410*	*280*	*295*	*345*	*410*	*445*	*245*	*260*	*295*	*345*	*375*	*180*	*195*	*230*	*280*	*295*
K1	140	155	185	220	235	275	285	345	395	415	330	350	410	470	495	200	220	265	315	340	295	310	365	420	440	—	—	—	—	—
	460	*510*	*610*	*720*	*770*	*900*	*940*	*1125*	*1300*	*1350*	*1075*	*1150*	*1350*	*1550*	*1625*	*660*	*720*	*870*	*1025*	*1125*	*970*	*1025*	*1200*	*1375*	*1450*	—	—	—	—	—
K2	125	135	165	195	210	245	255	310	355	375	300	310	370	415	440	180	195	240	280	305	265	280	330	370	395	—	—	—	—	—
	410	*445*	*540*	*640*	*690*	*800*	*840*	*1025*	*1175*	*1225*	*980*	*1025*	*1225*	*1350*	*1450*	*590*	*640*	*790*	*920*	*1000*	*870*	*920*	*1075*	*1225*	*1300*	—	—	—	—	—
K3	105	115	140	165	180	205	215	265	300	320	250	265	315	350	375	155	165	205	235	255	225	235	280	315	335	—	—	—	—	—
	345	*375*	*460*	*540*	*590*	*670*	*710*	*870*	*980*	*1050*	*820*	*870*	*1025*	*1150*	*1225*	*510*	*540*	*670*	*770*	*840*	*740*	*770*	*920*	*1025*	*1100*	—	—	—	—	—
K4	100	110	135	155	170	195	205	250	285	305	240	250	300	335	355	145	160	195	225	245	215	225	270	300	320	—	—	—	—	—
	330	*360*	*445*	*510*	*560*	*640*	*670*	*820*	*940*	*1000*	*790*	*820*	*980*	*1100*	*1175*	*475*	*520*	*640*	*740*	*800*	*710*	*740*	*890*	*980*	*1050*	—	—	—	—	—
K5	60	65	80	95	105	125	130	155	175	185	145	155	185	205	220	90	95	120	140	150	130	135	165	185	195	—	—	—	—	—
	195	*215*	*260*	*310*	*345*	*410*	*425*	*510*	*570*	*610*	*475*	*510*	*610*	*670*	*720*	*295*	*310*	*395*	*460*	*490*	*425*	*445*	*540*	*610*	*640*	—	—	—	—	—
K6	90	95	120	140	150	175	180	220	255	270	210	220	265	295	315	130	140	170	200	215	190	200	235	265	280	—	—	—	—	—
	295	*310*	*395*	*460*	*490*	*570*	*590*	*720*	*840*	*890*	*690*	*720*	*870*	*970*	*1025*	*425*	*460*	*560*	*660*	*710*	*620*	*660*	*770*	*870*	*920*	—	—	—	—	—
K7	80	85	105	125	135	160	165	195	225	240	185	195	235	265	280	115	125	150	180	195	165	175	210	235	250	—	—	—	—	—
	260	*280*	*345*	*410*	*445*	*520*	*540*	*640*	*740*	*790*	*610*	*640*	*770*	*870*	*920*	*375*	*410*	*490*	*590*	*640*	*540*	*570*	*690*	*770*	*820*	—	—	—	—	—
N1	1000	1100	1350	1600	1725	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3275	*3600*	*4425*	*5250*	*5650*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	405	440	550	650	700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1325	*1450*	*1800*	*2125*	*2300*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	270	295	365	430	465	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	890	*970*	*1200*	*1400*	*1525*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	310	335	415	490	530	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1025	*1100*	*1350*	*1600*	*1750*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	37	39	47	55	60	—	—	—	—	—	—	—	—	—	—	50	55	65	75	80	41	43	50	60	65	21	22	26	31	34
	120	*130*	*155*	*180*	*195*	—	—	—	—	—	—	—	—	—	—	*165*	*180*	*215*	*245*	*260*	*135*	*140*	*165*	*195*	*215*	*70*	*70*	*85*	*100*	*110*
S2	30	32	38	44	48	—	—	—	—	—	—	—	—	—	—	40	43	50	60	65	33	35	41	48	55	17	18	21	25	27
	100	*105*	*125*	*145*	*155*	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*165*	*195*	*215*	*110*	*115*	*135*	*155*	*180*	*55*	*60*	*70*	*80*	*90*
S3	26	28	33	39	42	—	—	—	—	—	—	—	—	—	—	35	37	44	50	55	29	31	36	43	46	15	16	19	22	24
	85	*90*	*110*	*130*	*140*	—	—	—	—	—	—	—	—	—	—	*115*	*120*	*145*	*165*	*180*	*95*	*100*	*120*	*140*	*150*	*49*	*50*	*60*	*70*	*80*
S11	49	55	65	75	80	—	—	—	—	—	—	—	—	—	—	65	70	85	100	110	55	60	70	85	90	28	30	37	43	46
	160	*180*	*215*	*245*	*260*	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*280*	*330*	*360*	*180*	*195*	*230*	*280*	*295*	*90*	*100*	*120*	*140*	*150*
S12	34	37	45	55	55	—	—	—	—	—	—	—	—	—	—	46	50	60	70	75	38	41	50	60	60	26	28	34	40	43
	110	*120*	*150*	*180*	*180*	—	—	—	—	—	—	—	—	—	—	*150*	*165*	*195*	*230*	*245*	*125*	*135*	*165*	*195*	*195*	*85*	*90*	*110*	*130*	*140*
S13	21	22	26	31	33	—	—	—	—	—	—	—	—	—	—	28	30	35	41	45	23	24	29	34	37	16	17	20	23	25
	70	*70*	*85*	*100*	*110*	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*115*	*135*	*150*	*75*	*80*	*95*	*110*	*120*	*50*	*55*	*65*	*75*	*80*
H5	32	35	42	49	55	40	44	55	65	70	—	—	—	—	—	41	45	55	65	70	37	40	48	55	60	—	—	—	—	—
	105	*115*	*140*	*160*	*180*	*130*	*145*	*180*	*215*	*230*	—	—	—	—	—	*135*	*150*	*180*	*215*	*230*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—
H8	35	38	45	55	60	45	48	60	65	75	—	—	—	—	—	46	50	60	70	75	41	44	50	60	65	—	—	—	—	—
	115	*125*	*150*	*180*	*195*	*150*	*155*	*195*	*215*	*245*	—	—	—	—	—	*150*	*165*	*195*	*230*	*245*	*135*	*145*	*165*	*195*	*215*	—	—	—	—	—
H11	40	44	55	65	70	50	55	65	80	85	—	—	—	—	—	55	55	70	80	90	47	50	60	70	80	—	—	—	—	—
	130	*145*	*180*	*215*	*230*	*165*	*180*	*215*	*260*	*280*	—	—	—	—	—	*180*	*180*	*230*	*260*	*295*	*155*	*165*	*195*	*230*	*260*	—	—	—	—	—
H12	65	70	80	95	105	80	85	105	120	130	—	—	—	—	—	90	100	115	135	150	75	80	95	110	120	—	—	—	—	—
	215	*230*	*260*	*310*	*345*	*260*	*280*	*345*	*395*	*425*	—	—	—	—	—	*295*	*330*	*375*	*445*	*490*	*245*	*260*	*310*	*360*	*395*	—	—	—	—	—

R218.19-160 – Insert selection – mm/*Inch*

SMG			a_p	f_z				
				100%	70%	30%	10%	5%
P1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,25 *0.010*	0,38 0.015	0,55 0.022
P2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,24 *0.0095*	0,24 *0.0095*	0,26 *0.010*	0,40 0.016	0,55 0.022
P3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,38 0.015	0,50 0.020
P4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P6	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P7	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P8	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,38 0.015	0,50 0.020
P11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
P12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	22,0 *0.85*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,25 0.010	0,34 0.013
M1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,24 *0.0095*	0,24 *0.0095*	0,26 *0.010*	0,40 0.016	0,55 0.022
M2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
M3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	22,0 *0.85*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,40 0.016
M4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
M5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
K1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,24 *0.0095*	0,24 *0.0095*	0,26 *0.010*	0,40 0.016	0,55 0.022
K2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K4	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
K6	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 0.014	0,50 0.020
K7	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,19 *0.0075*	0,19 *0.0075*	0,20 *0.0080*	0,32 0.013	0,46 0.018
N1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
N11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	28,0 *1.1*	0,30 *0.012*	0,30 *0.012*	0,32 *0.013*	0,50 0.020	0,70 0.028
S1	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
S2	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
S3	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,15 *0.0060*	0,15 *0.0060*	0,16 *0.0065*	0,24 0.0095	0,34 0.013
S11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	20,0 *0.80*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,40 0.016
S12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	20,0 *0.80*	0,17 *0.0065*	0,17 *0.0065*	0,19 *0.0075*	0,30 0.012	0,40 0.016
S13	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	17,0 *0.65*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,26 0.010	0,36 0.014
H5	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H8	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	15,0 *0.60*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095
H11	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	18,0 *0.70*	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 0.0085	0,30 0.012
H12	218.19-160T-04-M08 F40M	SPMT100408T-M08 F40M	15,0 *0.60*	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 0.0065	0,24 0.0095

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-160 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MH1000					F15M					MK2050					F25M					F30M					MP3000					MS2050				
		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%
P1	—	—	—	—	—	175	190	240	280	305	190	205	255	300	330	195	215	260	310	330	190	205	245	295	315	225	245	295	350	375	195	215	260	310	330
	—	—	—	—	—	*570*	*620*	*790*	*920*	*1000*	*620*	*670*	*840*	*980*	*1075*	*640*	*710*	*850*	*1025*	*1075*	*620*	*670*	*800*	*970*	*1025*	*740*	*800*	*970*	*1150*	*1225*	*640*	*710*	*850*	*1025*	*1075*
P2	—	—	—	—	—	170	185	225	270	295	185	200	245	295	320	185	200	250	295	320	180	195	240	280	305	210	230	285	335	365	185	200	250	295	320
	—	—	—	—	—	*560*	*610*	*740*	*890*	*970*	*610*	*660*	*800*	*970*	*1050*	*610*	*660*	*820*	*970*	*1050*	*590*	*640*	*790*	*920*	*1000*	*690*	*750*	*940*	*1100*	*1200*	*610*	*660*	*820*	*970*	*1050*
P3	—	—	—	—	—	150	165	200	240	255	165	175	215	260	275	165	180	220	260	285	155	170	210	245	270	185	205	250	295	325	165	180	220	260	285
	—	—	—	—	—	*490*	*540*	*660*	*790*	*840*	*540*	*570*	*710*	*850*	*900*	*540*	*590*	*720*	*850*	*940*	*510*	*560*	*690*	*800*	*890*	*610*	*670*	*820*	*970*	*1075*	*540*	*590*	*720*	*850*	*940*
P4	—	—	—	—	—	135	145	180	210	230	145	155	195	230	250	145	160	195	230	250	140	150	185	220	240	165	180	220	265	285	145	160	195	230	250
	—	—	—	—	—	*445*	*475*	*590*	*690*	*750*	*475*	*510*	*640*	*750*	*820*	*475*	*520*	*640*	*750*	*820*	*460*	*490*	*610*	*720*	*790*	*540*	*590*	*720*	*870*	*940*	*475*	*520*	*640*	*750*	*820*
P5	155	165	205	245	265	125	135	170	200	220	135	150	185	220	235	140	150	185	220	240	130	145	175	210	230	160	170	210	250	270	140	150	185	220	240
	510	*540*	*670*	*800*	*870*	*410*	*445*	*560*	*660*	*720*	*445*	*490*	*610*	*720*	*770*	*460*	*490*	*610*	*720*	*790*	*425*	*475*	*570*	*690*	*750*	*520*	*560*	*690*	*820*	*890*	*460*	*490*	*610*	*720*	*790*
P6	175	190	230	280	295	145	160	190	230	245	160	170	210	250	265	155	170	215	250	270	150	160	205	235	255	175	190	240	280	305	155	170	215	250	270
	570	*620*	*750*	*920*	*970*	*475*	*520*	*620*	*750*	*800*	*520*	*560*	*690*	*820*	*870*	*510*	*560*	*710*	*820*	*890*	*490*	*520*	*670*	*770*	*840*	*570*	*620*	*790*	*920*	*1000*	*510*	*560*	*710*	*820*	*890*
P7	165	180	220	260	280	140	150	180	215	230	150	160	195	235	250	145	160	200	235	255	140	150	190	225	240	165	180	230	265	290	145	160	200	235	255
	540	*590*	*720*	*850*	*920*	*460*	*490*	*590*	*710*	*750*	*490*	*520*	*640*	*770*	*820*	*475*	*520*	*660*	*770*	*840*	*460*	*490*	*620*	*740*	*790*	*540*	*590*	*750*	*870*	*950*	*475*	*520*	*660*	*770*	*840*
P8	155	165	200	245	260	125	135	165	200	215	135	150	180	220	230	140	150	185	215	240	130	145	175	205	230	160	170	210	245	270	140	150	185	215	240
	510	*540*	*660*	*800*	*850*	*410*	*445*	*540*	*660*	*710*	*445*	*490*	*590*	*720*	*750*	*460*	*490*	*610*	*710*	*790*	*425*	*475*	*570*	*670*	*750*	*520*	*560*	*690*	*800*	*890*	*460*	*490*	*610*	*710*	*790*
P11	160	175	210	255	270	135	145	175	210	225	145	155	190	230	245	145	155	195	225	245	135	150	185	215	235	160	175	220	260	280	145	155	195	225	245
	520	*570*	*690*	*840*	*890*	*445*	*475*	*570*	*690*	*740*	*475*	*510*	*620*	*750*	*800*	*475*	*510*	*640*	*740*	*800*	*445*	*490*	*610*	*710*	*770*	*520*	*570*	*720*	*850*	*920*	*475*	*510*	*640*	*740*	*800*
P12	110	115	140	170	185	—	—	—	—	—	95	105	125	150	165	100	105	125	150	160	95	100	120	145	155	110	120	145	170	185	100	105	125	150	160
	360	*375*	*460*	*560*	*610*	—	—	—	—	—	*310*	*345*	*410*	*490*	*540*	*330*	*345*	*410*	*490*	*520*	*310*	*330*	*395*	*475*	*510*	*360*	*395*	*475*	*560*	*610*	*330*	*345*	*410*	*490*	*520*
M1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	145	155	195	225	245	160	170	215	250	275	150	165	205	240	260
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*475*	*510*	*640*	*740*	*800*	*520*	*560*	*710*	*820*	*900*	*490*	*540*	*670*	*790*	*850*
M2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	120	130	160	190	205	130	145	175	210	225	125	135	165	200	215
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*395*	*425*	*520*	*620*	*670*	*425*	*475*	*570*	*690*	*740*	*410*	*445*	*540*	*660*	*710*
M3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	110	130	155	165	110	120	145	170	185	105	115	135	165	175
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*330*	*360*	*425*	*510*	*540*	*360*	*395*	*475*	*560*	*610*	*345*	*375*	*445*	*540*	*570*
M4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	80	85	105	120	130	90	95	115	135	145	85	90	110	125	140
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*280*	*345*	*395*	*425*	*295*	*310*	*375*	*445*	*475*	*280*	*295*	*360*	*410*	*460*
M5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65	70	85	100	110	75	80	95	110	120	70	75	90	105	115
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*230*	*280*	*330*	*360*	*245*	*260*	*310*	*360*	*395*	*230*	*245*	*295*	*345*	*375*
K1	165	175	215	260	285	135	145	180	215	235	200	215	265	315	345	150	160	200	235	255	140	155	190	225	245	170	180	225	265	290	—	—	—	—	—
	540	*570*	*710*	*850*	*940*	*445*	*475*	*590*	*710*	*770*	*660*	*710*	*870*	*1025*	*1125*	*490*	*520*	*660*	*770*	*840*	*460*	*510*	*620*	*740*	*800*	*560*	*590*	*740*	*870*	*950*	—	—	—	—	—
K2	145	155	195	230	250	120	130	160	190	205	180	190	240	285	305	130	145	175	210	225	125	135	165	200	215	150	160	200	240	260	—	—	—	—	—
	475	*510*	*640*	*750*	*820*	*395*	*425*	*520*	*620*	*670*	*590*	*620*	*790*	*940*	*1000*	*425*	*475*	*570*	*690*	*740*	*410*	*445*	*540*	*660*	*710*	*490*	*520*	*660*	*790*	*850*	—	—	—	—	—
K3	125	135	165	195	210	100	110	135	160	175	150	165	200	240	260	110	120	150	175	190	105	115	140	170	185	125	135	170	200	220	—	—	—	—	—
	410	*445*	*540*	*640*	*690*	*330*	*360*	*445*	*520*	*570*	*490*	*540*	*660*	*790*	*850*	*360*	*395*	*490*	*570*	*620*	*345*	*375*	*460*	*560*	*610*	*410*	*445*	*560*	*660*	*720*	—	—	—	—	—
K4	115	125	160	185	200	95	105	130	155	165	145	155	195	230	245	105	115	140	170	185	100	110	135	160	175	120	130	160	190	210	—	—	—	—	—
	375	*410*	*520*	*610*	*660*	*310*	*345*	*425*	*510*	*540*	*475*	*510*	*640*	*750*	*800*	*345*	*375*	*460*	*560*	*610*	*330*	*360*	*445*	*520*	*570*	*395*	*425*	*520*	*620*	*690*	—	—	—	—	—
K5	75	80	100	115	125	60	65	80	95	105	90	95	120	140	155	65	70	90	105	115	65	70	85	100	110	75	80	100	120	130	—	—	—	—	—
	245	*260*	*330*	*375*	*410*	*195*	*215*	*260*	*310*	*345*	*295*	*310*	*395*	*460*	*510*	*215*	*230*	*295*	*345*	*375*	*215*	*230*	*280*	*330*	*360*	*245*	*260*	*330*	*395*	*425*	—	—	—	—	—
K6	105	110	140	165	180	85	95	115	135	150	125	135	170	200	220	95	100	125	150	160	90	95	120	140	155	105	115	140	170	185	—	—	—	—	—
	345	*360*	*460*	*540*	*590*	*280*	*310*	*375*	*445*	*490*	*410*	*445*	*560*	*660*	*720*	*310*	*330*	*410*	*490*	*520*	*295*	*310*	*395*	*460*	*510*	*345*	*375*	*460*	*560*	*610*	—	—	—	—	—
K7	95	100	125	150	160	80	85	105	125	135	115	125	155	180	200	85	90	115	135	145	80	90	110	125	140	95	105	130	150	165	—	—	—	—	—
	310	*330*	*410*	*490*	*520*	*260*	*280*	*345*	*410*	*445*	*375*	*410*	*510*	*590*	*660*	*280*	*295*	*375*	*445*	*475*	*260*	*295*	*360*	*410*	*460*	*310*	*345*	*425*	*490*	*540*	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	40	48	55	60	41	44	55	60	70	39	42	50	60	65
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*135*	*145*	*180*	*195*	*230*	*130*	*140*	*165*	*195*	*215*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30	32	39	45	49	33	36	43	50	55	31	34	41	48	50
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*100*	*105*	*130*	*150*	*160*	*110*	*120*	*140*	*165*	*180*	*100*	*110*	*135*	*155*	*165*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26	28	34	40	43	29	31	38	44	48	28	30	36	41	45
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*85*	*90*	*110*	*130*	*140*	*95*	*100*	*125*	*145*	*155*	*90*	*100*	*120*	*135*	*150*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	55	60	70	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*230*	*280*	*295*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37	40	48	55	60
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22	24	28	33	36
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*80*	*90*	*110*	*120*
H5	38	42	50	60	65	32	35	42	49	55	—	—	—	—	—	34	37	45	55	55	32	35	43	50	55	36	39	48	55	60	—	—	—	—	—
	125	*140*	*165*	*195*	*215*	*105*	*115*	*140*	*160*	*180*	—	—	—	—	—	*110*	*120*	*150*	*180*	*180*	*105*	*115*	*140*	*165*	*180*	*120*	*130*	*155*	*180*	*195*	—	—	—	—	—
H8	42	45	55	65	70	34	37	45	55	55	—	—	—	—	—	37	40	48	55	60	35	38	46	55	60	39	43	50	60	65	—	—	—	—	—
	140	*150*	*180*	*215*	*230*	*110*	*120*	*150*	*180*	*180*	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*115*	*125*	*150*	*180*	*195*	*130*	*140*	*165*	*195*	*215*	—	—	—	—	—
H11	49	55	65	75	85	40	44	55	65	70	—	—	—	—	—	43	47	55	65	75	41	45	55	65	70	46	50	60	70	75	—	—	—	—	—
	160	*180*	*215*	*245*	*280*	*130*	*145*	*180*	*215*	*230*	—	—	—	—	—	*140*	*155*	*180*	*215*	*245*	*135*	*150*	*180*	*215*	*230*	*150*	*165*	*195*	*230*	*245*	—	—	—	—	—
H12	75	80	100	115	125	60	65	80	95	105	—	—	—	—	—	65	70	85	100	110	65	70	80	95	105	75	80	100	115	125	—	—	—	—	—
	245	*260*	*330*	*375*	*410*	*195*	*215*	*260*	*310*	*345*	—	—	—	—	—	*215*	*230*	*280*	*330*	*360*	*215*	*230*	*260*	*310*	*345*	*245*	*260*	*330*	*375*	*410*	—	—	—	—	—

R218.19-160 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M					MP2050					MP1501					MP2501					MS2500					MP3501					MM4500				
		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%		70%	30%	10%	5%
P1	180	195	235	280	300	230	250	305	365	390	305	315	390	440	470	295	305	380	430	460	235	255	320	370	405	295	310	365	420	440	145	155	190	225	245
	590	*640*	*770*	*920*	*980*	*750*	*820*	*1000*	*1200*	*1275*	*1000*	*1025*	*1275*	*1450*	*1550*	*970*	*1000*	*1250*	*1400*	*1500*	*770*	*840*	*1050*	*1225*	*1325*	*970*	*1025*	*1200*	*1375*	*1450*	*475*	*510*	*620*	*740*	*800*
P2	170	185	230	270	290	220	240	295	350	380	295	310	370	430	460	285	295	360	415	445	230	250	305	360	395	275	290	355	405	430	135	150	185	220	235
	560	*610*	*750*	*890*	*950*	*720*	*790*	*970*	*1150*	*1250*	*970*	*1025*	*1225*	*1400*	*1500*	*940*	*970*	*1175*	*1350*	*1450*	*750*	*820*	*1000*	*1175*	*1300*	*900*	*950*	*1175*	*1325*	*1400*	*445*	*490*	*610*	*720*	*770*
P3	150	165	200	235	260	195	210	260	305	335	260	275	325	380	395	250	265	315	370	385	200	220	265	320	340	245	260	310	355	380	120	130	160	190	210
	490	*540*	*660*	*770*	*850*	*640*	*690*	*850*	*1000*	*1100*	*850*	*900*	*1075*	*1250*	*1300*	*820*	*870*	*1025*	*1225*	*1275*	*660*	*720*	*870*	*1050*	*1125*	*800*	*850*	*1025*	*1175*	*1250*	*395*	*425*	*520*	*620*	*690*
P4	130	145	175	210	230	170	185	230	270	295	230	240	295	335	355	220	230	285	325	345	180	190	240	285	305	215	225	275	315	335	105	115	140	170	185
	425	*475*	*570*	*690*	*750*	*560*	*610*	*750*	*890*	*970*	*750*	*790*	*970*	*1100*	*1175*	*720*	*750*	*940*	*1075*	*1125*	*590*	*620*	*790*	*940*	*1000*	*710*	*740*	*900*	*1025*	*1100*	*345*	*375*	*460*	*560*	*610*
P5	125	135	170	200	220	165	175	220	260	280	220	230	280	320	340	210	220	275	315	330	170	185	230	270	290	210	215	260	300	320	100	110	135	165	175
	410	*445*	*560*	*660*	*720*	*540*	*570*	*720*	*850*	*920*	*720*	*750*	*920*	*1050*	*1125*	*690*	*720*	*900*	*1025*	*1075*	*560*	*610*	*750*	*890*	*950*	*690*	*710*	*850*	*980*	*1050*	*330*	*360*	*445*	*540*	*570*
P6	140	155	195	225	245	185	200	250	290	315	255	265	315	365	385	245	255	305	355	370	195	210	255	305	330	235	245	300	340	360	115	125	155	185	200
	460	*510*	*640*	*740*	*800*	*610*	*660*	*820*	*950*	*1025*	*840*	*870*	*1025*	*1200*	*1275*	*800*	*840*	*1000*	*1175*	*1225*	*640*	*690*	*840*	*1000*	*1075*	*770*	*800*	*980*	*1125*	*1175*	*375*	*410*	*510*	*610*	*660*
P7	135	145	185	215	230	175	190	235	275	300	240	250	300	345	360	230	240	290	335	350	185	200	240	290	310	220	230	285	320	340	110	115	150	170	185
	445	*475*	*610*	*710*	*750*	*570*	*620*	*770*	*900*	*980*	*790*	*820*	*980*	*1125*	*1175*	*750*	*790*	*950*	*1100*	*1150*	*610*	*660*	*790*	*950*	*1025*	*720*	*750*	*940*	*1050*	*1125*	*360*	*375*	*490*	*560*	*610*
P8	125	135	170	200	220	165	175	220	255	280	220	230	275	320	335	210	220	265	315	325	170	185	225	270	285	210	215	260	295	320	100	110	135	160	175
	410	*445*	*560*	*660*	*720*	*540*	*570*	*720*	*840*	*920*	*720*	*750*	*900*	*1050*	*1100*	*690*	*720*	*870*	*1025*	*1075*	*560*	*610*	*740*	*890*	*940*	*690*	*710*	*850*	*970*	*1050*	*330*	*360*	*445*	*520*	*570*
P11	130	140	175	205	225	170	180	230	270	290	230	245	290	335	350	225	235	280	325	340	180	195	235	280	300	215	225	275	310	330	105	115	145	165	180
	425	*460*	*570*	*670*	*740*	*560*	*590*	*750*	*890*	*950*	*750*	*800*	*950*	*1100*	*1150*	*740*	*770*	*920*	*1075*	*1125*	*590*	*640*	*770*	*920*	*980*	*710*	*740*	*900*	*1025*	*1075*	*345*	*375*	*475*	*540*	*590*
P12	90	95	115	135	145	115	125	150	180	190	160	165	195	220	235	155	160	190	215	230	120	130	155	185	200	150	155	180	205	215	70	80	95	110	120
	295	*310*	*375*	*445*	*475*	*375*	*410*	*490*	*590*	*620*	*520*	*540*	*640*	*720*	*770*	*510*	*520*	*620*	*710*	*750*	*395*	*425*	*510*	*610*	*660*	*490*	*510*	*590*	*670*	*710*	*230*	*260*	*310*	*360*	*395*
M1	135	150	185	215	235	155	170	215	250	270	—	—	—	—	—	150	165	200	240	260	165	180	215	260	285	150	165	205	240	260	120	130	160	185	205
	445	*490*	*610*	*710*	*770*	*510*	*560*	*710*	*820*	*890*	—	—	—	—	—	*490*	*540*	*660*	*790*	*850*	*540*	*590*	*710*	*850*	*940*	*490*	*540*	*670*	*790*	*850*	*395*	*425*	*520*	*610*	*670*
M2	115	125	150	180	195	130	140	175	210	225	—	—	—	—	—	125	135	170	200	215	135	145	185	215	235	125	135	165	200	215	100	105	130	155	170
	375	*410*	*490*	*590*	*640*	*425*	*460*	*570*	*690*	*740*	—	—	—	—	—	*410*	*445*	*560*	*660*	*710*	*445*	*475*	*610*	*710*	*770*	*410*	*445*	*540*	*660*	*710*	*330*	*345*	*425*	*510*	*560*
M3	95	105	125	150	160	110	120	145	170	185	—	—	—	—	—	105	115	140	165	175	115	125	150	175	195	105	115	135	165	175	80	90	105	130	135
	310	*345*	*410*	*490*	*520*	*360*	*395*	*475*	*560*	*610*	—	—	—	—	—	*345*	*375*	*460*	*540*	*570*	*375*	*410*	*490*	*570*	*640*	*345*	*375*	*445*	*540*	*570*	*260*	*295*	*345*	*425*	*445*
M4	75	80	100	115	125	85	95	115	130	145	—	—	—	—	—	85	90	110	130	140	90	100	120	140	150	85	90	110	125	140	65	70	85	100	110
	245	*260*	*330*	*375*	*410*	*280*	*310*	*375*	*425*	*475*	—	—	—	—	—	*280*	*295*	*360*	*425*	*460*	*295*	*330*	*395*	*460*	*490*	*280*	*295*	*360*	*410*	*460*	*215*	*230*	*280*	*330*	*360*
M5	65	70	80	95	105	75	80	95	110	120	—	—	—	—	—	70	75	90	105	115	75	85	100	115	125	70	75	90	105	115	55	60	70	85	90
	215	*230*	*260*	*310*	*345*	*245*	*260*	*310*	*360*	*395*	—	—	—	—	—	*230*	*245*	*295*	*345*	*375*	*245*	*280*	*330*	*375*	*410*	*230*	*245*	*295*	*345*	*375*	*180*	*195*	*230*	*280*	*295*
K1	135	145	180	215	230	—	—	—	—	—	300	310	375	435	465	285	300	360	420	450	180	195	240	285	315	280	290	360	405	435	—	—	—	—	—
	445	*475*	*590*	*710*	*750*	—	—	—	—	—	*980*	*1025*	*1225*	*1425*	*1525*	*940*	*980*	*1175*	*1375*	*1475*	*590*	*640*	*790*	*940*	*1025*	*920*	*950*	*1175*	*1325*	*1425*	—	—	—	—	—
K2	120	130	160	190	205	—	—	—	—	—	265	275	340	390	410	255	265	330	380	400	160	175	215	255	275	250	260	315	365	385	—	—	—	—	—
	395	*425*	*520*	*620*	*670*	—	—	—	—	—	*870*	*900*	*1125*	*1275*	*1350*	*840*	*870*	*1075*	*1250*	*1300*	*520*	*570*	*710*	*840*	*900*	*820*	*850*	*1025*	*1200*	*1275*	—	—	—	—	—
K3	100	110	135	160	175	—	—	—	—	—	225	235	285	330	350	215	225	280	320	340	135	145	185	215	235	210	220	265	310	330	—	—	—	—	—
	330	*360*	*445*	*520*	*570*	—	—	—	—	—	*740*	*770*	*940*	*1075*	*1150*	*710*	*740*	*920*	*1050*	*1125*	*445*	*475*	*610*	*710*	*770*	*690*	*720*	*870*	*1025*	*1075*	—	—	—	—	—
K4	95	105	130	155	165	—	—	—	—	—	215	225	275	315	335	205	215	265	305	325	130	140	175	205	225	205	210	255	295	315	—	—	—	—	—
	310	*345*	*425*	*510*	*540*	—	—	—	—	—	*710*	*740*	*900*	*1025*	*1100*	*670*	*710*	*870*	*1000*	*1075*	*425*	*460*	*570*	*670*	*740*	*670*	*690*	*840*	*970*	*1025*	—	—	—	—	—
K5	60	65	80	95	105	—	—	—	—	—	135	140	170	195	210	130	135	165	190	205	80	90	110	130	140	130	135	160	180	195	—	—	—	—	—
	195	*215*	*260*	*310*	*345*	—	—	—	—	—	*445*	*460*	*560*	*640*	*690*	*425*	*445*	*540*	*620*	*670*	*260*	*295*	*360*	*425*	*460*	*425*	*445*	*520*	*590*	*640*	—	—	—	—	—
K6	85	90	115	135	145	—	—	—	—	—	190	195	240	275	295	185	190	235	270	285	115	125	155	180	195	180	185	225	260	275	—	—	—	—	—
	280	*295*	*375*	*445*	*475*	—	—	—	—	—	*620*	*640*	*790*	*900*	*970*	*610*	*620*	*770*	*890*	*940*	*375*	*410*	*510*	*590*	*640*	*590*	*610*	*740*	*850*	*900*	—	—	—	—	—
K7	75	85	105	120	130	—	—	—	—	—	175	180	220	250	265	170	175	215	245	260	105	115	140	165	180	165	170	205	230	245	—	—	—	—	—
	245	*280*	*345*	*395*	*425*	—	—	—	—	—	*570*	*590*	*720*	*820*	*870*	*560*	*570*	*710*	*800*	*850*	*345*	*375*	*460*	*540*	*590*	*540*	*560*	*670*	*750*	*800*	—	—	—	—	—
N1	990	1075	1325	1575	1700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3250	*3525*	*4350*	*5175*	*5575*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	400	430	540	630	690	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1300	*1400*	*1775*	*2075*	*2275*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	265	285	355	425	455	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	870	*940*	*1175*	*1400*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	305	330	410	485	520	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1000	*1075*	*1350*	*1600*	*1700*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	35	38	46	55	60	43	46	55	65	70	—	—	—	—	—	—	—	—	—	—	45	49	60	70	75	39	42	50	60	65	20	22	26	30	33
	115	*125*	*150*	*180*	*195*	*140*	*150*	*180*	*215*	*230*	—	—	—	—	—	—	—	—	—	—	*150*	*160*	*195*	*230*	*245*	*130*	*140*	*165*	*195*	*215*	*65*	*70*	*85*	*100*	*110*
S2	28	31	37	43	47	34	37	45	50	55	—	—	—	—	—	—	—	—	—	—	36	39	47	55	60	31	34	41	48	50	16	17	21	24	27
	90	*100*	*120*	*140*	*155*	*110*	*120*	*150*	*165*	*180*	—	—	—	—	—	—	—	—	—	—	*120*	*130*	*155*	*180*	*195*	*100*	*110*	*135*	*155*	*165*	*50*	*55*	*70*	*80*	*90*
S3	25	27	32	38	41	30	33	39	45	50	—	—	—	—	—	—	—	—	—	—	32	34	42	48	50	28	30	36	41	45	14	15	18	21	23
	80	*90*	*105*	*125*	*135*	*100*	*110*	*130*	*150*	*165*	—	—	—	—	—	—	—	—	—	—	*105*	*110*	*140*	*155*	*165*	*90*	*100*	*120*	*135*	*150*	*46*	*49*	*60*	*70*	*75*
S11	48	55	65	75	80	60	65	75	90	95	—	—	—	—	—	—	—	—	—	—	60	65	80	95	100	55	60	70	85	90	27	30	36	42	46
	155	*180*	*215*	*245*	*260*	*195*	*215*	*245*	*295*	*310*	—	—	—	—	—	—	—	—	—	—	*195*	*215*	*260*	*310*	*330*	*180*	*195*	*230*	*280*	*295*	*90*	*100*	*120*	*140*	*150*
S12	34	36	44	50	55	40	44	55	65	65	—	—	—	—	—	—	—	—	—	—	42	45	55	65	70	37	40	48	55	60	25	27	33	39	42
	110	*120*	*145*	*165*	*180*	*130*	*145*	*180*	*215*	*215*	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*180*	*215*	*230*	*120*	*130*	*155*	*180*	*195*	*80*	*90*	*110*	*130*	*140*
S13	20	21	26	30	33	24	26	31	36	40	—	—	—	—	—	—	—	—	—	—	25	27	33	38	41	22	24	28	33	36	15	16	19	23	25
	65	*70*	*85*	*100*	*110*	*80*	*85*	*100*	*120*	*130*	—	—	—	—	—	—	—	—	—	—	*80*	*90*	*110*	*125*	*135*	*70*	*80*	*90*	*110*	*120*	*49*	*50*	*60*	*75*	*80*
H5	31	33	41	48	50	—	—	—	—	—	44	48	60	70	75	—	—	—	—	—	38	42	50	60	65	35	38	47	55	60	—	—	—	—	—
	100	*110*	*135*	*155*	*165*	—	—	—	—	—	*145*	*155*	*195*	*230*	*245*	—	—	—	—	—	*125*	*140*	*165*	*195*	*215*	*115*	*125*	*155*	*180*	*195*	—	—	—	—	—
H8	34	37	44	50	55	—	—	—	—	—	48	50	60	75	80	—	—	—	—	—	42	45	55	65	70	39	42	50	60	65	—	—	—	—	—
	110	*120*	*145*	*165*	*180*	—	—	—	—	—	*155*	*165*	*195*	*245*	*260*	—	—	—	—	—	*140*	*150*	*180*	*215*	*230*	*130*	*140*	*165*	*195*	*215*	—	—	—	—	—
H11	39	43	50	60	65	46	50	60	70	75	55	60	75	85	95	—	—	—	—	—	49	55	65	75	85	45	49	60	70	75	—	—	—	—	—
	130	*140*	*165*	*195*	*215*	*150*	*165*	*195*	*230*	*245*	*180*	*195*	*245*	*280*	*310*	—	—	—	—	—	*160*	*180*	*215*	*245*	*280*	*150*	*160*	*195*	*230*	*245*	—	—	—	—	—
H12	60	65	80	95	100	80	85	100	120	130	85	95	110	135	145	—	—	—	—	—	85	90	110	130	140	70	75	90	105	115	—	—	—	—	—
	195	*215*	*260*	*310*	*330*	*260*	*280*	*330*	*395*	*425*	*280*	*310*	*360*	*445*	*475*	—	—	—	—	—	*280*	*295*	*360*	*425*	*460*	*230*	*245*	*295*	*345*	*375*	—	—	—	—	—

R218.19-200 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
P1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,44 *0.017*	0,60 *0.024*
P2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 *0.018*	0,65 *0.026*
P3	218.19-200T-05-M10 F40M	18,0 *0.70*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,42 *0.017*	0,60 *0.024*
P4	218.19-200T-05-M10 F40M	18,0 *0.70*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,42 *0.017*	0,60 *0.024*
P5	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,42 *0.017*	0,55 *0.022*
P6	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,40 *0.016*	0,55 *0.022*
P7	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,40 *0.016*	0,55 *0.022*
P8	218.19-200T-05-M10 F40M	18,0 *0.70*	0,26 *0.010*	0,26 *0.010*	0,28 *0.011*	0,42 *0.017*	0,60 *0.024*
P11	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,26 *0.010*	0,40 *0.016*	0,55 *0.022*
P12	218.19-200T-05-M10 F40M	14,0 *0.55*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,28 *0.011*	0,40 *0.016*
M1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 *0.018*	0,65 *0.026*
M2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,42 *0.017*	0,55 *0.022*
M3	218.19-200T-05-M10 F40M	14,0 *0.55*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,34 *0.013*	0,46 *0.018*
M4	218.19-200T-05-M10 F40M	11,0 *0.44*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,30 *0.012*	0,40 *0.016*
M5	218.19-200T-05-M10 F40M	11,0 *0.44*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,30 *0.012*	0,40 *0.016*
K1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,28 *0.011*	0,28 *0.011*	0,30 *0.012*	0,46 *0.018*	0,65 *0.026*
K2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,42 *0.017*	0,55 *0.022*
K3	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,42 *0.017*	0,55 *0.022*
K4	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,42 *0.017*	0,55 *0.022*
K5	218.19-200T-05-M10 F40M	18,0 *0.70*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*	0,50 *0.020*
K6	218.19-200T-05-M10 F40M	18,0 *0.70*	0,25 *0.010*	0,25 *0.010*	0,28 *0.011*	0,42 *0.017*	0,55 *0.022*
K7	218.19-200T-05-M10 F40M	18,0 *0.70*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*	0,50 *0.020*
N1	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,60 *0.024*	0,80 *0.032*
N2	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,60 *0.024*	0,80 *0.032*
N3	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,60 *0.024*	0,80 *0.032*
N11	218.19-200T-05-M10 F40M	18,0 *0.70*	0,36 *0.014*	0,36 *0.014*	0,38 *0.015*	0,60 *0.024*	0,80 *0.032*
S1	218.19-200T-05-M10 F40M	11,0 *0.44*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,30 *0.012*	0,40 *0.016*
S2	218.19-200T-05-M10 F40M	11,0 *0.44*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,30 *0.012*	0,40 *0.016*
S3	218.19-200T-05-M10 F40M	11,0 *0.44*	0,18 *0.0070*	0,18 *0.0070*	0,19 *0.0075*	0,28 *0.011*	0,38 *0.015*
S11	218.19-200T-05-M10 F40M	13,0 *0.50*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,34 *0.013*	0,46 *0.018*
S12	218.19-200T-05-M10 F40M	13,0 *0.50*	0,22 *0.0085*	0,22 *0.0085*	0,22 *0.0085*	0,34 *0.013*	0,46 *0.018*
S13	218.19-200T-05-M10 F40M	11,0 *0.44*	0,20 *0.0080*	0,20 *0.0080*	0,20 *0.0080*	0,30 *0.012*	0,40 *0.016*
H5	218.19-200T-05-M10 F40M	11,0 *0.44*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,25 *0.010*	0,34 *0.013*
H8	218.19-200T-05-M10 F40M	10,0 *0.40*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,19 *0.0075*	0,26 *0.010*
H11	218.19-200T-05-M10 F40M	11,0 *0.44*	0,16 *0.0065*	0,16 *0.0065*	0,17 *0.0065*	0,25 *0.010*	0,34 *0.013*
H12	218.19-200T-05-M10 F40M	10,0 *0.40*	0,13 *0.0050*	0,13 *0.0050*	0,13 *0.0050*	0,19 *0.0075*	0,26 *0.010*

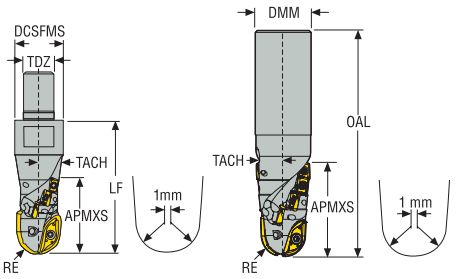
SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.19-200 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F25M					F40M				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	215 *710*	230 *750*	285 *940*	340 *1125*	375 *1225*	195 *640*	210 *690*	260 *850*	310 *1025*	340 *1125*
P2	210 *690*	225 *740*	275 *900*	330 *1075*	360 *1175*	190 *620*	205 *670*	250 *820*	300 *980*	325 *1075*
P3	185 *610*	200 *660*	245 *800*	290 *950*	315 *1025*	170 *560*	180 *590*	220 *720*	265 *870*	285 *940*
P4	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	150 *490*	160 *520*	195 *640*	230 *750*	255 *840*
P5	160 *520*	170 *560*	210 *690*	245 *800*	270 *890*	145 *475*	155 *510*	190 *620*	220 *720*	245 *800*
P6	180 *590*	190 *620*	235 *770*	280 *920*	305 *1000*	160 *520*	170 *560*	215 *710*	255 *840*	280 *920*
P7	170 *560*	180 *590*	220 *720*	260 *850*	290 *950*	155 *510*	160 *520*	200 *660*	240 *790*	260 *850*
P8	155 *510*	165 *540*	205 *670*	245 *800*	265 *870*	140 *460*	150 *490*	185 *610*	220 *720*	240 *790*
P11	165 *540*	175 *570*	215 *710*	255 *840*	280 *920*	150 *490*	155 *510*	195 *640*	230 *750*	255 *840*
P12	115 *375*	115 *375*	140 *460*	170 *560*	185 *610*	105 *345*	105 *345*	130 *425*	150 *490*	165 *540*
M1	— —	— —	— —	— —	— —	155 *510*	165 *540*	205 *670*	240 *790*	260 *850*
M2	— —	— —	— —	— —	— —	130 *425*	140 *460*	170 *560*	200 *660*	225 *740*
M3	— —	— —	— —	— —	— —	110 *360*	115 *375*	140 *460*	165 *540*	180 *590*
M4	— —	— —	— —	— —	— —	90 *295*	90 *295*	110 *360*	130 *425*	140 *460*
M5	— —	— —	— —	— —	— —	75 *245*	75 *245*	95 *310*	110 *360*	115 *375*
K1	170 *560*	180 *590*	220 *720*	260 *850*	285 *940*	150 *490*	160 *520*	200 *660*	235 *770*	260 *850*
K2	150 *490*	160 *520*	200 *660*	230 *750*	260 *850*	135 *445*	145 *475*	180 *590*	210 *690*	235 *770*
K3	125 *410*	135 *445*	170 *560*	195 *640*	220 *720*	115 *375*	125 *410*	155 *510*	180 *590*	200 *660*
K4	120 *395*	130 *425*	160 *520*	185 *610*	210 *690*	110 *360*	115 *375*	145 *475*	170 *560*	190 *620*
K5	75 *245*	80 *260*	100 *330*	115 *375*	130 *425*	70 *230*	75 *245*	90 *295*	105 *345*	115 *375*
K6	105 *345*	115 *375*	140 *460*	165 *540*	185 *610*	95 *310*	105 *345*	130 *425*	150 *490*	165 *540*
K7	95 *310*	100 *330*	125 *410*	150 *490*	165 *540*	85 *280*	95 *310*	115 *375*	135 *445*	150 *490*
N1	— —	— —	— —	— —	— —	1100 *3600*	1175 *3850*	1450 *4750*	1725 *5650*	1925 *6325*
N2	— —	— —	— —	— —	— —	450 *1475*	475 *1550*	590 *1925*	700 *2300*	770 *2525*
N3	— —	— —	— —	— —	— —	300 *980*	315 *1025*	395 *1300*	465 *1525*	520 *1700*
N11	— —	— —	— —	— —	— —	340 *1125*	360 *1175*	450 *1475*	530 *1750*	590 *1925*
S1	— —	— —	— —	— —	— —	41 *135*	42 *140*	50 *165*	60 *195*	65 *215*
S2	— —	— —	— —	— —	— —	33 *110*	34 *110*	42 *140*	49 *160*	55 *180*
S3	— —	— —	— —	— —	— —	30 *100*	30 *100*	37 *120*	43 *140*	46 *150*
S11	— —	— —	— —	— —	— —	55 *180*	60 *195*	70 *230*	85 *280*	90 *295*
S12	— —	— —	— —	— —	— —	39 *130*	40 *130*	49 *160*	60 *195*	65 *215*
S13	— —	— —	— —	— —	— —	23 *75*	24 *80*	29 *95*	34 *110*	37 *120*
H5	41 *135*	42 *140*	50 *165*	60 *195*	65 *215*	37 *120*	38 *125*	46 *150*	55 *180*	60 *195*
H8	43 *140*	44 *145*	55 *180*	65 *215*	70 *230*	39 *130*	40 *130*	49 *160*	60 *195*	65 *215*
H11	50 *165*	55 *180*	65 *215*	75 *245*	85 *280*	47 *155*	48 *155*	60 *195*	70 *230*	75 *245*
H12	80 *260*	80 *260*	95 *310*	115 *375*	125 *410*	70 *230*	70 *230*	90 *295*	105 *345*	115 *375*

R218.24 – Metric





- For insert selection and cutting data recommendations, see page(s) 711-712
- For complete insert programme, see page(s) 843-844, 845, 856
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCSFMS	DMM	TDZ	LF	RPMX	Weight	218.20	XO.X
			mm		mm	mm	mm		mm		kg		
R218.24-12R080.RE-028-06.2A	02735924	Combimaster	15,92	2	28,0	23,0	–	M12	50,0	18000	0,2	R080 (2)	06 (8)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw centre	Insert screw periph	Key periphery
				
R218.24-080	H4B-T08P	C02506-T08P	C01804-T06P	H4B-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R218.24-080	0.5NM	T00-08P12

Torque and fixed keys, see page 872

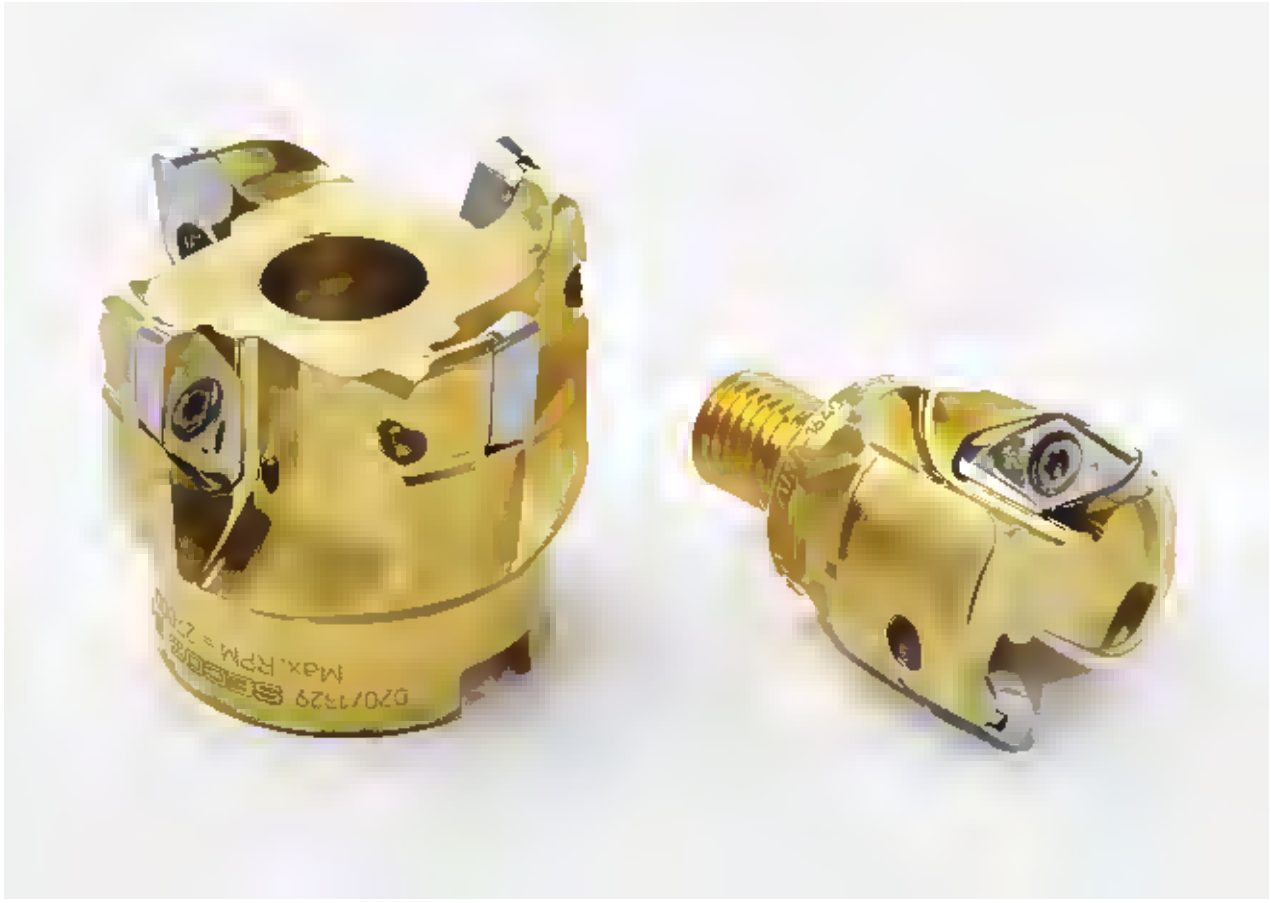
R218.24-080 – Insert selection – mm/*Inch*

SMG			f_z				
			100%	70%	30%	10%	5%
P1	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 0.0095
P2	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 0.0095
P3	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P4	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
P6	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
P7	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
P8	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,095 *0.0038*	0,095 *0.0038*	0,10 *0.0040*	0,16 *0.0065*	0,22 0.0085
P11	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
P12	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,060 *0.0024*	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*	0,15 0.0060
M1	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,055 *0.0022*	0,055 *0.0022*	0,060 *0.0026*	0,095 *0.0038*	0,13 0.0050
M2	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,050 *0.0020*	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*	0,12 0.0048
M3	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,095 0.0038
M4	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
M5	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
K1	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,10 *0.0040*	0,10 *0.0040*	0,11 *0.0044*	0,17 *0.0065*	0,24 0.0095
K2	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
K3	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
K4	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
K5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*	0,19 0.0075
K6	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,090 *0.0036*	0,090 *0.0036*	0,10 *0.0040*	0,15 *0.0060*	0,22 0.0085
K7	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,080 *0.0032*	0,080 *0.0032*	0,090 *0.0036*	0,14 *0.0055*	0,19 0.0075
N1	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,30 0.012
N2	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,30 0.012
N3	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,30 0.012
N11	218.20-080ER-ME04 F40M	XOEX060204FR-E03 F40M	0,13 *0.0050*	0,13 *0.0050*	0,14 *0.0055*	0,22 *0.0085*	0,30 0.012
S1	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
S2	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,065 *0.0026*	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*	0,15 0.0060
S3	218.20-080ER-ME04 F40M	XOMX060204R-M05 F40M	0,060 *0.0024*	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*	0,14 0.0055
S11	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,095 0.0040
S12	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,042 *0.0017*	0,042 *0.0017*	0,046 *0.0018*	0,070 *0.0028*	0,095 0.0040
S13	218.20-080ER-ME04 MS2050	XOMX060204R-M05 MS2050	0,038 *0.0015*	0,038 *0.0015*	0,040 *0.0016*	0,060 *0.0024*	0,085 0.0034
H5	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,060 *0.0024*	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*	0,15 0.0060
H8	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,048 *0.0019*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*	0,11 0.0044
H11	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,060 *0.0024*	0,060 *0.0024*	0,070 *0.0028*	0,10 *0.0040*	0,15 0.0060
H12	218.20-080ER-M04 F40M	XOMX060204R-M05 F40M	0,048 *0.0019*	0,048 *0.0019*	0,050 *0.0020*	0,080 *0.0032*	0,11 0.0044

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R218.24-080 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F25M					MS2050					F40M					MP3501					MM4500				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
P1	225 *740*	245 *800*	295 *970*	345 *1125*	375 *1225*	265 *870*	290 *950*	345 *1125*	405 *1325*	440 *1450*	205 *670*	220 *720*	265 *870*	315 *1025*	340 *1125*	375 *1225*	400 *1300*	440 *1450*	480 *1575*	510 *1675*	165 *540*	180 *590*	215 *710*	255 *840*	275 *900*
P2	215 *710*	235 *770*	285 *940*	340 *1125*	365 *1200*	255 *840*	280 *920*	335 *1100*	395 *1300*	425 *1400*	195 *640*	215 *710*	260 *850*	305 *1000*	330 *1075*	365 *1200*	390 *1275*	425 *1400*	470 *1550*	495 *1625*	160 *520*	175 *570*	210 *690*	250 *820*	270 *890*
P3	190 *620*	205 *670*	250 *820*	295 *970*	320 *1050*	220 *720*	240 *790*	290 *950*	340 *1125*	365 *1200*	170 *560*	190 *620*	230 *750*	270 *890*	290 *950*	310 *1025*	335 *1100*	370 *1225*	405 *1325*	425 *1400*	140 *460*	150 *490*	185 *610*	215 *710*	235 *770*
P4	165 *540*	180 *590*	220 *720*	260 *850*	280 *920*	195 *640*	215 *710*	255 *840*	300 *980*	330 *1075*	150 *490*	165 *540*	200 *660*	235 *770*	255 *840*	275 *900*	295 *970*	325 *1075*	355 *1175*	370 *1225*	125 *410*	135 *445*	165 *540*	190 *620*	210 *690*
P5	160 *520*	175 *570*	210 *690*	250 *820*	270 *890*	190 *620*	205 *670*	245 *800*	290 *950*	315 *1025*	145 *475*	160 *520*	195 *640*	230 *750*	245 *800*	265 *870*	285 *940*	310 *1025*	335 *1100*	355 *1175*	120 *395*	130 *425*	155 *510*	185 *610*	200 *660*
P6	180 *590*	200 *660*	240 *790*	280 *920*	300 *980*	210 *690*	235 *770*	275 *900*	325 *1075*	350 *1150*	165 *540*	180 *590*	215 *710*	255 *840*	275 *900*	295 *970*	320 *1050*	345 *1125*	380 *1250*	400 *1300*	135 *445*	145 *475*	175 *570*	210 *690*	225 *740*
P7	170 *560*	185 *610*	225 *740*	265 *870*	285 *940*	200 *660*	220 *720*	260 *850*	305 *1000*	330 *1075*	155 *510*	170 *560*	205 *670*	240 *790*	260 *850*	280 *920*	300 *980*	325 *1075*	355 *1175*	375 *1225*	125 *410*	140 *460*	165 *540*	195 *640*	210 *690*
P8	160 *520*	175 *570*	210 *690*	250 *820*	270 *890*	185 *610*	205 *670*	245 *800*	285 *940*	310 *1025*	145 *475*	160 *520*	195 *640*	225 *740*	245 *800*	260 *850*	280 *920*	310 *1025*	340 *1125*	355 *1175*	115 *375*	130 *425*	155 *510*	185 *610*	200 *660*
P11	165 *540*	180 *590*	220 *720*	260 *850*	275 *900*	195 *640*	215 *710*	255 *840*	300 *980*	320 *1050*	150 *490*	165 *540*	200 *660*	235 *770*	250 *820*	270 *890*	290 *950*	315 *1025*	345 *1125*	365 *1200*	120 *395*	135 *445*	160 *520*	190 *620*	205 *670*
P12	110 *360*	120 *395*	140 *460*	165 *540*	180 *590*	120 *395*	135 *445*	160 *520*	185 *610*	205 *670*	100 *330*	110 *360*	125 *410*	150 *490*	165 *540*	155 *510*	170 *560*	180 *590*	195 *640*	205 *670*	80 *260*	85 *280*	105 *345*	120 *395*	130 *425*
M1	— —	— —	— —	— —	— —	205 *670*	225 *740*	270 *890*	315 *1025*	345 *1125*	160 *520*	175 *570*	210 *690*	245 *800*	265 *870*	205 *670*	225 *740*	270 *890*	315 *1025*	345 *1125*	135 *445*	150 *490*	180 *590*	215 *710*	230 *750*
M2	— —	— —	— —	— —	— —	170 *560*	185 *610*	220 *720*	260 *850*	280 *920*	130 *425*	145 *475*	175 *570*	205 *670*	220 *720*	170 *560*	185 *610*	220 *720*	260 *850*	280 *920*	115 *375*	125 *410*	150 *490*	175 *570*	190 *620*
M3	— —	— —	— —	— —	— —	135 *445*	150 *490*	175 *570*	205 *670*	225 *740*	105 *345*	115 *375*	140 *460*	165 *540*	175 *570*	135 *445*	150 *490*	175 *570*	205 *670*	225 *740*	90 *295*	100 *330*	120 *395*	140 *460*	155 *510*
M4	— —	— —	— —	— —	— —	105 *345*	115 *375*	135 *445*	160 *520*	170 *560*	85 *280*	90 *295*	110 *360*	125 *410*	135 *445*	105 *345*	115 *375*	135 *445*	160 *520*	170 *560*	70 *230*	80 *260*	95 *310*	110 *360*	120 *395*
M5	— —	— —	— —	— —	— —	85 *280*	95 *310*	110 *360*	130 *425*	140 *460*	70 *230*	75 *245*	90 *295*	105 *345*	115 *375*	85 *280*	95 *310*	110 *360*	130 *425*	140 *460*	60 *195*	65 *215*	80 *260*	90 *295*	100 *330*
K1	170 *560*	190 *620*	225 *740*	270 *890*	290 *950*	— —	— —	— —	— —	— —	155 *510*	170 *560*	205 *670*	245 *800*	265 *870*	365 *1200*	395 *1300*	430 *1400*	475 *1550*	495 *1625*	— —	— —	— —	— —	— —
K2	155 *510*	165 *540*	200 *660*	240 *790*	255 *840*	— —	— —	— —	— —	— —	140 *460*	150 *490*	185 *610*	215 *710*	230 *750*	320 *1050*	340 *1125*	375 *1225*	410 *1350*	430 *1400*	— —	— —	— —	— —	— —
K3	130 *425*	140 *460*	170 *560*	200 *660*	215 *710*	— —	— —	— —	— —	— —	120 *395*	130 *425*	155 *510*	185 *610*	195 *640*	270 *890*	290 *950*	315 *1025*	345 *1125*	365 *1200*	— —	— —	— —	— —	— —
K4	125 *410*	135 *445*	160 *520*	195 *640*	205 *670*	— —	— —	— —	— —	— —	110 *360*	125 *410*	150 *490*	175 *570*	185 *610*	255 *840*	275 *900*	300 *980*	330 *1075*	345 *1125*	— —	— —	— —	— —	— —
K5	75 *245*	85 *280*	100 *330*	115 *375*	125 *410*	— —	— —	— —	— —	— —	70 *230*	75 *245*	90 *295*	105 *345*	115 *375*	155 *510*	165 *540*	180 *590*	195 *640*	205 *670*	— —	— —	— —	— —	— —
K6	110 *360*	120 *395*	145 *475*	170 *560*	180 *590*	— —	— —	— —	— —	— —	100 *330*	110 *360*	130 *425*	155 *510*	165 *540*	225 *740*	245 *800*	265 *870*	290 *950*	305 *1000*	— —	— —	— —	— —	— —
K7	95 *310*	105 *345*	125 *410*	150 *490*	160 *520*	— —	— —	— —	— —	— —	90 *295*	95 *310*	115 *375*	135 *445*	150 *490*	195 *640*	210 *690*	230 *750*	250 *820*	260 *850*	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	1150 *3775*	1250 *4100*	1525 *5000*	1800 *5900*	1975 *6475*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	465 *1525*	510 *1675*	620 *2025*	730 *2400*	790 *2600*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	310 *1025*	340 *1125*	415 *1350*	485 *1600*	530 *1750*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	355 *1175*	390 *1275*	475 *1550*	560 *1825*	610 *2000*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
S1	— —	— —	— —	— —	— —	49 *160*	55 *180*	65 *215*	75 *245*	80 *260*	39 *130*	42 *140*	50 *165*	60 *195*	65 *215*	49 *160*	55 *180*	65 *215*	75 *245*	80 *260*	22 *70*	24 *80*	28 *90*	33 *110*	36 *120*
S2	— —	— —	— —	— —	— —	39 *130*	43 *140*	50 *165*	60 *195*	65 *215*	32 *105*	34 *110*	41 *135*	47 *155*	50 *165*	39 *130*	43 *140*	50 *165*	60 *195*	65 *215*	18 *60*	19 *60*	23 *75*	27 *90*	29 *95*
S3	— —	— —	— —	— —	— —	34 *110*	38 *125*	44 *145*	50 *165*	55 *180*	28 *90*	30 *100*	35 *115*	41 *135*	45 *150*	34 *110*	38 *125*	44 *145*	50 *165*	55 *180*	16 *50*	17 *55*	20 *65*	23 *75*	25 *80*
S11	— —	— —	— —	— —	— —	70 *230*	75 *245*	90 *295*	105 *345*	115 *375*	55 *180*	60 *195*	70 *230*	85 *280*	90 *295*	70 *230*	75 *245*	90 *295*	105 *345*	115 *375*	31 *100*	33 *110*	40 *130*	47 *155*	50 *165*
S12	— —	— —	— —	— —	— —	47 *155*	50 *165*	60 *195*	70 *230*	80 *260*	37 *120*	41 *135*	49 *160*	60 *195*	60 *195*	47 *155*	50 *165*	60 *195*	70 *230*	80 *260*	28 *90*	31 *100*	37 *120*	43 *140*	47 *155*
S13	— —	— —	— —	— —	— —	27 *90*	30 *100*	35 *115*	41 *135*	45 *150*	22 *70*	24 *80*	28 *90*	33 *110*	36 *120*	27 *90*	30 *100*	35 *115*	41 *135*	45 *150*	17 *55*	18 *60*	21 *70*	25 *80*	27 *90*
H5	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	33 *110*	36 *120*	42 *140*	50 *165*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	34 *110*	38 *125*	45 *150*	50 *165*	55 *180*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	42 *140*	46 *150*	55 *180*	65 *215*	70 *230*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H12	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	60 *195*	70 *230*	80 *260*	95 *310*	100 *330*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —



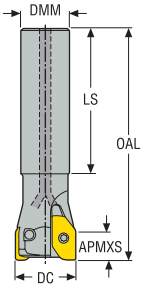
R217/220.97

Aluminium routers high productivity cutters are designed to provide optimal performance in slotting, square shoulder milling and pocketing operations in aluminum. These tools are specifically optimized to achieve high speed and high metal removal rates in aluminum.

- Cutter range 16-100mm (0.625 - 4 inch)
- Available in cylindrical, combimaster or for arbor mounting

R217.97-X08 – Metric





- For insert selection and cutting data recommendations, see page(s) 726
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		mm	mm		kg	
R217.97-1616.0-X08.2A	03245364	Cylindrical	16,0	2	8,0	16,0	67,0	100,0	11,0	26,4	30,0	40000	0,2	XP..08..
R217.97-2020.0-X08.2A	03245365	Cylindrical	20,0	2	8,0	20,0	79,0	120,0	7,2	34,4	38,0	40000	0,3	XP..08..
R217.97-2525.0-X08.3A	03245366	Cylindrical	25,0	3	8,0	25,0	99,0	150,0	5,0	44,4	48,0	40000	0,6	XP..08..

Spare Parts, included in delivery

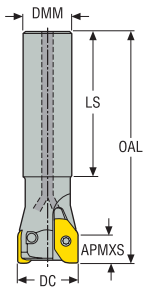
For cutter	Insert key	Insert screw
		
R217.97-1616-2020	H4B-T07P	C02505-T07P
R217.97-2525	H4B-T07P	C02506-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

R217.97-X08 – inch





- For insert selection and cutting data recommendations, see page(s) 726
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		inch	inch		lbs	
R217.97-0.62-0-X08.2A	03245370	Cylindrical	0.625	2	0.315	0.625	2.638	3.937	11,2	1.028	1.171	40000	0.440	XP..08..
R217.97-0.75-0-X08.2A	03245371	Cylindrical	0.750	2	0.315	0.750	3.110	4.724	7,8	1.280	1.421	40000	0.660	XP..08..
R217.97-1.00-0-X08.3A	03245372	Cylindrical	1.000	3	0.315	1.000	3.898	5.906	4,9	1.780	1.921	40000	1.320	XP..08..

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-0.62-0.75	H4B-T07P	C02505-T07P
R217.97-1.00	H4B-T07P	C02506-T07P

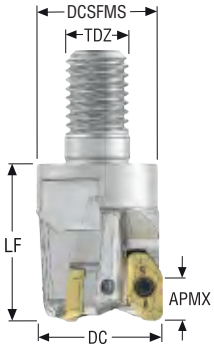
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

R217.97-X08 – Metric





- For insert selection and cutting data recommendations, see page(s) 726
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm		mm	mm		mm	mm		kg	
R217.97-0816.RE-X08.2A	03245589	Combimaster	16,0	2	8,0	M8	13,5	23,0	11,0	26,4	30,0	40000	0,1	XP..08..
R217.97-1020.RE-X08.2A	03245362	Combimaster	20,0	2	8,0	M10	18,5	28,0	7,2	34,4	38,0	40000	0,1	XP..08..
R217.97-1020.RE-X08.3A	03308725	Combimaster	20,0	3	8,0	M10	18,5	28,0	7,2	34,4	38,0	40000	0,1	XP..08..
R217.97-1225.RE-X08.3A	03245363	Combimaster	25,0	3	8,0	M12	23,0	30,0	5,0	44,4	48,0	40000	0,2	XP..08..
R217.97-1225.RE-X08.4A	03308726	Combimaster	25,0	4	8,0	M12	23,0	30,0	5,0	44,4	48,0	40000	0,2	XP..08..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

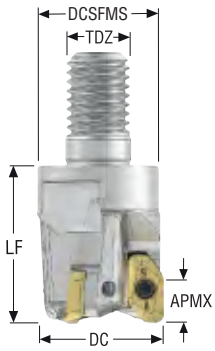
For cutter	Insert key	Insert screw
		
R217.97-0816-1020	H4B-T07P	C02505-T07P
R217.97-1225	H4B-T07P	C02506-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

R217.97-X08 – inch





- For insert selection and cutting data recommendations, see page(s) 726
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch		inch	inch		inch	inch		lbs	
R217.97-0.62-08RE-X08.2A	03245367	Combimaster	0.625	2	0.315	M8	0.531	0.906	11,2	1.028	1.171	40000	0.220	XP..08..
R217.97-0.75-10RE-X08.2A	03245368	Combimaster	0.750	2	0.315	M10	0.728	1.102	7,8	1.280	1.421	40000	0.220	XP..08..
R217.97-1.00-12RE-X08.3A	03245369	Combimaster	1.000	3	0.315	M12	0.906	1.181	4,9	1.780	1.921	40000	0.220	XP..08..

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-0.62-0.75	H4B-T07P	C02505-T07P
R217.97-1.00	H4B-T07P	C02506-T07P

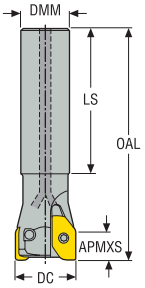
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

R217.97-X12 – Metric





- For insert selection and cutting data recommendations, see page(s) 727
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-2525.0-X12.2A	02450300	Cylindrical	25,0	2	12,0	25,0	95,0	150,0	54,5	10,0	40,0	49,0	40000	0,6	XP..12
R217.97-3232.0-X12.2A	02450301	Cylindrical	32,0	2	12,0	32,0	85,0	150,0	64,5	8,0	54,0	63,0	40000	0,9	XP..12
R217.97-3232.0-X12.3A	02450302	Cylindrical	32,0	3	12,0	32,0	85,0	150,0	64,5	8,0	54,0	63,0	40000	0,9	XP..12

Spare Parts, included in delivery

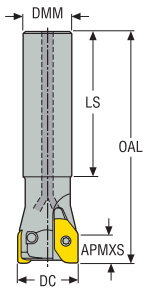
For cutter	Insert key	Insert screw
		
R217.97-..Ø25	H4B-T10P	C03508-T10P
R217.97-..Ø32	H4B-T10P	C03509-T10P

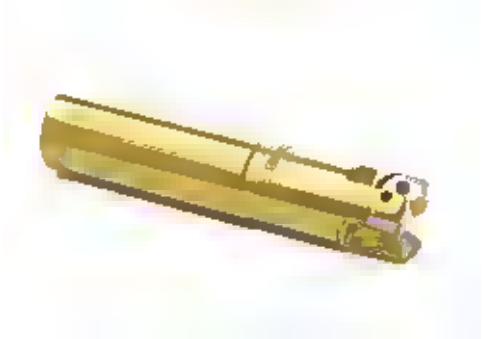
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217.97-X12 – inch





- For insert selection and cutting data recommendations, see page(s) 727
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-01.00-0-12.2A	02450377	Cylindrical	1.000	2	0.472	1.000	3.799	6.000	2.165	10,0	1.606	1.961	40000	1.320	XP..12

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-01.00	H4B-T10P	C03508-T10P

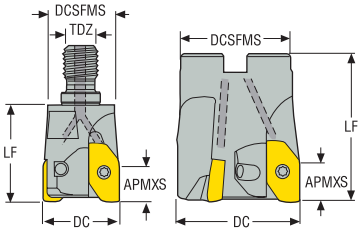
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

R217/220.97-X12 – Metric



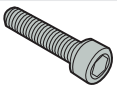


- For insert selection and cutting data recommendations, see page(s) 727
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm		mm	mm		mm	mm		kg	
R217.97-1225.RE-X12.2A	02449582	Combimaster	25,0	2	12,0	M12	23,0	30,0	10,0	40,0	49,0	40000	0,1	XP..12
R217.97-1632.RE-X12.2A	02450297	Combimaster	32,0	2	12,0	M16	30,0	40,0	8,0	54,0	63,0	40000	0,3	XP..12
R217.97-1632.RE-X12.3A	02450299	Combimaster	32,0	3	12,0	M16	30,0	40,0	8,0	54,0	63,0	40000	0,3	XP..12
R217.97-1640.RE-X12.3A	02486599	Combimaster	40,0	3	12,0	M16	30,0	40,0	6,0	70,0	79,0	35000	0,3	XP..12
R217.97-2040.RE-X12.3A	02928076	Combimaster	40,0	3	12,0	M20	36,5	40,0	6,0	70,0	79,0	35000	0,4	XP..12
R220.97-0050-X12.4A	02450306	Arbor	50,0	4	12,0	–	47,0	45,0	5,0	90,0	99,0	30000	0,4	XP..12

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

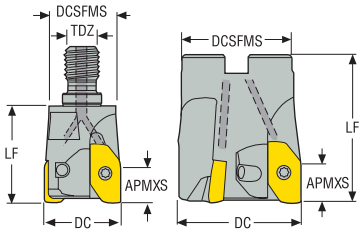
For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-.. Ø25	–	H4B-T10P	C03508-T10P
R217.97-.. Ø32-40	–	H4B-T10P	C03509-T10P
R220.97-0050	220.17-692	H4B-T10P	C03509-T10P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.97-..	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217/220.97-X12 – inch



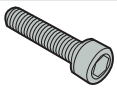


- For insert selection and cutting data recommendations, see page(s) 727
- For complete insert programme, see page(s) 852
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch		inch	inch		inch	inch		lbs	
R217.97-1.00-12RE-12.2A	02450374	Combimaster	1.000	2	0.472	M12	0.906	1.181	10,0	1.606	1.961	40000	0.440	XP..12
R217.97-1.25-16RE-12.3A	02450376	Combimaster	1.250	3	0.472	M16	1.181	1.575	8,0	2.106	2.461	40000	0.440	XP..12
R217.97-01.50-20RE-12.3A	02928061	Combimaster	1.500	3	0.472	M20	1.437	1.575	6,0	2.606	2.961	35000	0.880	XP..12
R217.97-1.50-16RE-12.3A	02520346	Combimaster	1.500	3	0.472	M16	1.181	1.575	6,0	2.606	2.961	35000	0.660	XP..12
R220.97-02.00-12.3A	02534482	Arbor	2.000	3	0.472	–	1.850	1.772	5,0	3.606	3.961	30000	0.880	XP..12
R220.97-02.00-12.4A	02450395	Arbor	2.000	4	0.472	–	1.850	1.772	5,0	3.606	3.961	30000	1.100	XP..12

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-01.00	–	H4B-T10P	C03508-T10P
R217.97-01.25-01.50	–	H4B-T10P	C03509-T10P
R220.97-..	UC6S3/8UNFX1	H4B-T10P	C03509-T10P

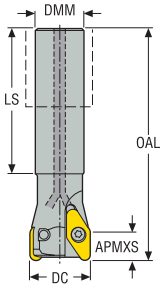
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.97-..	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

R217.97-V22 – Metric

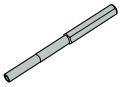




- For insert selection and cutting data recommendations, see page(s) 728
- For complete insert programme, see page(s) 839
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		mm	mm		kg	
R217.97-2532.0-V22.2A	00035425	Cylindrical	32,0	2	14,0	25,0	75,0	120,0	64,0	15,0	56,0	62,0	40000	0,5	VPGX22
R217.97-3240.0-V22.2A	00035427	Cylindrical	40,0	2	14,0	32,0	105,0	150,0	90,0	10,0	72,0	78,0	35000	0,9	VPGX22

Spare Parts, included in delivery

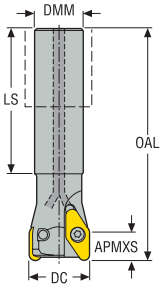
For cutter	Insert key	Insert screw
		
R217.97-..	H6B-T20P	C05010-T20P

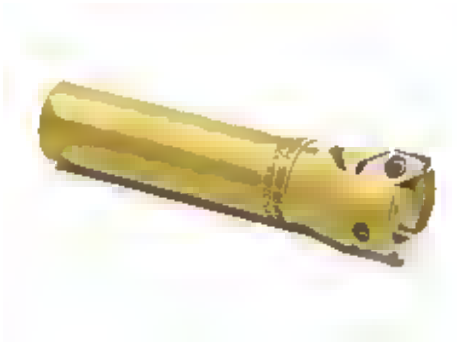
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R217.97-V22 – inch

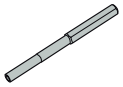




- For insert selection and cutting data recommendations, see page(s) 728
- For complete insert programme, see page(s) 839
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DMM	LS	OAL	LUX	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		inch	inch		lbs	
R217.97-01.25-0-V22.2A	00054103	Cylindrical	1.250	2	0.551	1.000	4.000	6.000	3.795	10,0	2.185	2.421	40000	1.320	VPGX22
R217.97-01.50-0-V22.2A	00054181	Cylindrical	1.500	2	0.551	1.250	4.000	6.000	3.638	10,0	2.685	2.921	35000	1.980	VPGX22

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.97-..	H6B-T20P	C05010-T20P

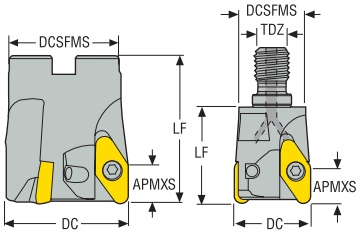
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.97-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R217/220.97-V22 – Metric



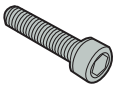
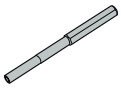


- For insert selection and cutting data recommendations, see page(s) 728
- For complete insert programme, see page(s) 839
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	Cmin	Cmax	RPMX	Weight	Insert
			mm		mm		mm	mm		mm	mm		kg	
R217.97-1632.RE-V22.2A	00035424	Combimaster	32,0	2	14,0	M16	30,0	40,0	15,0	56,0	62,0	40000	0,2	VPGX22
R217.97-1640.RE-V22.2A	00035426	Combimaster	40,0	2	14,0	M16	30,0	40,0	10,0	72,0	78,0	35000	0,3	VPGX22
R217.97-2040.RE-V22.2A	02928075	Combimaster	40,0	2	14,0	M20	36,5	45,0	10,0	72,0	78,0	35000	0,4	VPGX22
R220.97-0050-V22.2A	00035392	Arbor	50,0	2	14,0	–	47,0	57,0	8,0	92,0	98,0	30000	0,6	VPGX22
R220.97-0050-V22.3A	00035393	Arbor	50,0	3	14,0	–	47,0	57,0	8,0	92,0	98,0	30000	0,6	VPGX22
R220.97-0063-V22.3A	00035394	Arbor	63,0	3	14,0	–	50,0	57,0	6,0	116,0	125,0	27000	0,7	VPGX22
R220.97-0063-V22.4A	00035395	Arbor	63,0	4	14,0	–	50,0	57,0	6,0	116,0	125,0	27000	0,7	VPGX22
R220.97-0080-V22.4A	00035396	Arbor	80,0	4	14,0	–	60,0	57,0	5,0	152,0	158,0	25000	1,1	VPGX22
R220.97-0100-V22.5A	00035397	Arbor	100,0	5	14,0	–	77,0	57,0	4,0	192,0	198,0	22000	1,8	VPGX22

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

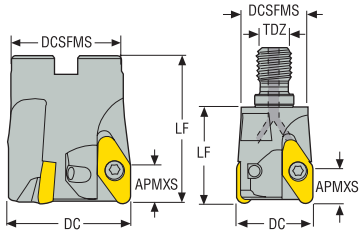
For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-1632-1640	–	H6B-T20P	C05010-T20P
R217.97-2040	–	H6B-T20P	C05010-T20P
R220.97-0050	MC6S10X40	H6B-T20P	C05010-T20P
R220.97-0063	MC6S12X35	H6B-T20P	C05013-T20P
R220.97-0080	MC6S16X40	H6B-T20P	C05013-T20P
R220.97-0100	MC6S16X40	H6B-T20PL	C05013-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.97-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R217/220.97-V22 – inch



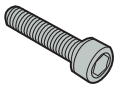
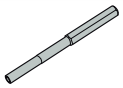


- For insert selection and cutting data recommendations, see page(s) 728
- For complete insert programme, see page(s) 839
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	TDZ	DCSFMS	LF	RMPX°	C min	C max	RPMX	Weight	Insert
			inch		inch		inch	inch		inch	inch		lbs	
R217.97-1.25-16REV22.2A	00054077	Combimaster	1.250	2	0.551	M16	1.181	1.600	10,0	2.185	2.421	40000	0.660	VPGX22
R217.97-1.50-16REV22.2A	00054146	Combimaster	1.500	2	0.551	M16	1.181	1.600	10,0	2.685	2.921	35000	0.660	VPGX22
R220.97-02.00-V22.2A	00054269	Arbor	2.000	2	0.551	–	1.850	2.250	8,0	3.685	3.921	30000	1.320	VPGX22
R220.97-02.00-V22.3A	00054587	Arbor	2.000	3	0.551	–	1.850	2.250	8,0	3.685	3.921	30000	1.320	VPGX22
R220.97-02.50-V22.4A	00055249	Arbor	2.500	4	0.551	–	2.047	2.250	6,0	4.685	4.921	27000	1.980	VPGX22
R220.97-03.00-V22.4A	00050756	Arbor	3.000	4	0.551	–	2.441	2.250	5,0	5.685	5.921	25000	2.430	VPGX22
R220.97-04.00-V22.5A	00050828	Arbor	4.000	5	0.551	–	3.543	2.250	4,0	7.685	7.921	22000	4.850	VPGX22

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.97-..	–	H6B-T20P	C05010-T20P
R220.97-02.00	UC6S3/8UNFX11/2	H6B-T20P	C05010-T20P
R220.97-02.50-03.00	UC6S1/2UNFX1-1/2	H6B-T20P	C05013-T20P
R220.97-04.00	UC6S3/4UNFX1-1/4	H6B-T20PL	C05013-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.97-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R217.97-X08 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*
N2	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*
N3	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*
N11	XPKX080304PDER-E06 H25	4,0 *0.16*	0,18 *0.0070*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*	0,44 *0.017*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.97-X08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	H25				
	100%	70%	30%	10%	5%
N1	2025 *6650*	2200 *7225*	2675 *8775*	3175 *10425*	3400 *11150*
N2	510 *1675*	560 *1825*	680 *2225*	800 *2625*	860 *2825*
N3	340 *1125*	370 *1225*	450 *1475*	540 *1775*	570 *1875*
N11	390 *1275*	425 *1400*	510 *1675*	610 *2000*	650 *2125*

R217/220.97-X12 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*	0,48 *0.019*
N2	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*	0,48 *0.019*
N3	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*	0,48 *0.019*
N11	XPKX12T304PDER-E08 H25	6,0 *0.24*	0,20 *0.0080*	0,20 *0.0080*	0,22 *0.0085*	0,34 *0.013*	0,48 *0.019*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.97-X12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	H25				
	100%	70%	30%	10%	5%
N1	1900 *6225*	2075 *6800*	2525 *8275*	3000 *9850*	3225 *10575*
N2	480 *1575*	520 *1700*	640 *2100*	760 *2500*	820 *2700*
N3	320 *1050*	350 *1150*	425 *1400*	500 *1650*	540 *1775*
N11	365 *1200*	400 *1300*	485 *1600*	580 *1900*	620 *2025*

R217/220.97-V22 – Insert selection – mm/*Inch*

SMG		a_p	f_z				
			100%	70%	30%	10%	5%
N1	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*	0,50 *0.020*
N2	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*	0,50 *0.020*
N3	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*	0,50 *0.020*
N11	VPGX220605ER-E10 H25	7,0 *0.28*	0,22 *0.0085*	0,22 *0.0085*	0,24 *0.0095*	0,36 *0.014*	0,50 *0.020*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.97-V22 – Cutting data v_c = (m/min)/*(sf/min)*

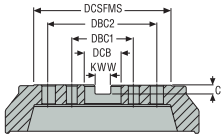
SMG	H15					H25				
	100%	70%	30%	10%	5%	100%	70%	30%	10%	5%
N1	1925 *6325*	2075 *6800*	2550 *8375*	3050 *10000*	3300 *10825*	1925 *6325*	2075 *6800*	2550 *8375*	3050 *10000*	3300 *10825*
N2	485 *1600*	530 *1750*	650 *2125*	770 *2525*	840 *2750*	485 *1600*	530 *1750*	650 *2125*	770 *2525*	840 *2750*
N3	325 *1075*	350 *1150*	430 *1400*	510 *1675*	560 *1825*	325 *1075*	350 *1150*	430 *1400*	510 *1675*	560 *1825*
N11	370 *1225*	400 *1300*	490 *1600*	590 *1925*	640 *2100*	370 *1225*	400 *1300*	490 *1600*	590 *1925*	640 *2100*

Code keys metric and inch

R	217	.	79	-	18	20	.	0	-	10	A
1	2		3		4	5		6		7	8

R	217	.	79	-	01.50	-	3	-	08	3	A
1	2		3		4		5		6	7	8

1.	2.	3.
R = Right hand rotation Cx = For Seco-Capto	217 = With shank 220 = For arbor	Cutter system
4.	**5. (Not for inch designation)**	**6.**
Shank diameter (connecting thread diameter for Combimaster)	Cutter diameter	Shank type RE = Combimaster 0. = Cylindrical 3. = Weldon
7.	**8.**	
Insert size	A = With through coolant supply	



Dimensions in mm					
DCB	DCSFMS	DBC1	DBC2	KWW	C
16	30-35	–	–	8,4	5,6
22	42-47	–	–	10,4	6,3
27	48-62	–	–	12,4	7
32	60-90	–	–	14,4	8
40	90-130	66,7	–	16,4	9
60	130-270	101,6	177,8	25,7	14

Dimensions in inch					
DCB	DCSFMS	DBC1	DBC2	KWW	C
0.500	*1.181 - 1.378*			*0.258*	*0.165*
0.750	*1.378 - 1.850*	–	–	*0.321*	*0.193*
1.000	*1.803 - 2.441*	–	–	*0.382*	*0.224*
1.250	*2.250 - 3.031*	–	–	*0.508*	*0.287*
1.500	*2.750 - 3.543*	–	–	*0.630*	*0.382*
2.000	*4.331*	–	–	*0.756*	*0.445*
2.500	*5.118 - 6.299 (8.858)*	*4.000*	*(7.000)*	*1.000*	*0.551*

For a more exact DCSFMS and DCB measurement, see each product table.

Selection – Metric

Insert	a_p max	Material suitability								
		P	M	K	N	S	H			
XO06	3,0	■	■	■	■	■	□	■	◩	■
XO10	6,0	■	■	■	■	■	□	■	■	■
XO12	7,0	■	■	■	■	■	□	◩	■	■
SCET	11,0	■	■	■	■	■	□	-	■	◩
	20,0									
	30,0									
	40,0									
XNEX08..L	7,0	■	■	■	■	■	□	■	■	■

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Metric

Insert	No. of cutting edges	Application	Cutter diameter (mm) available with effective number of teeth												See page
			12	16	20	25	32	40	50	63	80	100	125	160	
XO.X06	2		2	3											740
			3	4											
XO.X10	2				2										743
						3	4	5							
XO.X12	2						2	3	4						750
						2	3	4		5					
SCET12	4						2	3	4	5	6	7	8		757
												4			
													4		
														4	
XNEX08	6							3	4	5	6	7			735
									5	6	7	9			

x — x indicates number of teeth (first choice)

x — x indicates number of teeth

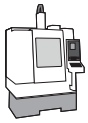
Troubleshooter for unstable fixturing and/or unstable conditions

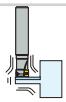
Basic choice

Selection – Inch

Insert	a_p max	Material suitability								
		P	M	K	N	S	H			
XO10 	0.236	■	■	■	■	■	□	■	■	■
XO12 	0.276	■	■	■	■	■	□	◩	■	■
SCET 	0.433	■	■	■	■	■	□	-	■	◩
XNEX08..L 	0.276	■	■	■	■	■	□	■	■	■

1st choice	■
Alternative choice	◩
Possible choice	□

High speed machine with low power/torque	
Strong stable machine with rigid connecion	
Not recommended	-

Unstable condition suitability	
Ramping ability	
Plunging ability	

Selection – Inch

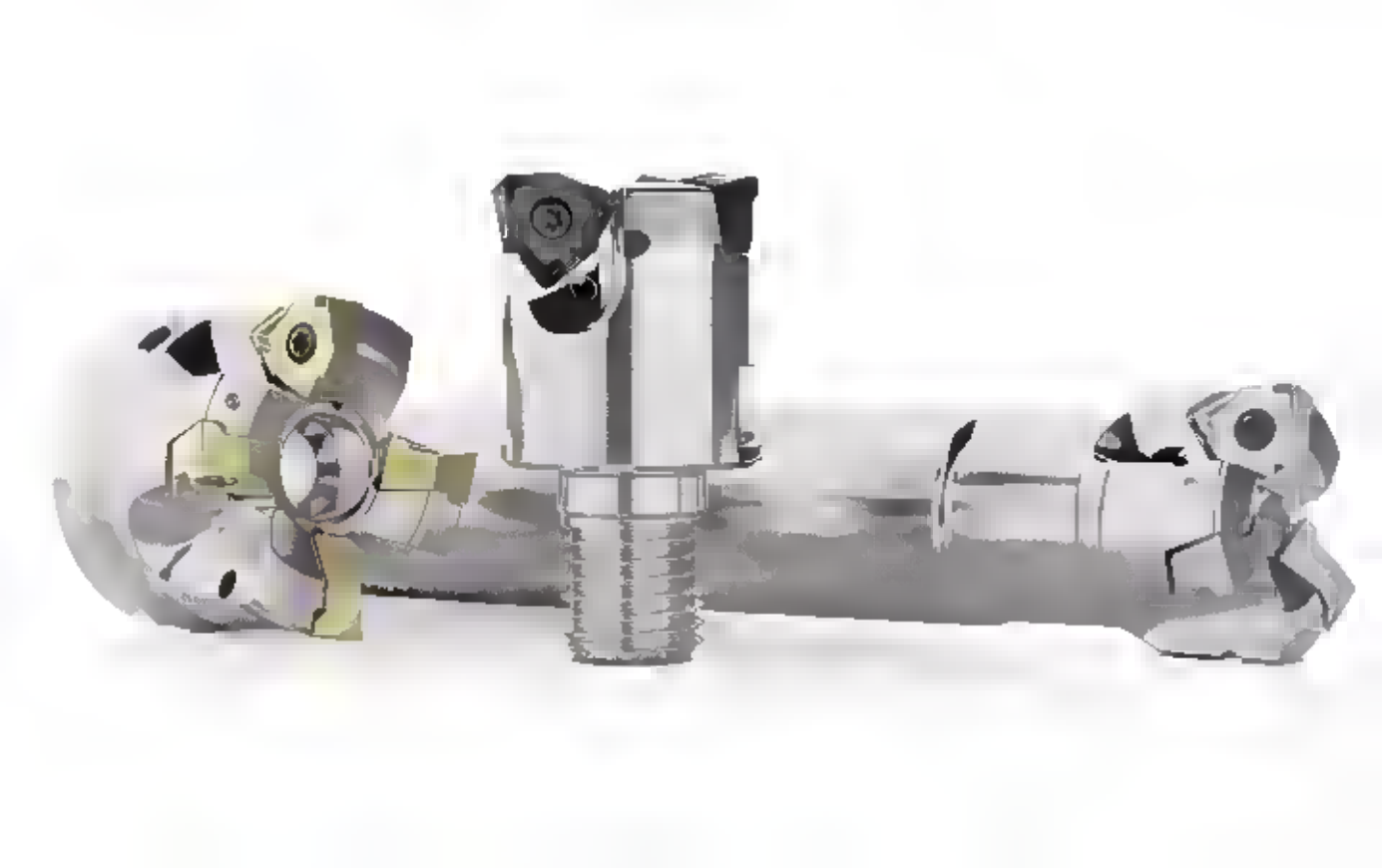
Insert	No. of cutting edges	Application	Cutter diameter (inch) available with effective number of teeth								See page
			0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	
XO.X10	2		2								743
											
XO.X12	2										750
				2							
SCET12	4				2	3	4	5	6	7	757
											
											
											
XNEX08	6					3	4	6	7	9	735
											

x — x indicates number of teeth (first choice)

x — x indicates number of teeth

 Troubleshooter for unstable fixturing and/or unstable conditions

 Basic choice

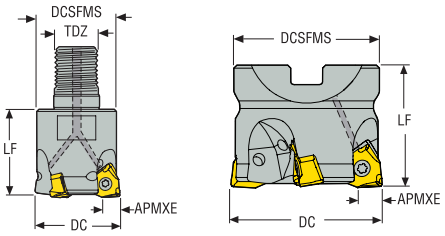


Square 6 PLUNGE MILL

The Plunge Square 6 cutters are equipt with double sided inserts, means 6 cutting edges.

- Cutter range: 40-100 mm (1.5 - 3 inch)
- Max radial depth of cut 7 mm (.275 inch)
- Insert corner radii range 0.8-1.6 mm (.031 - .063 inch)

R217/220.79-08 – Metric





- For insert selection and cutting data recommendations, see page(s) 737-738
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			mm		mm	mm		mm	mm	kg		
R217.79-2040.RE-08-3A	03058302	Combimaster	40,0	3	7,0	–	M20	36,5	40,0	0,4	11800	XNEX08..L
R217.79-3240.3-08-3A	03058304	Weldon	40,0	3	7,0	–	–	–	164,0	1,3	11800	XNEX08..L
R220.79-0050-08-4A	03058315	Arbor	50,0	4	7,0	22,0	–	48,0	40,0	0,3	10600	XNEX08..L
R220.79-0050-08-5A	03058316	Arbor	50,0	5	7,0	22,0	–	48,0	40,0	0,3	10600	XNEX08..L
R220.79-0063-08-6A	03058318	Arbor	63,0	6	7,0	27,0	–	60,0	50,0	0,8	9400	XNEX08..L
R220.79-0080-08-7A	03058320	Arbor	80,0	7	7,0	27,0	–	62,0	50,0	1,1	8400	XNEX08..L

Spare Parts, included in delivery

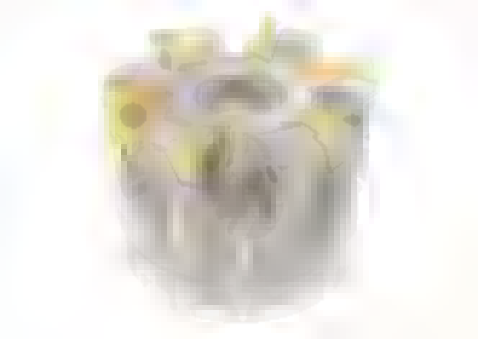
For cutter	Arbor screw	Insert key	Insert screw
			
R217.79-.. Ø40	–	H4B-T15P	C04011-T15P
220.79-Ø50	220.17-696	1/4HEX-T15PX50	C04011-T15P
220.79-Ø50	220.17-696	H4B-T15P	C04011-T15P
220.79-Ø63	MC6S12X35	H4B-T15P	C04011-T15P
R220.79- Ø80	–	H4B-T15PL	C04011-T15P

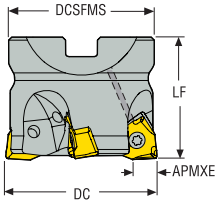
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.79-..	–	3.5NM	T00-15P35
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	T00-15P35

Torque and fixed keys, see page 872

R217/220.79-08 – inch

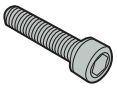




- For insert selection and cutting data recommendations, see page(s) 737-738
- For complete insert programme, see page(s) 840
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	DCSFMS	LF	Weight	RPMX	Insert
			inch		inch	inch	inch	inch	lbs		
R220.79-02.50-08-6A	03058349	Arbor	2.500	6	0.276	1.000	2.250	1.969	1.980	9400	XNEX08..L

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.79-02.50-03.00	UC6S1/2UNFX1-1/4	H4B-T15P	C04011-T15P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	31.0IN.LBS	T00-15P35

Torque and fixed keys, see page 872

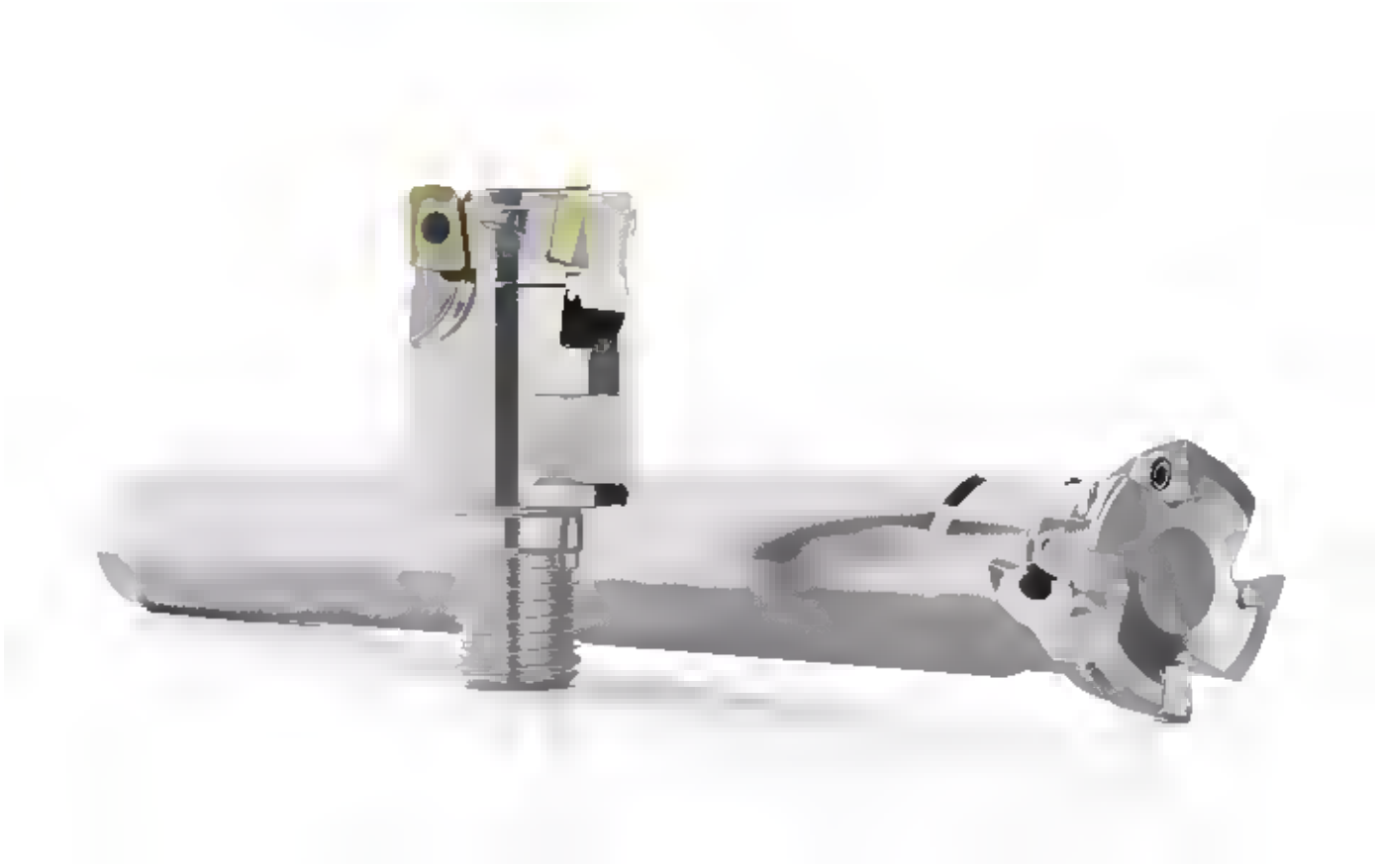
R217/220.79-08 – Insert selection – mm/*Inch*

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XNEX080608TL-M13 F40M	0,18 *0.0070*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P2	XNEX080608TL-M13 F40M	0,19 *0.0075*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P3	XNEX080608TL-M13 MP2501	0,18 *0.0070*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P4	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P5	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P6	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P7	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P8	XNEX080608TL-M13 MP2501	0,18 *0.0070*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P11	XNEX080608TL-M13 MP3501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P12	XNEX080608TL-M13 MP2501	0,11 *0.0044*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
M1	XNEX080608TL-M13 F40M	0,19 *0.0075*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
M2	XNEX080608TL-M13 F40M	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
M3	XNEX080608TL-M13 F40M	0,14 *0.0055*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
M4	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
M5	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
K1	XNEX080608TL-M13 MP2501	0,19 *0.0075*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K2	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K3	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K4	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K5	XNEX080608TL-M13 MP2501	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K6	XNEX080608TL-M13 MP2501	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K7	XNEX080608TL-M13 MP2501	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
S1	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S2	XNEX080608TL-M13 MP3501	0,12 *0.0048*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S3	XNEX080608TL-M13 MP3501	0,11 *0.0044*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S11	XNEX080608TL-M13 MS2050	0,14 *0.0055*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
S12	XNEX080608TL-M13 MS2050	0,14 *0.0055*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
S13	XNEX080608TL-M13 MS2050	0,12 *0.0048*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
H5	XNEX080608TL-M13 MP3501	0,11 *0.0044*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
H8	XNEX080608TL-M13 MP3501	0,090 *0.0036*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
H11	XNEX080608TL-M13 MP3501	0,11 *0.0044*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
H12	XNEX080608TL-M13 MP3501	0,090 *0.0036*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.79-08 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050				F40M				MP2501				MP3501			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	190 *620*	210 *690*	220 *720*	240 *790*	170 *560*	190 *620*	200 *660*	215 *710*	305 *1000*	330 *1075*	345 *1125*	365 *1200*	270 *890*	290 *950*	305 *1000*	320 *1050*
P2	180 *590*	200 *660*	210 *690*	225 *740*	165 *540*	180 *590*	195 *640*	205 *670*	290 *950*	315 *1025*	330 *1075*	345 *1125*	255 *840*	275 *900*	290 *950*	305 *1000*
P3	155 *510*	175 *570*	185 *610*	200 *660*	145 *475*	160 *520*	170 *560*	180 *590*	255 *840*	275 *900*	290 *950*	305 *1000*	225 *740*	245 *800*	255 *840*	270 *890*
P4	140 *460*	160 *520*	165 *540*	180 *590*	130 *425*	145 *475*	150 *490*	160 *520*	230 *750*	250 *820*	260 *850*	275 *900*	205 *670*	220 *720*	230 *750*	245 *800*
P5	135 *445*	150 *490*	160 *520*	170 *560*	125 *410*	135 *445*	145 *475*	155 *510*	220 *720*	240 *790*	250 *820*	265 *870*	195 *640*	210 *690*	220 *720*	235 *770*
P6	150 *490*	170 *560*	180 *590*	190 *620*	140 *460*	155 *510*	165 *540*	175 *570*	245 *800*	270 *890*	280 *920*	295 *970*	220 *720*	235 *770*	250 *820*	260 *850*
P7	145 *475*	160 *520*	170 *560*	180 *590*	130 *425*	145 *475*	155 *510*	165 *540*	235 *770*	255 *840*	265 *870*	280 *920*	205 *670*	225 *740*	235 *770*	245 *800*
P8	130 *425*	150 *490*	155 *510*	165 *540*	120 *395*	135 *445*	140 *460*	150 *490*	215 *710*	235 *770*	245 *800*	255 *840*	190 *620*	205 *670*	215 *710*	225 *740*
P11	140 *460*	155 *510*	165 *540*	175 *570*	125 *410*	140 *460*	150 *490*	160 *520*	225 *740*	245 *800*	255 *840*	270 *890*	200 *660*	215 *710*	225 *740*	240 *790*
P12	95 *310*	105 *345*	110 *360*	120 *395*	85 *280*	95 *310*	100 *330*	110 *360*	160 *520*	175 *570*	180 *590*	190 *620*	140 *460*	155 *510*	160 *520*	170 *560*
M1	145 *475*	160 *520*	170 *560*	185 *610*	130 *425*	145 *475*	155 *510*	165 *540*	155 *510*	175 *570*	185 *610*	195 *640*	145 *475*	160 *520*	170 *560*	185 *610*
M2	120 *395*	135 *445*	145 *475*	155 *510*	110 *360*	125 *410*	130 *425*	140 *460*	130 *425*	145 *475*	155 *510*	165 *540*	120 *395*	135 *445*	145 *475*	155 *510*
M3	100 *330*	110 *360*	115 *375*	125 *410*	90 *295*	100 *330*	105 *345*	115 *375*	105 *345*	120 *395*	125 *410*	135 *445*	100 *330*	110 *360*	115 *375*	125 *410*
M4	80 *260*	90 *295*	95 *310*	100 *330*	70 *230*	80 *260*	85 *280*	90 *295*	85 *280*	95 *310*	100 *330*	105 *345*	80 *260*	90 *295*	95 *310*	100 *330*
M5	65 *215*	75 *245*	75 *245*	85 *280*	60 *195*	65 *215*	70 *230*	75 *245*	70 *230*	80 *260*	85 *280*	90 *295*	65 *215*	75 *245*	75 *245*	85 *280*
K1	— —	— —	— —	— —	130 *425*	145 *475*	155 *510*	165 *540*	290 *950*	315 *1025*	330 *1075*	350 *1150*	255 *840*	280 *920*	290 *950*	310 *1025*
K2	— —	— —	— —	— —	115 *375*	130 *425*	135 *445*	145 *475*	265 *870*	290 *950*	300 *980*	320 *1050*	235 *770*	255 *840*	265 *870*	280 *920*
K3	— —	— —	— —	— —	100 *330*	110 *360*	115 *375*	125 *410*	225 *740*	245 *800*	255 *840*	270 *890*	200 *660*	215 *710*	225 *740*	240 *790*
K4	— —	— —	— —	— —	95 *310*	105 *345*	110 *360*	120 *395*	215 *710*	235 *770*	245 *800*	255 *840*	190 *620*	205 *670*	215 *710*	225 *740*
K5	— —	— —	— —	— —	60 *195*	65 *215*	70 *230*	75 *245*	135 *445*	145 *475*	155 *510*	160 *520*	120 *395*	130 *425*	135 *445*	145 *475*
K6	— —	— —	— —	— —	85 *280*	90 *295*	100 *330*	105 *345*	190 *620*	205 *670*	215 *710*	225 *740*	165 *540*	180 *590*	190 *620*	200 *660*
K7	— —	— —	— —	— —	75 *245*	85 *280*	90 *295*	95 *310*	175 *570*	190 *620*	195 *640*	205 *670*	155 *510*	165 *540*	175 *570*	185 *610*
S1	37 *120*	41 *135*	43 *140*	47 *155*	33 *110*	37 *120*	39 *130*	42 *140*	— —	— —	— —	— —	37 *120*	41 *135*	43 *140*	47 *155*
S2	29 *95*	33 *110*	35 *115*	38 *125*	27 *90*	30 *100*	32 *105*	34 *110*	— —	— —	— —	— —	29 *95*	33 *110*	35 *115*	38 *125*
S3	26 *85*	29 *95*	31 *100*	33 *110*	24 *80*	26 *85*	28 *90*	30 *100*	— —	— —	— —	— —	26 *85*	29 *95*	31 *100*	33 *110*
S11	50 *165*	55 *180*	60 *195*	65 *215*	46 *150*	50 *165*	55 *180*	60 *195*	— —	— —	— —	— —	50 *165*	55 *180*	60 *195*	65 *215*
S12	35 *115*	39 *130*	41 *135*	44 *145*	32 *105*	35 *115*	37 *120*	40 *130*	— —	— —	— —	— —	35 *115*	39 *130*	41 *135*	44 *145*
S13	21 *70*	23 *75*	24 *80*	26 *85*	19 *60*	21 *70*	22 *70*	24 *80*	— —	— —	— —	— —	21 *70*	23 *75*	24 *80*	26 *85*
H5	— —	— —	— —	— —	29 *95*	32 *105*	34 *110*	36 *120*	— —	— —	— —	— —	33 *110*	37 *120*	39 *130*	42 *140*
H8	— —	— —	— —	— —	30 *100*	34 *110*	36 *120*	39 *130*	— —	— —	— —	— —	35 *115*	39 *130*	41 *135*	44 *145*
H11	— —	— —	— —	— —	36 *120*	41 *135*	43 *140*	46 *150*	— —	— —	— —	— —	42 *140*	47 *155*	49 *160*	55 *180*
H12	— —	— —	— —	— —	55 *180*	60 *195*	65 *215*	70 *230*	— —	— —	— —	— —	65 *215*	70 *230*	75 *245*	80 *260*



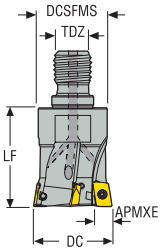
TURBO PLUNGE MILL

Turbo Plunge mills can be used for both up-copying and down-copying in an axial feed direction, such as in deep cavities for mold tools. All cutters in this family incorporate internal coolant to optimize chip evacuation.

- Insert size 06, cutter range 12-16 mm
- Insert size 10, cutter range 20-32 mm (0.75 - 1 inch)
- Insert size 12, cutter range 25-63 mm (1 inch)

R217/220.79-06 – Metric





- For insert selection and cutting data recommendations, see page(s) 741-742
- For complete insert programme, see page(s) 843
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			mm		mm		mm	mm	kg		
R217.79-0612.RE-06.3AN	02705857	Combimaster	12,0	3	3,0	M6	11,0	18,0	0,1	32000	XO..06
R217.79-0816.RE-06.3AN	02705859	Combimaster	16,0	3	3,0	M8	13,5	20,0	0,1	28000	XO..06

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	H4B-T06P	C01804-T06P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	0.5NM	T00-06P05

Torque and fixed keys, see page 872

R217.79-06 – Insert selection – mm/*Inch*

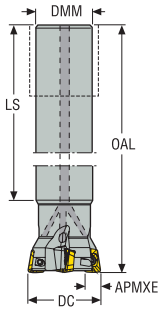
SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P2	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P3	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P4	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P5	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P6	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P7	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P8	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P11	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
P12	XOMX060204R-M05 MP3000	0,044 *0.0017*	1,7 *0.065*	1,7 *0.065*	1,7 *0.065*	2,0 *0.080*
M1	XOMX060204R-M05 F40M	0,070 *0.0028*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
M2	XOMX060204R-M05 F40M	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
M3	XOMX060204R-M05 F40M	0,050 *0.0020*	1,7 *0.065*	1,7 *0.065*	1,7 *0.065*	2,0 *0.080*
M4	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 *0.050*	1,3 *0.050*	1,3 *0.050*	1,4 *0.055*
M5	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 *0.050*	1,3 *0.050*	1,3 *0.050*	1,4 *0.055*
K1	XOMX060204R-M05 MP3000	0,070 *0.0028*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
K2	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
K3	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
K4	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
K5	XOMX060204R-M05 MP3000	0,060 *0.0024*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
K6	XOMX060204R-M05 MP3000	0,065 *0.0026*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
K7	XOMX060204R-M05 MP3000	0,060 *0.0024*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
N1	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
N2	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
N3	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
N11	XOEX060204FR-E03 H15	0,075 *0.0030*	2,0 *0.080*	2,0 *0.080*	2,0 *0.080*	2,5 *0.10*
S1	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 *0.050*	1,3 *0.050*	1,3 *0.050*	1,4 *0.055*
S2	XOMX060204R-M05 F40M	0,046 *0.0018*	1,3 *0.050*	1,3 *0.050*	1,3 *0.050*	1,4 *0.055*
S3	XOMX060204R-M05 F40M	0,042 *0.0017*	1,3 *0.050*	1,3 *0.050*	1,3 *0.050*	1,4 *0.055*
S11	XOMX060204R-M05 MS2050	0,050 *0.0020*	1,5 *0.060*	1,5 *0.060*	1,5 *0.060*	1,7 *0.065*
S12	XOMX060204R-M05 MS2050	0,050 *0.0020*	1,5 *0.060*	1,5 *0.060*	1,5 *0.060*	1,7 *0.065*
S13	XOMX060204R-M05 MS2050	0,046 *0.0018*	1,3 *0.050*	1,3 *0.050*	1,3 *0.050*	1,4 *0.055*
H5	XOMX060204R-M05 MP3000	0,044 *0.0017*	1,7 *0.065*	1,7 *0.065*	1,7 *0.065*	2,0 *0.080*
H8	XOMX060204R-M05 MP3000	0,034 *0.0013*	1,5 *0.060*	1,5 *0.060*	1,5 *0.060*	1,7 *0.065*
H11	XOMX060204R-M05 MP3000	0,044 *0.0017*	1,7 *0.065*	1,7 *0.065*	1,7 *0.065*	2,0 *0.080*
H12	XOMX060204R-M05 MP3000	0,034 *0.0013*	1,5 *0.060*	1,5 *0.060*	1,5 *0.060*	1,7 *0.065*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217.79-06 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				F30M				MP3000				MS2050				F40M				H15				MM4500			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	240	270	285	300	290	320	340	360	255	280	300	315	230	255	270	290	—	—	—	—	185	210	220	235
	—	—	—	—	*790*	*890*	*940*	*980*	*950*	*1050*	*1125*	*1175*	*840*	*920*	*980*	*1025*	*750*	*840*	*890*	*950*	—	—	—	—	*610*	*690*	*720*	*770*
P2	—	—	—	—	235	260	275	295	280	310	330	350	245	275	290	310	225	250	265	280	—	—	—	—	180	200	215	225
	—	—	—	—	*770*	*850*	*900*	*970*	*920*	*1025*	*1075*	*1150*	*800*	*900*	*950*	*1025*	*740*	*820*	*870*	*920*	—	—	—	—	*590*	*660*	*710*	*740*
P3	—	—	—	—	205	225	240	255	240	270	285	300	210	235	250	265	195	215	225	240	—	—	—	—	155	175	185	195
	—	—	—	—	*670*	*740*	*790*	*840*	*790*	*890*	*940*	*980*	*690*	*770*	*820*	*870*	*640*	*710*	*740*	*790*	—	—	—	—	*510*	*570*	*610*	*640*
P4	—	—	—	—	180	200	215	225	215	240	255	270	190	210	225	240	175	195	205	215	—	—	—	—	140	155	165	175
	—	—	—	—	*590*	*660*	*710*	*740*	*710*	*790*	*840*	*890*	*620*	*690*	*740*	*790*	*570*	*640*	*670*	*710*	—	—	—	—	*460*	*510*	*540*	*570*
P5	—	—	—	—	175	195	205	215	205	230	245	260	180	200	215	225	165	185	195	205	—	—	—	—	135	150	155	165
	—	—	—	—	*570*	*640*	*670*	*710*	*670*	*750*	*800*	*850*	*590*	*660*	*710*	*740*	*540*	*610*	*640*	*670*	—	—	—	—	*445*	*490*	*510*	*540*
P6	—	—	—	—	195	215	230	245	230	260	275	290	205	225	240	255	185	205	220	230	—	—	—	—	150	165	175	190
	—	—	—	—	*640*	*710*	*750*	*800*	*750*	*850*	*900*	*950*	*670*	*740*	*790*	*840*	*610*	*670*	*720*	*750*	—	—	—	—	*490*	*540*	*570*	*620*
P7	—	—	—	—	185	205	215	230	220	245	255	275	195	215	225	240	175	195	205	220	—	—	—	—	140	160	165	175
	—	—	—	—	*610*	*670*	*710*	*750*	*720*	*800*	*840*	*900*	*640*	*710*	*740*	*790*	*570*	*640*	*670*	*720*	—	—	—	—	*460*	*520*	*540*	*570*
P8	—	—	—	—	170	190	200	215	205	225	240	255	180	200	210	225	160	180	190	205	—	—	—	—	130	145	155	165
	—	—	—	—	*560*	*620*	*660*	*710*	*670*	*740*	*790*	*840*	*590*	*660*	*690*	*740*	*520*	*590*	*620*	*670*	—	—	—	—	*425*	*475*	*510*	*540*
P11	—	—	—	—	180	200	210	225	215	235	250	265	185	210	220	235	170	190	200	210	—	—	—	—	140	155	160	170
	—	—	—	—	*590*	*660*	*690*	*740*	*710*	*770*	*820*	*870*	*610*	*690*	*720*	*770*	*560*	*620*	*660*	*690*	—	—	—	—	*460*	*510*	*520*	*560*
P12	—	—	—	—	115	130	135	145	140	155	165	175	120	135	145	155	110	125	130	140	—	—	—	—	90	100	105	115
	—	—	—	—	*375*	*425*	*445*	*475*	*460*	*510*	*540*	*570*	*395*	*445*	*475*	*510*	*360*	*410*	*425*	*460*	—	—	—	—	*295*	*330*	*345*	*375*
M1	—	—	—	—	190	210	225	235	210	235	245	260	200	220	235	250	180	200	210	225	—	—	—	—	155	175	185	195
	—	—	—	—	*620*	*690*	*740*	*770*	*690*	*770*	*800*	*850*	*660*	*720*	*770*	*820*	*590*	*660*	*690*	*740*	—	—	—	—	*510*	*570*	*610*	*640*
M2	—	—	—	—	155	175	185	195	175	190	205	215	165	180	190	205	150	165	175	185	—	—	—	—	130	145	150	160
	—	—	—	—	*510*	*570*	*610*	*640*	*570*	*620*	*670*	*710*	*540*	*590*	*620*	*670*	*490*	*540*	*570*	*610*	—	—	—	—	*425*	*475*	*490*	*520*
M3	—	—	—	—	125	140	150	160	140	155	165	175	135	150	155	170	120	135	145	150	—	—	—	—	105	115	125	130
	—	—	—	—	*410*	*460*	*490*	*520*	*460*	*510*	*540*	*570*	*445*	*490*	*510*	*560*	*395*	*445*	*475*	*490*	—	—	—	—	*345*	*375*	*410*	*425*
M4	—	—	—	—	100	110	115	125	110	120	130	135	105	115	120	130	95	105	110	120	—	—	—	—	80	90	95	100
	—	—	—	—	*330*	*360*	*375*	*410*	*360*	*395*	*425*	*445*	*345*	*375*	*395*	*425*	*310*	*345*	*360*	*395*	—	—	—	—	*260*	*295*	*310*	*330*
M5	—	—	—	—	80	90	95	105	90	100	105	115	85	95	100	110	80	85	90	100	—	—	—	—	65	75	80	85
	—	—	—	—	*260*	*295*	*310*	*345*	*295*	*330*	*345*	*375*	*280*	*310*	*330*	*360*	*260*	*280*	*295*	*330*	—	—	—	—	*215*	*245*	*260*	*280*
K1	215	235	250	265	185	205	220	235	220	245	260	275	—	—	—	—	180	200	210	220	—	—	—	—	—	—	—	—
	710	*770*	*820*	*870*	*610*	*670*	*720*	*770*	*720*	*800*	*850*	*900*	—	—	—	—	*590*	*660*	*690*	*720*	—	—	—	—	—	—	—	—
K2	190	210	220	235	165	185	195	205	195	220	230	245	—	—	—	—	155	175	185	195	—	—	—	—	—	—	—	—
	620	*690*	*720*	*770*	*540*	*610*	*640*	*670*	*640*	*720*	*750*	*800*	—	—	—	—	*510*	*570*	*610*	*640*	—	—	—	—	—	—	—	—
K3	160	175	185	200	140	155	165	175	165	185	195	205	—	—	—	—	135	150	155	165	—	—	—	—	—	—	—	—
	520	*570*	*610*	*660*	*460*	*510*	*540*	*570*	*540*	*610*	*640*	*670*	—	—	—	—	*445*	*490*	*510*	*540*	—	—	—	—	—	—	—	—
K4	150	170	180	190	135	150	155	165	160	175	185	200	—	—	—	—	125	140	150	160	—	—	—	—	—	—	—	—
	490	*560*	*590*	*620*	*445*	*490*	*510*	*540*	*520*	*570*	*610*	*660*	—	—	—	—	*410*	*460*	*490*	*520*	—	—	—	—	—	—	—	—
K5	90	105	110	115	80	90	95	100	95	105	115	120	—	—	—	—	75	85	90	95	—	—	—	—	—	—	—	—
	295	*345*	*360*	*375*	*260*	*295*	*310*	*330*	*310*	*345*	*375*	*395*	—	—	—	—	*245*	*280*	*295*	*310*	—	—	—	—	—	—	—	—
K6	135	150	155	165	115	130	140	145	140	155	165	175	—	—	—	—	110	125	130	140	—	—	—	—	—	—	—	—
	445	*490*	*510*	*540*	*375*	*425*	*460*	*475*	*460*	*510*	*540*	*570*	—	—	—	—	*360*	*410*	*425*	*460*	—	—	—	—	—	—	—	—
K7	120	130	140	150	105	115	120	130	125	135	145	155	—	—	—	—	100	110	115	125	—	—	—	—	—	—	—	—
	395	*425*	*460*	*490*	*345*	*375*	*395*	*425*	*410*	*445*	*475*	*510*	—	—	—	—	*330*	*360*	*375*	*410*	—	—	—	—	—	—	—	—
N1	1575	1750	1850	1975	1375	1525	1625	1725	—	—	—	—	—	—	—	—	1325	1450	1550	1650	1400	1550	1650	1750	—	—	—	—
	5175	*5750*	*6075*	*6475*	*4500*	*5000*	*5325*	*5650*	—	—	—	—	—	—	—	—	*4350*	*4750*	*5075*	*5425*	*4600*	*5075*	*5425*	*5750*	—	—	—	—
N2	640	710	750	800	560	620	660	700	—	—	—	—	—	—	—	—	530	590	620	660	560	630	660	700	—	—	—	—
	2100	*2325*	*2450*	*2625*	*1825*	*2025*	*2175*	*2300*	—	—	—	—	—	—	—	—	*1750*	*1925*	*2025*	*2175*	*1825*	*2075*	*2175*	*2300*	—	—	—	—
N3	425	470	500	530	370	415	435	465	—	—	—	—	—	—	—	—	355	395	415	440	375	420	440	470	—	—	—	—
	1400	*1550*	*1650*	*1750*	*1225*	*1350*	*1425*	*1525*	—	—	—	—	—	—	—	—	*1175*	*1300*	*1350*	*1450*	*1225*	*1375*	*1450*	*1550*	—	—	—	—
N11	485	540	570	610	425	470	500	530	—	—	—	—	—	—	—	—	405	450	475	510	430	480	510	540	—	—	—	—
	1600	*1775*	*1875*	*2000*	*1400*	*1550*	*1650*	*1750*	—	—	—	—	—	—	—	—	*1325*	*1475*	*1550*	*1675*	*1400*	*1575*	*1675*	*1775*	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	48	55	55	60	44	49	50	55	—	—	—	—	25	27	29	31
	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*180*	*180*	*195*	*145*	*160*	*165*	*180*	—	—	—	—	*80*	*90*	*95*	*100*
S2	—	—	—	—	—	—	—	—	—	—	—	—	39	43	45	49	35	39	41	44	—	—	—	—	20	22	23	25
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*140*	*150*	*160*	*115*	*130*	*135*	*145*	—	—	—	—	*65*	*70*	*75*	*80*
S3	—	—	—	—	—	—	—	—	—	—	—	—	34	38	40	43	31	34	36	39	—	—	—	—	17	19	21	22
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*125*	*130*	*140*	*100*	*110*	*120*	*130*	—	—	—	—	*55*	*60*	*70*	*70*
S11	—	—	—	—	—	—	—	—	—	—	—	—	70	75	80	85	60	70	70	80	—	—	—	—	35	39	41	44
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*280*	*195*	*230*	*230*	*260*	—	—	—	—	*115*	*130*	*135*	*145*
S12	—	—	—	—	—	—	—	—	—	—	—	—	47	50	55	60	43	47	50	55	—	—	—	—	32	36	38	40
	—	—	—	—	—	—	—	—	—	—	—	—	*155*	*165*	*180*	*195*	*140*	*155*	*165*	*180*	—	—	—	—	*105*	*120*	*125*	*130*
S13	—	—	—	—	—	—	—	—	—	—	—	—	27	30	32	34	24	27	29	31	—	—	—	—	18	21	22	23
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*105*	*110*	*80*	*90*	*95*	*100*	—	—	—	—	*60*	*70*	*70*	*75*
H5	—	—	—	—	39	43	45	48	43	48	50	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*130*	*140*	*150*	*155*	*140*	*155*	*165*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H8	—	—	—	—	41	46	48	50	46	50	55	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*135*	*150*	*155*	*165*	*150*	*165*	*180*	*180*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H11	—	—	—	—	49	55	60	60	55	60	65	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*160*	*180*	*195*	*195*	*180*	*195*	*215*	*230*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
H12	—	—	—	—	75	80	85	90	85	95	105	110	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*245*	*260*	*280*	*295*	*280*	*310*	*345*	*360*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

R217.79-10 – Metric





- For insert selection and cutting data recommendations, see page(s) 747-749
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DMM	LS	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		kg	
R217.79-1820.0-10-2A	02842051	Cylindrical	20,0	2	6,0	18,0	130,0	160,0	29000	0,3	XO.X10T3
R217.79-2025.0-10-3A	02842052	Cylindrical	25,0	3	6,0	20,0	170,0	200,0	26000	0,5	XO.X10T3
R217.79-2532.0-10-4A	02842053	Cylindrical	32,0	4	6,0	25,0	218,0	250,0	22900	0,9	XO.X10T3

Spare Parts, included in delivery

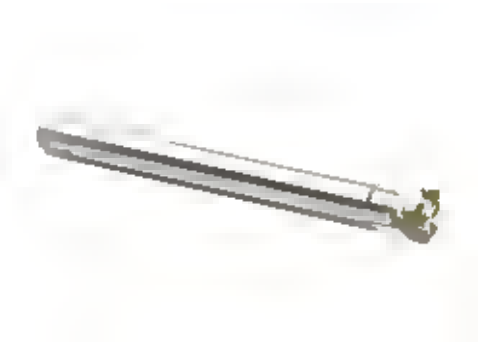
For cutter	Insert key	Insert screw
		
R217.79-..	H4B-T07P	C02506-T07P

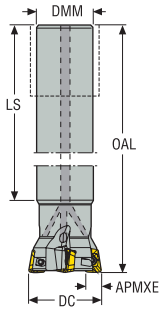
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

R217.79-10 – inch





- For insert selection and cutting data recommendations, see page(s) 747-749
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DMM	LS	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		lbs	
R217.79-00.75-0-10-2A	02844106	Cylindrical	0.750	2	0.236	0.625	5.118	6.299	29000	0.660	XO.X10T3
R217.79-01.00-0-10-3A	02844107	Cylindrical	1.000	3	0.236	0.750	6.693	7.874	15000	1.100	XO.X10T3

Spare Parts, included in delivery

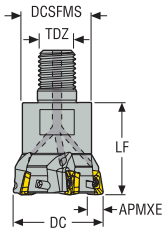
For cutter	Insert key	Insert screw
		
R217.79-..	H4B-T07P	C02506-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

R217.79-10 – Metric





- For insert selection and cutting data recommendations, see page(s) 747-749
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			mm		mm		mm	mm	kg		
R217.79-1020.RE-10-2A	02842054	Combimaster	20,0	2	6,0	M10	18,0	28,0	0,1	29000	XO.X10T3
R217.79-1225.RE-10-3A	02842056	Combimaster	25,0	3	6,0	M12	22,5	30,0	0,2	26000	XO.X10T3
R217.79-1632.RE-10-4A	02842057	Combimaster	32,0	4	6,0	M16	29,0	40,0	0,3	22900	XO.X10T3
R217.79-1640.RE-10-5A	02842058	Combimaster	40,0	5	6,0	M16	30,0	40,0	0,3	15000	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	H4B-T07P	C02506-T07P

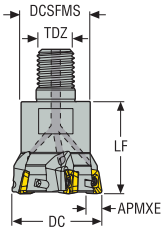
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	0.9NM	T00-07P09

Torque and fixed keys, see page 872

R217.79-10 – inch





- For insert selection and cutting data recommendations, see page(s) 747-749
- For complete insert programme, see page(s) 844, 845
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			inch		inch		inch	inch	lbs		
R217.79-1.00-12RE-10.3A	02844109	Combimaster	1.000	3	0.236	M12	0.886	1.181	0.220	15000	XO.X10T3

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	H4B-T07P	C02506-T07P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	8.0IN.LBS	T00-07P09

Torque and fixed keys, see page 872

R217/220.79-10 – Insert selection – mm/*Inch*

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XOMX10T308TR-ME07 F40M	0,10 *0.0040*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P2	XOMX10T308TR-ME07 F40M	0,10 *0.0040*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P3	XOMX10T308TR-ME07 MP2501	0,095 *0.0038*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P4	XOMX10T308TR-ME07 MP2501	0,095 *0.0038*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P5	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P6	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P7	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P8	XOMX10T308TR-M09 MP2501	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P11	XOMX10T308TR-M09 MP3501	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
P12	XOMX10T308TR-M09 MS2500	0,080 *0.0032*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
M1	XOEX10T308R-M06 F40M	0,085 *0.0034*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
M2	XOEX10T308R-M06 F40M	0,080 *0.0032*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
M3	XOEX10T308R-M06 F40M	0,060 *0.0024*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
M4	XOEX10T308R-M06 MS2050	0,055 *0.0022*	2,5 *0.10*	2,5 *0.10*	2,5 *0.10*	3,0 *0.12*
M5	XOEX10T308R-M06 MS2050	0,055 *0.0022*	2,5 *0.10*	2,5 *0.10*	2,5 *0.10*	3,0 *0.12*
K1	XOMX10T308TR-M09 MK1500	0,13 *0.0050*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
K2	XOMX10T308TR-M09 MK1500	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
K3	XOMX10T308TR-M09 MK1500	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
K4	XOMX10T308TR-M09 MK1500	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
K5	XOMX10T308TR-M09 MK1500	0,11 *0.0044*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
K6	XOMX10T308TR-M09 MK1500	0,12 *0.0048*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
K7	XOMX10T308TR-M09 MK2050	0,11 *0.0044*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
N1	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
N2	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
N3	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
N11	XOEX10T308FR-E05 H15	0,090 *0.0036*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	5,0 *0.20*
S1	XOEX10T308R-M06 F40M	0,055 *0.0022*	2,5 *0.10*	2,5 *0.10*	2,5 *0.10*	3,0 *0.12*
S2	XOEX10T308R-M06 F40M	0,055 *0.0022*	2,5 *0.10*	2,5 *0.10*	2,5 *0.10*	3,0 *0.12*
S3	XOEX10T308R-M06 F40M	0,050 *0.0020*	2,5 *0.10*	2,5 *0.10*	2,5 *0.10*	3,0 *0.12*
S11	XOEX10T308R-M06 MS2050	0,060 *0.0024*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S12	XOEX10T308R-M06 MS2050	0,060 *0.0024*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S13	XOEX10T308R-M06 MS2050	0,055 *0.0022*	2,5 *0.10*	2,5 *0.10*	2,5 *0.10*	3,0 *0.12*
H5	XOMX10T308TR-M09 MP3000	0,080 *0.0032*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
H8	XOMX10T308TR-M09 MP3000	0,060 *0.0024*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
H11	XOMX10T308TR-M09 MP1501	0,080 *0.0032*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
H12	XOMX10T308TR-M09 MP1501	0,060 *0.0024*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.79-10 – Cutting data v_c = (m/min)/*(sf/min)*

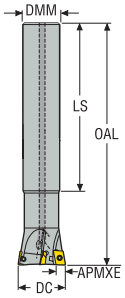
SMG	MK2050				MP3000				MS2050				F40M				MP2050				H15			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	240	265	280	300	230	255	270	290	240	265	280	300	185	205	215	230	280	310	330	350	—	—	—	—
	790	*870*	*920*	*980*	*750*	*840*	*890*	*950*	*790*	*870*	*920*	*980*	*610*	*670*	*710*	*750*	*920*	*1025*	*1075*	*1150*	—	—	—	—
P2	235	260	275	290	225	250	265	280	230	260	275	290	180	200	210	225	275	305	320	340	—	—	—	—
	770	*850*	*900*	*950*	*740*	*820*	*870*	*920*	*750*	*850*	*900*	*950*	*590*	*660*	*690*	*740*	*900*	*1000*	*1050*	*1125*	—	—	—	—
P3	205	230	245	260	200	220	235	250	205	225	240	255	160	175	185	200	240	265	280	300	—	—	—	—
	670	*750*	*800*	*850*	*660*	*720*	*770*	*820*	*670*	*740*	*790*	*840*	*520*	*570*	*610*	*660*	*790*	*870*	*920*	*980*	—	—	—	—
P4	180	200	215	225	175	195	205	220	180	200	210	225	140	155	165	175	210	235	250	265	—	—	—	—
	590	*660*	*710*	*740*	*570*	*640*	*670*	*720*	*590*	*660*	*690*	*740*	*460*	*510*	*540*	*570*	*690*	*770*	*820*	*870*	—	—	—	—
P5	175	195	205	215	165	185	195	210	170	190	200	215	135	150	155	165	200	225	235	250	—	—	—	—
	570	*640*	*670*	*710*	*540*	*610*	*640*	*690*	*560*	*620*	*660*	*710*	*445*	*490*	*510*	*540*	*660*	*740*	*770*	*820*	—	—	—	—
P6	195	215	230	245	185	210	220	235	195	215	230	245	150	165	175	185	230	255	270	285	—	—	—	—
	640	*710*	*750*	*800*	*610*	*690*	*720*	*770*	*640*	*710*	*750*	*800*	*490*	*540*	*570*	*610*	*750*	*840*	*890*	*940*	—	—	—	—
P7	185	205	215	230	175	195	210	220	185	205	215	230	140	155	165	175	215	240	255	270	—	—	—	—
	610	*670*	*710*	*750*	*570*	*640*	*690*	*720*	*610*	*670*	*710*	*750*	*460*	*510*	*540*	*570*	*710*	*790*	*840*	*890*	—	—	—	—
P8	175	195	205	215	165	185	195	210	170	190	200	215	135	150	155	165	200	225	235	250	—	—	—	—
	570	*640*	*670*	*710*	*540*	*610*	*640*	*690*	*560*	*620*	*660*	*710*	*445*	*490*	*510*	*540*	*660*	*740*	*770*	*820*	—	—	—	—
P11	180	200	210	225	170	190	200	215	180	200	210	225	135	155	160	170	210	235	250	265	—	—	—	—
	590	*660*	*690*	*740*	*560*	*620*	*660*	*710*	*590*	*660*	*690*	*740*	*445*	*510*	*520*	*560*	*690*	*770*	*820*	*870*	—	—	—	—
P12	120	130	140	150	115	125	135	145	115	130	135	145	90	100	110	115	135	150	160	170	—	—	—	—
	395	*425*	*460*	*490*	*375*	*410*	*445*	*475*	*375*	*425*	*445*	*475*	*295*	*330*	*360*	*375*	*445*	*490*	*520*	*560*	—	—	—	—
M1	—	—	—	—	170	185	200	210	185	210	220	235	145	160	170	180	195	220	230	245	—	—	—	—
	—	—	—	—	*560*	*610*	*660*	*690*	*610*	*690*	*720*	*770*	*475*	*520*	*560*	*590*	*640*	*720*	*750*	*800*	—	—	—	—
M2	—	—	—	—	140	155	165	175	155	170	180	190	120	135	140	150	160	180	190	200	—	—	—	—
	—	—	—	—	*460*	*510*	*540*	*570*	*510*	*560*	*590*	*620*	*395*	*445*	*460*	*490*	*520*	*590*	*620*	*660*	—	—	—	—
M3	—	—	—	—	115	125	135	145	125	140	150	160	100	110	115	125	135	150	155	165	—	—	—	—
	—	—	—	—	*375*	*410*	*445*	*475*	*410*	*460*	*490*	*520*	*330*	*360*	*375*	*410*	*445*	*490*	*510*	*540*	—	—	—	—
M4	—	—	—	—	90	100	105	115	100	110	115	125	80	85	90	100	100	115	120	130	—	—	—	—
	—	—	—	—	*295*	*330*	*345*	*375*	*330*	*360*	*375*	*410*	*260*	*280*	*295*	*330*	*330*	*375*	*395*	*425*	—	—	—	—
M5	—	—	—	—	75	85	90	95	80	90	95	105	65	70	75	80	85	95	100	110	—	—	—	—
	—	—	—	—	*245*	*280*	*295*	*310*	*260*	*295*	*310*	*345*	*215*	*230*	*245*	*260*	*280*	*310*	*330*	*360*	—	—	—	—
K1	250	280	295	315	180	200	210	225	—	—	—	—	140	160	170	180	—	—	—	—	—	—	—	—
	820	*920*	*970*	*1025*	*590*	*660*	*690*	*740*	—	—	—	—	*460*	*520*	*560*	*590*	—	—	—	—	—	—	—	—
K2	225	250	265	280	160	175	185	200	—	—	—	—	125	140	150	160	—	—	—	—	—	—	—	—
	740	*820*	*870*	*920*	*520*	*570*	*610*	*660*	—	—	—	—	*410*	*460*	*490*	*520*	—	—	—	—	—	—	—	—
K3	190	210	225	235	135	150	155	165	—	—	—	—	105	120	125	135	—	—	—	—	—	—	—	—
	620	*690*	*740*	*770*	*445*	*490*	*510*	*540*	—	—	—	—	*345*	*395*	*410*	*445*	—	—	—	—	—	—	—	—
K4	180	200	215	225	130	140	150	160	—	—	—	—	100	115	120	130	—	—	—	—	—	—	—	—
	590	*660*	*710*	*740*	*425*	*460*	*490*	*520*	—	—	—	—	*330*	*375*	*395*	*425*	—	—	—	—	—	—	—	—
K5	110	125	130	140	80	85	90	100	—	—	—	—	60	70	75	80	—	—	—	—	—	—	—	—
	360	*410*	*425*	*460*	*260*	*280*	*295*	*330*	—	—	—	—	*195*	*230*	*245*	*260*	—	—	—	—	—	—	—	—
K6	160	175	190	200	115	125	130	140	—	—	—	—	90	100	105	115	—	—	—	—	—	—	—	—
	520	*570*	*620*	*660*	*375*	*410*	*425*	*460*	—	—	—	—	*295*	*330*	*345*	*375*	—	—	—	—	—	—	—	—
K7	140	160	165	175	100	110	120	125	—	—	—	—	80	90	95	100	—	—	—	—	—	—	—	—
	460	*520*	*540*	*570*	*330*	*360*	*395*	*410*	—	—	—	—	*260*	*295*	*310*	*330*	—	—	—	—	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	1050	1175	1250	1325	—	—	—	—	1300	1450	1525	1625
	—	—	—	—	—	—	—	—	—	—	—	—	*3450*	*3850*	*4100*	*4350*	—	—	—	—	*4275*	*4750*	*5000*	*5325*
N2	—	—	—	—	—	—	—	—	—	—	—	—	425	475	500	530	—	—	—	—	520	580	610	650
	—	—	—	—	—	—	—	—	—	—	—	—	*1400*	*1550*	*1650*	*1750*	—	—	—	—	*1700*	*1900*	*2000*	*2125*
N3	—	—	—	—	—	—	—	—	—	—	—	—	285	315	335	355	—	—	—	—	350	390	410	435
	—	—	—	—	—	—	—	—	—	—	—	—	*940*	*1025*	*1100*	*1175*	—	—	—	—	*1150*	*1275*	*1350*	*1425*
N11	—	—	—	—	—	—	—	—	—	—	—	—	325	360	380	405	—	—	—	—	400	445	470	495
	—	—	—	—	—	—	—	—	—	—	—	—	*1075*	*1175*	*1250*	*1325*	—	—	—	—	*1300*	*1450*	*1550*	*1625*
S1	—	—	—	—	42	47	50	55	46	50	55	60	36	41	43	46	50	55	60	65	—	—	—	—
	—	—	—	—	*140*	*155*	*165*	*180*	*150*	*165*	*180*	*195*	*120*	*135*	*140*	*150*	*165*	*180*	*195*	*215*	—	—	—	—
S2	—	—	—	—	34	38	40	43	37	41	43	46	29	33	35	37	40	45	47	50	—	—	—	—
	—	—	—	—	*110*	*125*	*130*	*140*	*120*	*135*	*140*	*150*	*95*	*110*	*115*	*120*	*130*	*150*	*155*	*165*	—	—	—	—
S3	—	—	—	—	30	33	35	38	32	36	38	41	26	29	30	32	35	40	42	45	—	—	—	—
	—	—	—	—	*100*	*110*	*115*	*125*	*105*	*120*	*125*	*135*	*85*	*95*	*100*	*105*	*115*	*130*	*140*	*150*	—	—	—	—
S11	—	—	—	—	—	—	—	—	65	70	75	80	50	55	60	65	70	80	85	90	—	—	—	—
	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*260*	*165*	*180*	*195*	*215*	*230*	*260*	*280*	*295*	—	—	—	—
S12	—	—	—	—	—	—	—	—	44	50	50	55	35	39	41	44	49	55	55	60	—	—	—	—
	—	—	—	—	—	—	—	—	*145*	*165*	*165*	*180*	*115*	*130*	*135*	*145*	*160*	*180*	*180*	*195*	—	—	—	—
S13	—	—	—	—	—	—	—	—	26	29	30	32	20	23	24	26	28	31	33	35	—	—	—	—
	—	—	—	—	—	—	—	—	*85*	*95*	*100*	*105*	*65*	*75*	*80*	*85*	*90*	*100*	*110*	*115*	—	—	—	—
H5	—	—	—	—	36	40	42	45	—	—	—	—	30	34	36	38	—	—	—	—	—	—	—	—
	—	—	—	—	*120*	*130*	*140*	*150*	—	—	—	—	*100*	*110*	*120*	*125*	—	—	—	—	—	—	—	—
H8	—	—	—	—	38	43	45	48	—	—	—	—	33	37	39	41	—	—	—	—	—	—	—	—
	—	—	—	—	*125*	*140*	*150*	*155*	—	—	—	—	*110*	*120*	*130*	*135*	—	—	—	—	—	—	—	—
H11	—	—	—	—	45	50	55	55	—	—	—	—	39	43	46	49	50	55	60	65	—	—	—	—
	—	—	—	—	*150*	*165*	*180*	*180*	—	—	—	—	*130*	*140*	*150*	*160*	*165*	*180*	*195*	*215*	—	—	—	—
H12	—	—	—	—	75	80	85	95	—	—	—	—	60	65	70	75	85	95	105	110	—	—	—	—
	—	—	—	—	*245*	*260*	*280*	*310*	—	—	—	—	*195*	*215*	*230*	*245*	*280*	*310*	*345*	*360*	—	—	—	—

R217/220.79-10 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	350	380	395	415	340	370	385	405	265	295	315	335	300	330	340	360	150	165	175	185
	—	—	—	—	*1150*	*1250*	*1300*	*1350*	*1125*	*1225*	*1275*	*1325*	*870*	*970*	*1025*	*1100*	*980*	*1075*	*1125*	*1175*	*490*	*540*	*570*	*610*
P2	—	—	—	—	340	370	385	405	330	360	375	390	260	290	305	325	295	320	335	350	145	160	170	180
	—	—	—	—	*1125*	*1225*	*1275*	*1325*	*1075*	*1175*	*1225*	*1275*	*850*	*950*	*1000*	*1075*	*970*	*1050*	*1100*	*1150*	*475*	*520*	*560*	*590*
P3	—	—	—	—	300	325	340	355	295	320	330	350	230	255	270	285	260	285	295	310	130	145	150	160
	—	—	—	—	*980*	*1075*	*1125*	*1175*	*970*	*1050*	*1075*	*1150*	*750*	*840*	*890*	*940*	*850*	*940*	*970*	*1025*	*425*	*475*	*490*	*520*
P4	—	—	—	—	265	285	300	315	260	280	290	305	200	225	235	250	230	250	260	270	115	125	135	140
	—	—	—	—	*870*	*940*	*980*	*1025*	*850*	*920*	*950*	*1000*	*660*	*740*	*770*	*820*	*750*	*820*	*850*	*890*	*375*	*410*	*445*	*460*
P5	—	—	—	—	255	275	285	300	245	265	280	290	190	215	225	240	220	240	250	260	110	120	125	135
	—	—	—	—	*840*	*900*	*940*	*980*	*800*	*870*	*920*	*950*	*620*	*710*	*740*	*790*	*720*	*790*	*820*	*850*	*360*	*395*	*410*	*445*
P6	—	—	—	—	285	310	320	335	275	300	315	330	215	240	255	270	245	265	280	290	120	135	145	150
	—	—	—	—	*940*	*1025*	*1050*	*1100*	*900*	*980*	*1025*	*1075*	*710*	*790*	*840*	*890*	*800*	*870*	*920*	*950*	*395*	*445*	*475*	*490*
P7	—	—	—	—	270	290	305	315	260	285	295	310	205	225	240	255	235	250	265	275	115	125	135	145
	—	—	—	—	*890*	*950*	*1000*	*1025*	*850*	*940*	*970*	*1025*	*670*	*740*	*790*	*840*	*770*	*820*	*870*	*900*	*375*	*410*	*445*	*475*
P8	—	—	—	—	255	275	285	300	245	265	280	290	190	215	225	240	220	240	250	260	110	120	125	135
	—	—	—	—	*840*	*900*	*940*	*980*	*800*	*870*	*920*	*950*	*620*	*710*	*740*	*790*	*720*	*790*	*820*	*850*	*360*	*395*	*410*	*445*
P11	—	—	—	—	260	280	295	310	255	275	285	300	200	220	230	245	225	245	255	270	110	125	130	140
	—	—	—	—	*850*	*920*	*970*	*1025*	*840*	*900*	*940*	*980*	*660*	*720*	*750*	*800*	*740*	*800*	*840*	*890*	*360*	*410*	*425*	*460*
P12	—	—	—	—	175	190	195	205	170	185	195	205	130	145	155	165	155	165	175	180	75	85	85	95
	—	—	—	—	*570*	*620*	*640*	*670*	*560*	*610*	*640*	*670*	*425*	*475*	*510*	*540*	*510*	*540*	*570*	*590*	*245*	*280*	*280*	*310*
M1	—	—	—	—	—	—	—	—	170	190	200	215	185	205	220	230	160	175	190	200	125	140	145	155
	—	—	—	—	—	—	—	—	*560*	*620*	*660*	*710*	*610*	*670*	*720*	*750*	*520*	*570*	*620*	*660*	*410*	*460*	*475*	*510*
M2	—	—	—	—	—	—	—	—	140	160	165	175	155	170	180	190	130	145	155	165	105	115	120	130
	—	—	—	—	—	—	—	—	*460*	*520*	*540*	*570*	*510*	*560*	*590*	*620*	*425*	*475*	*510*	*540*	*345*	*375*	*395*	*425*
M3	—	—	—	—	—	—	—	—	115	130	135	145	125	140	150	160	110	120	125	135	85	95	100	105
	—	—	—	—	—	—	—	—	*375*	*425*	*445*	*475*	*410*	*460*	*490*	*520*	*360*	*395*	*410*	*445*	*280*	*310*	*330*	*345*
M4	—	—	—	—	—	—	—	—	90	105	110	115	100	110	120	125	85	95	100	110	65	75	80	85
	—	—	—	—	—	—	—	—	*295*	*345*	*360*	*375*	*330*	*360*	*395*	*410*	*280*	*310*	*330*	*360*	*215*	*245*	*260*	*280*
M5	—	—	—	—	—	—	—	—	75	85	90	95	85	95	100	105	70	80	85	90	55	65	65	70
	—	—	—	—	—	—	—	—	*245*	*280*	*295*	*310*	*280*	*310*	*330*	*345*	*230*	*260*	*280*	*295*	*180*	*215*	*215*	*230*
K1	265	295	315	335	345	370	390	405	335	360	380	395	205	230	240	255	295	320	335	350	—	—	—	—
	870	*970*	*1025*	*1100*	*1125*	*1225*	*1275*	*1325*	*1100*	*1175*	*1250*	*1300*	*670*	*750*	*790*	*840*	*970*	*1050*	*1100*	*1150*	—	—	—	—
K2	235	265	280	295	305	330	345	360	300	325	335	355	180	205	215	230	265	290	300	315	—	—	—	—
	770	*870*	*920*	*970*	*1000*	*1075*	*1125*	*1175*	*980*	*1075*	*1100*	*1175*	*590*	*670*	*710*	*750*	*870*	*950*	*980*	*1025*	—	—	—	—
K3	200	225	235	250	260	280	295	305	255	275	285	300	155	170	180	195	225	245	255	265	—	—	—	—
	660	*740*	*770*	*820*	*850*	*920*	*970*	*1000*	*840*	*900*	*940*	*980*	*510*	*560*	*590*	*640*	*740*	*800*	*840*	*870*	—	—	—	—
K4	190	215	225	240	245	270	280	295	240	260	270	285	145	165	175	185	215	230	245	255	—	—	—	—
	620	*710*	*740*	*790*	*800*	*890*	*920*	*970*	*790*	*850*	*890*	*940*	*475*	*540*	*570*	*610*	*710*	*750*	*800*	*840*	—	—	—	—
K5	115	130	135	145	150	165	170	180	150	160	165	175	90	100	105	110	130	145	150	155	—	—	—	—
	375	*425*	*445*	*475*	*490*	*540*	*560*	*590*	*490*	*520*	*540*	*570*	*295*	*330*	*345*	*360*	*425*	*475*	*490*	*510*	—	—	—	—
K6	170	185	200	210	220	235	245	260	215	230	240	250	130	145	155	160	190	205	215	225	—	—	—	—
	560	*610*	*660*	*690*	*720*	*770*	*800*	*850*	*710*	*750*	*790*	*820*	*425*	*475*	*510*	*520*	*620*	*670*	*710*	*740*	—	—	—	—
K7	150	165	175	185	195	210	220	230	190	205	215	225	115	130	135	145	170	185	190	200	—	—	—	—
	490	*540*	*570*	*610*	*640*	*690*	*720*	*750*	*620*	*670*	*710*	*740*	*375*	*425*	*445*	*475*	*560*	*610*	*620*	*660*	—	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	49	55	60	60	40	45	47	50	21	23	24	26
	—	—	—	—	—	—	—	—	—	—	—	—	*160*	*180*	*195*	*195*	*130*	*150*	*155*	*165*	*70*	*75*	*80*	*85*
S2	—	—	—	—	—	—	—	—	—	—	—	—	39	44	46	50	32	36	38	41	17	18	20	21
	—	—	—	—	—	—	—	—	—	—	—	—	*130*	*145*	*150*	*165*	*105*	*120*	*125*	*135*	*55*	*60*	*65*	*70*
S3	—	—	—	—	—	—	—	—	—	—	—	—	34	38	41	44	28	32	33	36	15	16	17	18
	—	—	—	—	—	—	—	—	—	—	—	—	*110*	*125*	*135*	*145*	*90*	*105*	*110*	*120*	*49*	*50*	*55*	*60*
S11	—	—	—	—	—	—	—	—	—	—	—	—	65	75	80	85	55	60	65	70	28	31	33	36
	—	—	—	—	—	—	—	—	—	—	—	—	*215*	*245*	*260*	*280*	*180*	*195*	*215*	*230*	*90*	*100*	*110*	*120*
S12	—	—	—	—	—	—	—	—	—	—	—	—	46	50	55	60	38	42	45	48	26	29	31	33
	—	—	—	—	—	—	—	—	—	—	—	—	*150*	*165*	*180*	*195*	*125*	*140*	*150*	*155*	*85*	*95*	*100*	*110*
S13	—	—	—	—	—	—	—	—	—	—	—	—	27	31	32	35	23	25	27	28	15	17	18	19
	—	—	—	—	—	—	—	—	—	—	—	—	*90*	*100*	*105*	*115*	*75*	*80*	*90*	*90*	*49*	*55*	*60*	*60*
H5	—	—	—	—	45	50	55	55	—	—	—	—	39	44	46	50	35	39	41	44	—	—	—	—
	—	—	—	—	*150*	*165*	*180*	*180*	—	—	—	—	*130*	*145*	*150*	*165*	*115*	*130*	*135*	*145*	—	—	—	—
H8	—	—	—	—	49	55	60	60	—	—	—	—	43	48	50	55	38	42	45	48	—	—	—	—
	—	—	—	—	*160*	*180*	*195*	*195*	—	—	—	—	*140*	*155*	*165*	*180*	*125*	*140*	*150*	*155*	—	—	—	—
H11	—	—	—	—	60	65	70	70	—	—	—	—	50	55	60	65	44	50	50	55	—	—	—	—
	—	—	—	—	*195*	*215*	*230*	*230*	—	—	—	—	*165*	*180*	*195*	*215*	*145*	*165*	*165*	*180*	—	—	—	—
H12	—	—	—	—	90	100	105	110	—	—	—	—	85	95	100	105	70	75	80	85	—	—	—	—
	—	—	—	—	*295*	*330*	*345*	*360*	—	—	—	—	*280*	*310*	*330*	*345*	*230*	*245*	*260*	*280*	—	—	—	—

R217.79-XO12 – Metric





- For insert selection and cutting data recommendations, see page(s) 753-755
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DMM	LS	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		kg	
R217.79-2025.0-XO12-2AN	02732332	Cylindrical	25,0	2	7,0	20,0	170,0	200,0	20800	0,5	XO..1204
R217.79-2532.0-XO12-3AN	02732333	Cylindrical	32,0	3	7,0	25,0	215,0	250,0	18400	0,9	XO..1204

Spare Parts, included in delivery

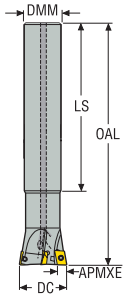
For cutter	Insert key	Insert screw
		
R217.79-..	H4B-T10P	C03507-T10P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217.79-XO12 – inch





- For insert selection and cutting data recommendations, see page(s) 753-755
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DMM	LS	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		lbs	
R217.79-1.00.3-XO.2A	00097192	Weldon	1.000	2	0.276	0.750	6.693	7.874	20800	1.100	XO..1204

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	H4B-T10P	C03507-T10P

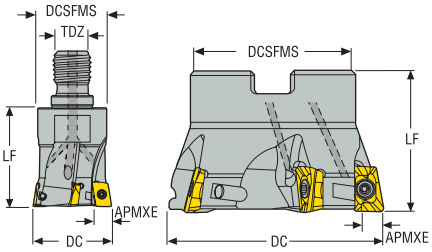
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

R217.79-XO12 – Metric



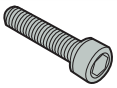


- For insert selection and cutting data recommendations, see page(s) 753-755
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			mm		mm	mm		mm	mm	kg		
R217.79-1225.RE-XO12-2AN	02732338	Combimaster	25,0	2	7,0	–	M12	23,0	30,0	0,1	20800	XO..1204
R217.79-1632.RE-XO12-3AN	02732344	Combimaster	32,0	3	7,0	–	M16	30,0	40,0	0,2	18400	XO..1204
R220.79-0040-XO12-4AN	02732351	Arbor	40,0	4	7,0	16,0	–	35,0	40,0	0,3	16400	XO..1204
R220.79-0050-XO12-4AN	02732353	Arbor	50,0	4	7,0	22,0	–	42,0	40,0	0,4	14800	XO..1204
R220.79-0063-XO12-5AN	02732354	Arbor	63,0	5	7,0	22,0	–	47,0	40,0	0,6	13200	XO..1204

For Combimaster Shanks, see Machining Navigator Tooling System

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.79-..	–	H4B-T10P	C03507-T10P
R220.79-0040	MC6S8X30	H4B-T10P	C03509-T10P
R220.79-0050-0063	220.17-692	1/4HEX-T10PX50	C03509-T10P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.79-..	–	3.0NM	T00-10P30
R217/220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217/220.79-XO12 – Insert selection – mm/*Inch*

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	XOMX120408TR-ME08 F40M	0,11 *0.0044*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P2	XOMX120408TR-ME08 F40M	0,11 *0.0044*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P3	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P4	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P5	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P6	XOMX120408TR-M12 MP2501	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P7	XOMX120408TR-M12 MP2501	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P8	XOMX120408TR-M12 MP2501	0,16 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P11	XOMX120408TR-M12 MP3501	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
P12	XOEX120408R-M07 MS2500	0,080 *0.0032*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
M1	XOEX120408R-M07 F40M	0,13 *0.0050*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
M2	XOEX120408R-M07 F40M	0,12 *0.0048*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
M3	XOEX120408R-M07 F40M	0,095 *0.0038*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
M4	XOEX120408R-M07 MS2050	0,080 *0.0032*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
M5	XOEX120408R-M07 MS2050	0,080 *0.0032*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
K1	XOMX120408TR-M12 MK1500	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K2	XOMX120408TR-M12 MK1500	0,16 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K3	XOMX120408TR-M12 MK2050	0,16 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K4	XOMX120408TR-M12 MK2050	0,16 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K5	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K6	XOMX120408TR-MD13 MK2050	0,17 *0.0065*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
K7	XOMX120408TR-MD13 MK2050	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
N1	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
N2	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
N3	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
N11	XOEX120408FR-E06 H15	0,13 *0.0050*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
S1	XOEX120408R-M07 MP3501	0,080 *0.0032*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S2	XOEX120408R-M07 MP3501	0,080 *0.0032*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S3	XOEX120408R-M07 MP3501	0,075 *0.0030*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
S11	XOEX120408R-M07 MS2050	0,095 *0.0038*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
S12	XOEX120408R-M07 MS2050	0,095 *0.0038*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
S13	XOEX120408R-M07 MS2050	0,080 *0.0032*	3,0 *0.12*	3,0 *0.12*	3,0 *0.12*	3,5 *0.14*
H5	XOMX120408TR-MD13 MP3000	0,11 *0.0044*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
H8	XOMX120408TR-MD13 MP3000	0,090 *0.0036*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*
H11	XOMX120408TR-MD13 MP1501	0,11 *0.0044*	4,0 *0.16*	4,0 *0.16*	4,0 *0.16*	4,5 *0.18*
H12	XOMX120408TR-MD13 MP1501	0,090 *0.0036*	3,5 *0.14*	3,5 *0.14*	3,5 *0.14*	4,0 *0.16*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.79-XO12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F15M				MK2050				F30M				MP3000				MS2050				F40M				MP2050			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	220	245	260	275	155	170	180	195	210	235	250	265	215	240	255	270	165	185	195	210	255	280	300	320
	—	—	—	—	*720*	*800*	*850*	*900*	*510*	*560*	*590*	*640*	*690*	*770*	*820*	*870*	*710*	*790*	*840*	*890*	*540*	*610*	*640*	*690*	*840*	*920*	*980*	*1050*
P2	—	—	—	—	210	235	250	265	150	170	180	190	200	225	240	255	210	235	245	265	165	180	190	205	245	275	290	310
	—	—	—	—	*690*	*770*	*820*	*870*	*490*	*560*	*590*	*620*	*660*	*740*	*790*	*840*	*690*	*770*	*800*	*870*	*540*	*590*	*620*	*670*	*800*	*900*	*950*	*1025*
P3	—	—	—	—	185	205	215	230	130	145	155	165	175	195	210	225	185	205	220	235	145	160	170	180	220	245	255	275
	—	—	—	—	*610*	*670*	*710*	*750*	*425*	*475*	*510*	*540*	*570*	*640*	*690*	*740*	*610*	*670*	*720*	*770*	*475*	*520*	*560*	*590*	*720*	*800*	*840*	*900*
P4	—	—	—	—	165	185	195	210	115	130	135	145	160	175	190	200	165	180	190	205	125	140	150	160	190	215	225	240
	—	—	—	—	*540*	*610*	*640*	*690*	*375*	*425*	*445*	*475*	*520*	*570*	*620*	*660*	*540*	*590*	*620*	*670*	*410*	*460*	*490*	*520*	*620*	*710*	*740*	*790*
P5	—	—	—	—	160	175	185	200	115	125	135	140	150	170	180	190	155	175	185	195	120	135	140	150	185	205	215	230
	—	—	—	—	*520*	*570*	*610*	*660*	*375*	*410*	*445*	*460*	*490*	*560*	*590*	*620*	*510*	*570*	*610*	*640*	*395*	*445*	*460*	*490*	*610*	*670*	*710*	*750*
P6	—	—	—	—	175	200	210	225	125	140	150	160	170	190	200	215	175	195	205	220	140	155	160	175	205	230	240	260
	—	—	—	—	*570*	*660*	*690*	*740*	*410*	*460*	*490*	*520*	*560*	*620*	*660*	*710*	*570*	*640*	*670*	*720*	*460*	*510*	*520*	*570*	*670*	*750*	*790*	*850*
P7	—	—	—	—	165	185	195	210	120	135	140	150	160	180	190	205	165	185	195	205	130	145	155	165	195	215	230	245
	—	—	—	—	*540*	*610*	*640*	*690*	*395*	*445*	*460*	*490*	*520*	*590*	*620*	*670*	*540*	*610*	*640*	*670*	*425*	*475*	*510*	*540*	*640*	*710*	*750*	*800*
P8	—	—	—	—	155	175	185	195	110	125	130	140	150	165	175	190	155	175	185	195	120	135	140	150	185	205	215	230
	—	—	—	—	*510*	*570*	*610*	*640*	*360*	*410*	*425*	*460*	*490*	*540*	*570*	*620*	*510*	*570*	*610*	*640*	*395*	*445*	*460*	*490*	*610*	*670*	*710*	*750*
P11	—	—	—	—	165	180	190	205	115	130	135	145	155	175	185	195	160	180	190	200	125	140	150	160	190	210	220	235
	—	—	—	—	*540*	*590*	*620*	*670*	*375*	*425*	*445*	*475*	*510*	*570*	*610*	*640*	*520*	*590*	*620*	*660*	*410*	*460*	*490*	*520*	*620*	*690*	*720*	*770*
P12	—	—	—	—	110	125	130	140	80	90	95	100	105	120	125	135	105	120	125	135	85	90	95	105	125	140	150	160
	—	—	—	—	*360*	*410*	*425*	*460*	*260*	*295*	*310*	*330*	*345*	*395*	*410*	*445*	*345*	*395*	*410*	*445*	*280*	*295*	*310*	*345*	*410*	*460*	*490*	*520*
M1	—	—	—	—	—	—	—	—	—	—	—	—	150	170	180	190	170	190	200	210	130	145	155	165	175	195	210	220
	—	—	—	—	—	—	—	—	—	—	—	—	*490*	*560*	*590*	*620*	*560*	*620*	*660*	*690*	*425*	*475*	*510*	*540*	*570*	*640*	*690*	*720*
M2	—	—	—	—	—	—	—	—	—	—	—	—	125	140	150	160	140	155	165	175	110	120	130	135	145	165	175	185
	—	—	—	—	—	—	—	—	—	—	—	—	*410*	*460*	*490*	*520*	*460*	*510*	*540*	*570*	*360*	*395*	*425*	*445*	*475*	*540*	*570*	*610*
M3	—	—	—	—	—	—	—	—	—	—	—	—	105	115	120	130	115	130	135	145	90	100	105	115	120	135	140	150
	—	—	—	—	—	—	—	—	—	—	—	—	*345*	*375*	*395*	*425*	*375*	*425*	*445*	*475*	*295*	*330*	*345*	*375*	*395*	*445*	*460*	*490*
M4	—	—	—	—	—	—	—	—	—	—	—	—	80	90	95	105	90	100	105	115	70	80	85	90	95	105	110	120
	—	—	—	—	—	—	—	—	—	—	—	—	*260*	*295*	*310*	*345*	*295*	*330*	*345*	*375*	*230*	*260*	*280*	*295*	*310*	*345*	*360*	*395*
M5	—	—	—	—	—	—	—	—	—	—	—	—	70	75	80	85	75	85	90	95	60	65	70	75	80	90	95	100
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*280*	*245*	*280*	*295*	*310*	*195*	*215*	*230*	*245*	*260*	*295*	*310*	*330*
K1	205	230	240	260	225	255	270	285	120	135	140	150	160	180	190	200	—	—	—	—	130	145	150	165	—	—	—	—
	670	*750*	*790*	*850*	*740*	*840*	*890*	*940*	*395*	*445*	*460*	*490*	*520*	*590*	*620*	*660*	—	—	—	—	*425*	*475*	*490*	*540*	—	—	—	—
K2	185	205	215	230	205	230	240	255	105	120	125	135	145	160	170	180	—	—	—	—	115	125	135	145	—	—	—	—
	610	*670*	*710*	*750*	*670*	*750*	*790*	*840*	*345*	*395*	*410*	*445*	*475*	*520*	*560*	*590*	—	—	—	—	*375*	*410*	*445*	*475*	—	—	—	—
K3	155	175	185	195	175	195	205	220	90	100	105	115	120	135	145	155	—	—	—	—	95	110	115	120	—	—	—	—
	510	*570*	*610*	*640*	*570*	*640*	*670*	*720*	*295*	*330*	*345*	*375*	*395*	*445*	*475*	*510*	—	—	—	—	*310*	*360*	*375*	*395*	—	—	—	—
K4	150	165	175	185	165	185	195	210	85	95	100	110	115	130	135	145	—	—	—	—	90	105	110	115	—	—	—	—
	490	*540*	*570*	*610*	*540*	*610*	*640*	*690*	*280*	*310*	*330*	*360*	*375*	*425*	*445*	*475*	—	—	—	—	*295*	*345*	*360*	*375*	—	—	—	—
K5	90	100	110	115	100	115	120	130	55	60	65	65	70	80	85	90	—	—	—	—	55	65	70	70	—	—	—	—
	295	*330*	*360*	*375*	*330*	*375*	*395*	*425*	*180*	*195*	*215*	*215*	*230*	*260*	*280*	*295*	—	—	—	—	*180*	*215*	*230*	*230*	—	—	—	—
K6	130	145	155	165	145	160	170	185	75	85	90	95	105	115	120	130	—	—	—	—	80	90	95	100	—	—	—	—
	425	*475*	*510*	*540*	*475*	*520*	*560*	*610*	*245*	*280*	*295*	*310*	*345*	*375*	*395*	*425*	—	—	—	—	*260*	*295*	*310*	*330*	—	—	—	—
K7	115	130	140	145	130	145	155	165	70	75	80	85	90	105	110	115	—	—	—	—	75	80	85	90	—	—	—	—
	375	*425*	*460*	*475*	*425*	*475*	*510*	*540*	*230*	*245*	*260*	*280*	*295*	*345*	*360*	*375*	—	—	—	—	*245*	*260*	*280*	*295*	—	—	—	—
N1	1500	1675	1775	1900	—	—	—	—	—	—	—	—	1175	1300	1375	1475	—	—	—	—	940	1050	1100	1175	—	—	—	—
	4925	*5500*	*5825*	*6225*	—	—	—	—	—	—	—	—	*3850*	*4275*	*4500*	*4850*	—	—	—	—	*3075*	*3450*	*3600*	*3850*	—	—	—	—
N2	610	680	710	760	—	—	—	—	—	—	—	—	470	530	560	600	—	—	—	—	380	420	445	475	—	—	—	—
	2000	*2225*	*2325*	*2500*	—	—	—	—	—	—	—	—	*1550*	*1750*	*1825*	*1975*	—	—	—	—	*1250*	*1375*	*1450*	*1550*	—	—	—	—
N3	405	450	475	510	—	—	—	—	—	—	—	—	315	350	370	395	—	—	—	—	250	280	295	315	—	—	—	—
	1325	*1475*	*1550*	*1675*	—	—	—	—	—	—	—	—	*1025*	*1150*	*1225*	*1300*	—	—	—	—	*820*	*920*	*970*	*1025*	—	—	—	—
N11	460	520	540	580	—	—	—	—	—	—	—	—	360	400	425	455	—	—	—	—	290	320	340	365	—	—	—	—
	1500	*1700*	*1775*	*1900*	—	—	—	—	—	—	—	—	*1175*	*1300*	*1400*	*1500*	—	—	—	—	*950*	*1050*	*1125*	*1200*	—	—	—	—
S1	—	—	—	—	—	—	—	—	30	34	36	39	38	43	45	49	42	47	50	55	33	37	39	42	46	50	55	60
	—	—	—	—	—	—	—	—	*100*	*110*	*120*	*130*	*125*	*140*	*150*	*160*	*140*	*155*	*165*	*180*	*110*	*120*	*130*	*140*	*150*	*165*	*180*	*195*
S2	—	—	—	—	—	—	—	—	25	27	29	31	31	34	36	39	34	38	40	43	26	30	31	34	37	42	44	47
	—	—	—	—	—	—	—	—	*80*	*90*	*95*	*100*	*100*	*110*	*120*	*130*	*110*	*125*	*130*	*140*	*85*	*100*	*100*	*110*	*120*	*140*	*145*	*155*
S3	—	—	—	—	—	—	—	—	22	24	26	28	27	30	32	35	30	33	35	38	23	26	28	30	33	37	39	42
	—	—	—	—	—	—	—	—	*70*	*80*	*85*	*90*	*90*	*100*	*105*	*115*	*100*	*110*	*115*	*125*	*75*	*85*	*90*	*100*	*110*	*120*	*130*	*140*
S11	—	—	—	—	—	—	—	—	—	—	—	—	55	60	60	65	60	65	70	75	46	50	55	60	65	70	75	80
	—	—	—	—	—	—	—	—	—	—	—	—	*180*	*195*	*195*	*215*	*195*	*215*	*230*	*245*	*150*	*165*	*180*	*195*	*215*	*230*	*245*	*260*
S12	—	—	—	—	—	—	—	—	—	—	—	—	36	41	43	46	40	45	48	50	32	36	38	40	44	49	50	55
	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*135*	*140*	*150*	*130*	*150*	*155*	*165*	*105*	*120*	*125*	*130*	*145*	*160*	*165*	*180*
S13	—	—	—	—	—	—	—	—	—	—	—	—	22	24	25	27	24	27	28	30	18	21	22	23	26	29	31	33
	—	—	—	—	—	—	—	—	—	—	—	—	*70*	*80*	*80*	*90*	*80*	*90*	*90*	*100*	*60*	*70*	*70*	*75*	*85*	*95*	*100*	*110*
H5	—	—	—	—	—	—	—	—	26	29	31	33	33	37	39	42	—	—	—	—	27	31	32	35	—	—	—	—
	—	—	—	—	—	—	—	—	*85*	*95*	*100*	*110*	*110*	*120*	*130*	*140*	—	—	—	—	*90*	*100*	*105*	*115*	—	—	—	—
H8	—	—	—	—	—	—	—	—	28	31	33	36	35	39	42	45	—	—	—	—	30	34	36	38	—	—	—	—
	—	—	—	—	—	—	—	—	*90*	*100*	*110*	*120*	*115*	*130*	*140*	*150*	—	—	—	—	*100*	*110*	*120*	*125*	—	—	—	—
H11	—	—	—	—	—	—	—	—	33	37	39	42	42	47	50	55	—	—	—	—	35	39	41	44	48	55	55	60
	—	—	—	—	—	—	—	—	*110*	*120*	*130*	*140*	*140*	*155*	*165*	*180*	—	—	—	—	*115*	*130*	*135*	*145*	*155*	*180*	*180*	*195*
H12	—	—	—	—	—	—	—	—	50	55	60	65	65	75	80	85	—	—	—	—	55	60	65	70	80	90	95	105
	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*	*215*	*245*	*260*	*280*	—	—	—	—	*180*	*195*	*215*	*230*	*260*	*295*	*310*	*345*

R217/220.79-XO12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	H15				MK1500				MP1501				MP2501				MS2500				MP3501				MM4500			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	—	—	—	—	—	—	—	—	310	335	355	370	300	325	340	360	280	315	330	355	265	285	300	315	160	175	185	200
	—	—	—	—	—	—	—	—	*1025*	*1100*	*1175*	*1225*	*980*	*1075*	*1125*	*1175*	*920*	*1025*	*1075*	*1175*	*870*	*940*	*980*	*1025*	*520*	*570*	*610*	*660*
P2	—	—	—	—	—	—	—	—	300	330	345	360	290	315	330	350	275	305	325	345	260	280	295	310	155	170	180	195
	—	—	—	—	—	—	—	—	*980*	*1075*	*1125*	*1175*	*950*	*1025*	*1075*	*1150*	*900*	*1000*	*1075*	*1125*	*850*	*920*	*970*	*1025*	*510*	*560*	*590*	*640*
P3	—	—	—	—	—	—	—	—	265	290	305	320	260	280	295	310	240	270	285	305	230	250	260	275	135	150	160	170
	—	—	—	—	—	—	—	—	*870*	*950*	*1000*	*1050*	*850*	*920*	*970*	*1025*	*790*	*890*	*940*	*1000*	*750*	*820*	*850*	*900*	*445*	*490*	*520*	*560*
P4	—	—	—	—	—	—	—	—	235	255	265	280	225	245	260	270	215	235	250	270	200	220	230	240	120	135	140	150
	—	—	—	—	—	—	—	—	*770*	*840*	*870*	*920*	*740*	*800*	*850*	*890*	*710*	*770*	*820*	*890*	*660*	*720*	*750*	*790*	*395*	*445*	*460*	*490*
P5	—	—	—	—	—	—	—	—	225	245	255	270	215	235	245	260	205	225	240	255	190	210	220	230	115	130	135	145
	—	—	—	—	—	—	—	—	*740*	*800*	*840*	*890*	*710*	*770*	*800*	*850*	*670*	*740*	*790*	*840*	*620*	*690*	*720*	*750*	*375*	*425*	*445*	*475*
P6	—	—	—	—	—	—	—	—	260	280	295	310	250	270	285	300	230	255	270	285	220	240	250	265	130	145	150	160
	—	—	—	—	—	—	—	—	*850*	*920*	*970*	*1025*	*820*	*890*	*940*	*980*	*750*	*840*	*890*	*940*	*720*	*790*	*820*	*870*	*425*	*475*	*490*	*520*
P7	—	—	—	—	—	—	—	—	245	265	275	290	235	255	270	280	215	240	255	270	210	225	235	250	120	135	145	155
	—	—	—	—	—	—	—	—	*800*	*870*	*900*	*950*	*770*	*840*	*890*	*920*	*710*	*790*	*840*	*890*	*690*	*740*	*770*	*820*	*395*	*445*	*475*	*510*
P8	—	—	—	—	—	—	—	—	225	245	255	270	215	235	245	260	205	225	240	255	190	210	220	230	115	130	135	145
	—	—	—	—	—	—	—	—	*740*	*800*	*840*	*890*	*710*	*770*	*800*	*850*	*670*	*740*	*790*	*840*	*620*	*690*	*720*	*750*	*375*	*425*	*445*	*475*
P11	—	—	—	—	—	—	—	—	235	255	270	285	230	250	260	275	210	235	245	265	205	220	230	245	120	130	140	150
	—	—	—	—	—	—	—	—	*770*	*840*	*890*	*940*	*750*	*820*	*850*	*900*	*690*	*770*	*800*	*870*	*670*	*720*	*750*	*800*	*395*	*425*	*460*	*490*
P12	—	—	—	—	—	—	—	—	155	170	180	185	155	165	175	185	140	155	165	175	135	150	155	165	80	90	95	100
	—	—	—	—	—	—	—	—	*510*	*560*	*590*	*610*	*510*	*540*	*570*	*610*	*460*	*510*	*540*	*570*	*445*	*490*	*510*	*540*	*260*	*295*	*310*	*330*
M1	—	—	—	—	—	—	—	—	—	—	—	—	155	175	185	195	195	220	230	245	145	160	170	180	130	150	155	165
	—	—	—	—	—	—	—	—	—	—	—	—	*510*	*570*	*610*	*640*	*640*	*720*	*750*	*800*	*475*	*520*	*560*	*590*	*425*	*490*	*510*	*540*
M2	—	—	—	—	—	—	—	—	—	—	—	—	130	140	150	160	165	180	190	205	120	135	140	150	110	120	130	140
	—	—	—	—	—	—	—	—	—	—	—	—	*425*	*460*	*490*	*520*	*540*	*590*	*620*	*670*	*395*	*445*	*460*	*490*	*360*	*395*	*425*	*460*
M3	—	—	—	—	—	—	—	—	—	—	—	—	105	120	125	135	135	150	160	170	100	110	120	125	90	100	105	115
	—	—	—	—	—	—	—	—	—	—	—	—	*345*	*395*	*410*	*445*	*445*	*490*	*520*	*560*	*330*	*360*	*395*	*410*	*295*	*330*	*345*	*375*
M4	—	—	—	—	—	—	—	—	—	—	—	—	85	95	100	105	105	120	125	135	75	85	90	100	70	80	85	90
	—	—	—	—	—	—	—	—	—	—	—	—	*280*	*310*	*330*	*345*	*345*	*395*	*410*	*445*	*245*	*280*	*295*	*330*	*230*	*260*	*280*	*295*
M5	—	—	—	—	—	—	—	—	—	—	—	—	70	75	80	90	90	100	105	110	65	70	75	80	60	65	70	75
	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*245*	*260*	*295*	*295*	*330*	*345*	*360*	*215*	*230*	*245*	*260*	*195*	*215*	*230*	*245*
K1	—	—	—	—	240	265	285	300	305	330	345	365	295	320	335	355	215	240	255	275	260	280	295	310	—	—	—	—
	—	—	—	—	*790*	*870*	*940*	*980*	*1000*	*1075*	*1125*	*1200*	*970*	*1050*	*1100*	*1175*	*710*	*790*	*840*	*900*	*850*	*920*	*970*	*1025*	—	—	—	—
K2	—	—	—	—	215	240	255	270	270	295	310	325	260	285	300	315	195	215	225	245	230	250	265	275	—	—	—	—
	—	—	—	—	*710*	*790*	*840*	*890*	*890*	*970*	*1025*	*1075*	*850*	*940*	*980*	*1025*	*640*	*710*	*740*	*800*	*750*	*820*	*870*	*900*	—	—	—	—
K3	—	—	—	—	185	205	215	230	230	250	260	275	220	240	250	265	165	180	190	205	195	215	225	235	—	—	—	—
	—	—	—	—	*610*	*670*	*710*	*750*	*750*	*820*	*850*	*900*	*720*	*790*	*820*	*870*	*540*	*590*	*620*	*670*	*640*	*710*	*740*	*770*	—	—	—	—
K4	—	—	—	—	175	195	205	220	220	240	250	260	210	230	240	255	155	175	185	195	185	205	215	225	—	—	—	—
	—	—	—	—	*570*	*640*	*670*	*720*	*720*	*790*	*820*	*850*	*690*	*750*	*790*	*840*	*510*	*570*	*610*	*640*	*610*	*670*	*710*	*740*	—	—	—	—
K5	—	—	—	—	110	120	125	135	135	150	155	165	135	145	150	160	95	105	110	120	120	130	135	140	—	—	—	—
	—	—	—	—	*360*	*395*	*410*	*445*	*445*	*490*	*510*	*540*	*445*	*475*	*490*	*520*	*310*	*345*	*360*	*395*	*395*	*425*	*445*	*460*	—	—	—	—
K6	—	—	—	—	155	170	180	195	195	210	220	230	185	205	210	225	135	155	160	175	165	180	185	195	—	—	—	—
	—	—	—	—	*510*	*560*	*590*	*640*	*640*	*690*	*720*	*750*	*610*	*670*	*690*	*740*	*445*	*510*	*520*	*570*	*540*	*590*	*610*	*640*	—	—	—	—
K7	—	—	—	—	140	155	165	175	175	190	200	210	170	185	195	205	120	135	145	155	150	165	170	180	—	—	—	—
	—	—	—	—	*460*	*510*	*540*	*570*	*570*	*620*	*660*	*690*	*560*	*610*	*640*	*670*	*395*	*445*	*475*	*510*	*490*	*540*	*560*	*590*	—	—	—	—
N1	1200	1325	1400	1500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	3925	*4350*	*4600*	*4925*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	480	540	570	600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1575	*1775*	*1875*	*1975*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	320	355	375	405	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1050	*1175*	*1225*	*1325*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	365	410	430	460	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	1200	*1350*	*1400*	*1500*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50	60	60	65	36	40	43	46	22	24	26	28
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*165*	*195*	*195*	*215*	*120*	*130*	*140*	*150*	*70*	*80*	*85*	*90*
S2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	46	49	55	29	32	34	37	18	20	21	22
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*140*	*150*	*160*	*180*	*95*	*105*	*110*	*120*	*60*	*65*	*70*	*70*
S3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36	41	43	46	26	29	31	33	15	17	18	20
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*120*	*135*	*140*	*150*	*85*	*95*	*100*	*110*	*49*	*55*	*60*	*65*
S11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70	80	85	90	50	55	60	65	30	33	35	38
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*230*	*260*	*280*	*295*	*165*	*180*	*195*	*215*	*100*	*110*	*115*	*125*
S12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49	55	60	60	35	39	41	44	28	31	33	35
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*160*	*180*	*195*	*195*	*115*	*130*	*135*	*145*	*90*	*100*	*110*	*115*
S13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	32	34	37	20	23	24	26	16	18	19	21
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*95*	*105*	*110*	*120*	*65*	*75*	*80*	*85*	*50*	*60*	*60*	*70*
H5	—	—	—	—	—	—	—	—	41	46	48	50	—	—	—	—	—	—	—	—	32	35	37	40	—	—	—	—
	—	—	—	—	—	—	—	—	*135*	*150*	*155*	*165*	—	—	—	—	—	—	—	—	*105*	*115*	*120*	*130*	—	—	—	—
H8	—	—	—	—	—	—	—	—	45	50	55	55	—	—	—	—	—	—	—	—	35	39	41	44	—	—	—	—
	—	—	—	—	—	—	—	—	*150*	*165*	*180*	*180*	—	—	—	—	—	—	—	—	*115*	*130*	*135*	*145*	—	—	—	—
H11	—	—	—	—	—	—	—	—	50	60	60	65	—	—	—	—	—	—	—	—	40	45	47	50	—	—	—	—
	—	—	—	—	—	—	—	—	*165*	*195*	*195*	*215*	—	—	—	—	—	—	—	—	*130*	*150*	*155*	*165*	—	—	—	—
H12	—	—	—	—	—	—	—	—	80	90	95	100	—	—	—	—	—	—	—	—	60	70	75	80	—	—	—	—
	—	—	—	—	—	—	—	—	*260*	*295*	*310*	*330*	—	—	—	—	—	—	—	—	*195*	*230*	*245*	*260*	—	—	—	—

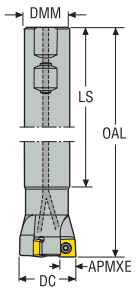


R217/220.79-12

The R217/220.79 for SCET12 inserts are strong and robust plunge mill.

- Cutter range 32-160 mm (1.25 - 6 inch)
- Max radial depth of cut: 11 mm (.433 inch)
- Insert corner radii range 1.2-3.1 mm (.047 - .122 inch)

R217.79-SC..12 – Metric

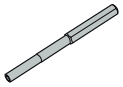




- For insert selection and cutting data recommendations, see page(s) 762-763
- For complete insert programme, see page(s) 821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DMM	LS	OAL	RPMX	Weight	Insert
			mm		mm	mm	mm	mm		kg	
R217.79-2532.3-12A	00097786	Weldon	32,0	2	11,0	25,0	150,0	200,0	12100	0,7	SC..1206
R217.79-3240.3-12A	00097787	Weldon	40,0	3	11,0	32,0	150,0	200,0	10800	1,2	SC..1206

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R217.79-..	H6B-T20P	C45011-T20P

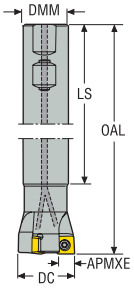
Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R217.79-SC..12 – inch

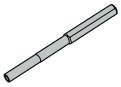




- For insert selection and cutting data recommendations, see page(s) 762-763
- For complete insert programme, see page(s) 821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DMM	LS	OAL	RPMX	Weight	Insert
			inch		inch	inch	inch	inch		lbs	
R217.79-01.25-3-12A	00057587	Weldon	1.250	2	0.433	1.000	5.906	7.874	12100	1.760	SC..1206
R217.79-01.50-3-12A	00057588	Weldon	1.500	3	0.433	1.250	5.906	7.874	10800	2.650	SC..1206

Spare Parts, included in delivery

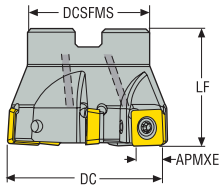
For cutter	Insert key	Insert screw
		
R217.79-..	H6B-T20P	C45011-T20P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217.79-..	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R220.79-SC..12 – Metric

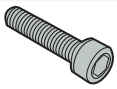
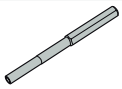




- For insert selection and cutting data recommendations, see page(s) 762-763
- For complete insert programme, see page(s) 821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			mm		mm	mm		mm	mm	kg		
R220.79-0050-12A	00030330	Arbor	50,0	4	11,0	22,0	–	42,0	40,0	0,2	9700	SC..1206
R220.79-0063-12A	00030331	Arbor	63,0	5	11,0	22,0	–	47,0	40,0	0,5	8600	SC..1206
R220.79-0080-12A	00030332	Arbor	80,0	6	11,0	27,0	–	62,0	50,0	0,9	7600	SC..1206
R220.79-0100-12A	00030335	Arbor	100,0	7	11,0	32,0	–	77,0	50,0	1,6	7000	SC..1206
R220.79-0125-12	00069980	Arbor	125,0	8	11,0	40,0	–	90,0	63,0	3,0	6300	SC..1206

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-0050-0063	220.17-692	H6B-T20P	C45011-T20P
R220.79-0080	–	H6B-T20P	C45011-T20P
R220.79-0100-0125	–	H6B-T20PL	C45011-T20P

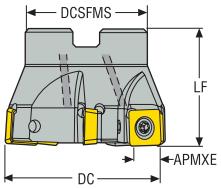
Accessories

For cutter	Insert clamping torque	Torque key
		
R220.79-..	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R220.79-SC..12 – inch

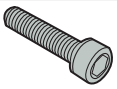
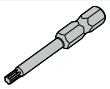




- For insert selection and cutting data recommendations, see page(s) 762-763
- For complete insert programme, see page(s) 821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			inch		inch	inch		inch	inch	lbs		
R220.79-02.00-12A	00039776	Arbor	2.000	4	0.433	0.750	–	1.850	1.500	0.880	9700	SC..1206
R220.79-02.50-12A	00039777	Arbor	2.500	5	0.433	0.750	–	1.850	1.500	1.320	8600	SC..1206
R220.79-03.00-12A	00039778	Arbor	3.000	6	0.433	1.000	–	2.441	2.000	2.650	7600	SC..1206

Spare Parts, included in delivery

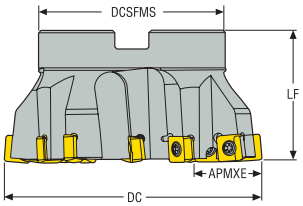
For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-02.00-02.50	UC6S3/8UNFX1	1/4HEX-T20PX50	C45011-T20P
R220.79-03.00	UC6S1/2UNFX1-1/4	H6B-T20P	C45011-T20P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R220.79-..	1/4HEX-S-HANDLE-0.8-5.0NM	44.3IN.LBS	T00-20P50
R220.79-..	–	44.3IN.LBS	T00-20P50

Torque and fixed keys, see page 872

R220.79-SC..12 – Metric

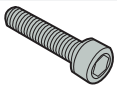
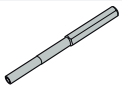




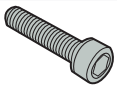
- For insert selection and cutting data recommendations, see page(s) 762-763
- For complete insert programme, see page(s) 821
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXE	DCB	TDZ	DCSFMS	LF	Weight	RPMX	Insert
			mm		mm	mm		mm	mm	kg		
R220.79-0100-20	00045683	Arbor	100,0	4	20,0	32,0	–	77,0	50,0	1,3	7000	SC..1206
R220.79-0125-30	00091797	Arbor	125,0	4	30,0	40,0	–	90,0	63,0	2,8	6300	SC..1206
R220.79-8160-40	00094578	Arbor	160,0	4	40,0	40,0	–	90,0	64,0	4,1	5600	SC..1206

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.79-0100	–	H6B-T20PL	C45011-T20P
R220.79-0125	MC6S20X40	H6B-T20PL	C45011-T20P
R220.79-8160	–	H6B-T20PL	C45011-T20P

Accessories

For cutter	Arbor screw	Insert clamping torque	Torque key
			
R220.79-0100-0125	–	5.0NM	T00-20P50
R220.79-8160	MC6S12X40	5.0NM	T00-20P50

Torque and fixed keys, see page 872

R217/220.79-12 – Insert selection – mm/*Inch*

SMG		f_z	a_{so}			
			100%	70%	50%	30%
P1	SCET120612T-M14 MP3501	0,20 *0.0080*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P2	SCET120612T-M14 MP3501	0,20 *0.0080*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P3	SCET120612T-M14 MP2501	0,19 *0.0075*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P4	SCET120612T-M14 MP2501	0,19 *0.0075*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P5	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P6	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P7	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P8	SCET120612T-M14 MP2501	0,19 *0.0075*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P11	SCET120612T-M14 MP3501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
P12	SCET120612T-M14 MP2501	0,12 *0.0048*	6,0 *0.24*	6,0 *0.24*	6,0 *0.24*	7,0 *0.28*
M1	SCET120612T-M14 MS2050	0,20 *0.0080*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
M2	SCET120612T-M14 MS2050	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
M3	SCET120612T-M14 MS2050	0,15 *0.0060*	6,0 *0.24*	6,0 *0.24*	6,0 *0.24*	7,0 *0.28*
M4	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 *0.18*	4,5 *0.18*	4,5 *0.18*	5,0 *0.20*
M5	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 *0.18*	4,5 *0.18*	4,5 *0.18*	5,0 *0.20*
K1	SCET120612T-M14 MP2501	0,20 *0.0080*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
K2	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
K3	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
K4	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
K5	SCET120612T-M14 MP2501	0,16 *0.0065*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
K6	SCET120612T-M14 MP2501	0,18 *0.0070*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
K7	SCET120612T-M14 MP2501	0,16 *0.0065*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
N1	SCET120612T-M14 F40M	0,25 *0.010*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
N2	SCET120612T-M14 F40M	0,25 *0.010*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
N3	SCET120612T-M14 F40M	0,25 *0.010*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
N11	SCET120612T-M14 F40M	0,25 *0.010*	8,0 *0.32*	8,0 *0.32*	8,0 *0.32*	9,0 *0.36*
S1	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 *0.18*	4,5 *0.18*	4,5 *0.18*	5,0 *0.20*
S2	SCET120612T-M14 MP3501	0,13 *0.0050*	4,5 *0.18*	4,5 *0.18*	4,5 *0.18*	5,0 *0.20*
S3	SCET120612T-M14 MP3501	0,12 *0.0048*	4,5 *0.18*	4,5 *0.18*	4,5 *0.18*	5,0 *0.20*
S11	SCET120612T-M14 MS2050	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
S12	SCET120612T-M14 MS2050	0,15 *0.0060*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
S13	SCET120612T-M14 MS2050	0,13 *0.0050*	4,5 *0.18*	4,5 *0.18*	4,5 *0.18*	5,0 *0.20*
H5	SCET120612T-M14 MP3501	0,12 *0.0048*	6,0 *0.24*	6,0 *0.24*	6,0 *0.24*	7,0 *0.28*
H8	SCET120612T-M14 MP3501	0,095 *0.0038*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*
H11	SCET120612T-M14 MP3501	0,12 *0.0048*	6,0 *0.24*	6,0 *0.24*	6,0 *0.24*	7,0 *0.28*
H12	SCET120612T-M14 MP3501	0,095 *0.0038*	5,0 *0.20*	5,0 *0.20*	5,0 *0.20*	6,0 *0.24*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.79-12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MS2050				F40M				MK1500				MP2501				MP3501				T25M			
	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%	100%	70%	50%	30%
P1	185	205	215	230	165	185	195	210	—	—	—	—	290	315	330	350	255	280	290	310	185	205	215	230
	610	*670*	*710*	*750*	*540*	*610*	*640*	*690*	—	—	—	—	*950*	*1025*	*1075*	*1150*	*840*	*920*	*950*	*1025*	*610*	*670*	*710*	*750*
P2	180	200	210	225	160	180	190	205	—	—	—	—	285	310	325	340	250	270	285	300	180	200	210	225
	590	*660*	*690*	*740*	*520*	*590*	*620*	*670*	—	—	—	—	*940*	*1025*	*1075*	*1125*	*820*	*890*	*940*	*980*	*590*	*660*	*690*	*740*
P3	155	175	185	195	140	160	165	180	—	—	—	—	250	275	285	300	220	240	250	265	155	175	185	195
	510	*570*	*610*	*640*	*460*	*520*	*540*	*590*	—	—	—	—	*820*	*900*	*940*	*980*	*720*	*790*	*820*	*870*	*510*	*570*	*610*	*640*
P4	140	155	160	175	125	140	145	160	—	—	—	—	220	240	250	265	195	210	220	235	140	155	160	175
	460	*510*	*520*	*570*	*410*	*460*	*475*	*520*	—	—	—	—	*720*	*790*	*820*	*870*	*640*	*690*	*720*	*770*	*460*	*510*	*520*	*570*
P5	135	150	160	170	120	135	145	155	—	—	—	—	215	235	245	260	190	205	215	230	135	150	160	170
	445	*490*	*520*	*560*	*395*	*445*	*475*	*510*	—	—	—	—	*710*	*770*	*800*	*850*	*620*	*670*	*710*	*750*	*445*	*490*	*520*	*560*
P6	150	170	175	190	135	150	160	170	—	—	—	—	245	265	275	290	215	230	245	255	150	170	175	190
	490	*560*	*570*	*620*	*445*	*490*	*520*	*560*	—	—	—	—	*800*	*870*	*900*	*950*	*710*	*750*	*800*	*840*	*490*	*560*	*570*	*620*
P7	140	160	165	180	130	145	150	165	—	—	—	—	230	250	260	275	200	220	230	240	140	160	165	180
	460	*520*	*540*	*590*	*425*	*475*	*490*	*540*	—	—	—	—	*750*	*820*	*850*	*900*	*660*	*720*	*750*	*790*	*460*	*520*	*540*	*590*
P8	130	145	155	165	120	135	140	150	—	—	—	—	210	230	240	255	185	200	210	220	130	145	155	165
	425	*475*	*510*	*540*	*395*	*445*	*460*	*490*	—	—	—	—	*690*	*750*	*790*	*840*	*610*	*660*	*690*	*720*	*425*	*475*	*510*	*540*
P11	140	155	160	175	125	140	150	160	—	—	—	—	220	240	255	265	195	215	225	235	140	155	160	175
	460	*510*	*520*	*570*	*410*	*460*	*490*	*520*	—	—	—	—	*720*	*790*	*840*	*870*	*640*	*710*	*740*	*770*	*460*	*510*	*520*	*570*
P12	95	105	110	120	85	95	100	105	—	—	—	—	155	170	180	185	140	150	160	165	95	105	110	120
	310	*345*	*360*	*395*	*280*	*310*	*330*	*345*	—	—	—	—	*510*	*560*	*590*	*610*	*460*	*490*	*520*	*540*	*310*	*345*	*360*	*395*
M1	145	160	170	180	130	145	155	165	—	—	—	—	155	170	180	195	145	160	170	180	145	160	170	180
	475	*520*	*560*	*590*	*425*	*475*	*510*	*540*	—	—	—	—	*510*	*560*	*590*	*640*	*475*	*520*	*560*	*590*	*475*	*520*	*560*	*590*
M2	120	135	140	150	110	120	130	140	—	—	—	—	130	145	150	165	120	135	140	150	120	135	140	150
	395	*445*	*460*	*490*	*360*	*395*	*425*	*460*	—	—	—	—	*425*	*475*	*490*	*540*	*395*	*445*	*460*	*490*	*395*	*445*	*460*	*490*
M3	100	110	115	125	90	100	105	115	—	—	—	—	105	120	125	135	100	110	115	125	100	110	115	125
	330	*360*	*375*	*410*	*295*	*330*	*345*	*375*	—	—	—	—	*345*	*395*	*410*	*445*	*330*	*360*	*375*	*410*	*330*	*360*	*375*	*410*
M4	80	85	90	100	70	80	85	90	—	—	—	—	85	95	100	105	80	85	90	100	80	85	90	100
	260	*280*	*295*	*330*	*230*	*260*	*280*	*295*	—	—	—	—	*280*	*310*	*330*	*345*	*260*	*280*	*295*	*330*	*260*	*280*	*295*	*330*
M5	65	70	75	80	60	65	70	75	—	—	—	—	70	75	80	90	65	70	75	80	65	70	75	80
	215	*230*	*245*	*260*	*195*	*215*	*230*	*245*	—	—	—	—	*230*	*245*	*260*	*295*	*215*	*230*	*245*	*260*	*215*	*230*	*245*	*260*
K1	—	—	—	—	130	145	150	160	240	270	285	305	285	310	325	345	250	275	285	300	140	160	165	180
	—	—	—	—	*425*	*475*	*490*	*520*	*790*	*890*	*940*	*1000*	*940*	*1025*	*1075*	*1125*	*820*	*900*	*940*	*980*	*460*	*520*	*540*	*590*
K2	—	—	—	—	115	130	135	145	215	240	255	275	260	285	295	315	230	250	260	275	125	140	150	160
	—	—	—	—	*375*	*425*	*445*	*475*	*710*	*790*	*840*	*900*	*850*	*940*	*970*	*1025*	*750*	*820*	*850*	*900*	*410*	*460*	*490*	*520*
K3	—	—	—	—	100	110	115	125	185	205	215	230	220	240	250	265	195	210	220	235	110	120	125	135
	—	—	—	—	*330*	*360*	*375*	*410*	*610*	*670*	*710*	*750*	*720*	*790*	*820*	*870*	*640*	*690*	*720*	*770*	*360*	*395*	*410*	*445*
K4	—	—	—	—	95	105	110	120	175	195	205	220	210	230	240	255	185	200	210	225	105	115	120	130
	—	—	—	—	*310*	*345*	*360*	*395*	*570*	*640*	*670*	*720*	*690*	*750*	*790*	*840*	*610*	*660*	*690*	*740*	*345*	*375*	*395*	*425*
K5	—	—	—	—	60	65	70	75	110	120	125	135	135	145	150	160	115	125	135	140	65	70	75	80
	—	—	—	—	*195*	*215*	*230*	*245*	*360*	*395*	*410*	*445*	*445*	*475*	*490*	*520*	*375*	*410*	*445*	*460*	*215*	*230*	*245*	*260*
K6	—	—	—	—	80	90	95	105	155	170	180	195	185	200	210	225	165	180	185	195	90	100	105	115
	—	—	—	—	*260*	*295*	*310*	*345*	*510*	*560*	*590*	*640*	*610*	*660*	*690*	*740*	*540*	*590*	*610*	*640*	*295*	*330*	*345*	*375*
K7	—	—	—	—	75	80	85	95	140	155	165	175	170	185	195	205	150	165	170	180	80	90	95	105
	—	—	—	—	*245*	*260*	*280*	*310*	*460*	*510*	*540*	*570*	*560*	*610*	*640*	*670*	*490*	*540*	*560*	*590*	*260*	*295*	*310*	*345*
N1	—	—	—	—	940	1050	1100	1175	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*3075*	*3450*	*3600*	*3850*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	380	420	445	480	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*1250*	*1375*	*1450*	*1575*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	255	280	300	320	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*840*	*920*	*980*	*1050*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	290	320	340	365	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	*950*	*1050*	*1125*	*1200*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	36	40	43	46	33	37	39	42	—	—	—	—	—	—	—	—	36	40	43	46	—	—	—	—
	120	*130*	*140*	*150*	*110*	*120*	*130*	*140*	—	—	—	—	—	—	—	—	*120*	*130*	*140*	*150*	—	—	—	—
S2	29	33	34	37	27	30	31	34	—	—	—	—	—	—	—	—	29	33	34	37	—	—	—	—
	95	*110*	*110*	*120*	*90*	*100*	*100*	*110*	—	—	—	—	—	—	—	—	*95*	*110*	*110*	*120*	—	—	—	—
S3	26	29	30	33	23	26	28	30	—	—	—	—	—	—	—	—	26	29	30	33	—	—	—	—
	85	*95*	*100*	*110*	*75*	*85*	*90*	*100*	—	—	—	—	—	—	—	—	*85*	*95*	*100*	*110*	—	—	—	—
S11	50	55	60	65	45	50	55	55	—	—	—	—	—	—	—	—	50	55	60	65	—	—	—	—
	165	*180*	*195*	*215*	*150*	*165*	*180*	*180*	—	—	—	—	—	—	—	—	*165*	*180*	*195*	*215*	—	—	—	—
S12	35	39	41	44	31	35	37	40	—	—	—	—	—	—	—	—	35	39	41	44	—	—	—	—
	115	*130*	*135*	*145*	*100*	*115*	*120*	*130*	—	—	—	—	—	—	—	—	*115*	*130*	*135*	*145*	—	—	—	—
S13	20	23	24	26	19	21	22	24	—	—	—	—	—	—	—	—	20	23	24	26	—	—	—	—
	65	*75*	*80*	*85*	*60*	*70*	*70*	*80*	—	—	—	—	—	—	—	—	*65*	*75*	*80*	*85*	—	—	—	—
H5	—	—	—	—	28	31	33	36	—	—	—	—	—	—	—	—	32	36	38	41	—	—	—	—
	—	—	—	—	*90*	*100*	*110*	*120*	—	—	—	—	—	—	—	—	*105*	*120*	*125*	*135*	—	—	—	—
H8	—	—	—	—	30	34	36	38	—	—	—	—	—	—	—	—	35	39	41	44	—	—	—	—
	—	—	—	—	*100*	*110*	*120*	*125*	—	—	—	—	—	—	—	—	*115*	*130*	*135*	*145*	—	—	—	—
H11	—	—	—	—	36	40	42	45	—	—	—	—	—	—	—	—	41	46	49	50	—	—	—	—
	—	—	—	—	*120*	*130*	*140*	*150*	—	—	—	—	—	—	—	—	*135*	*150*	*160*	*165*	—	—	—	—
H12	—	—	—	—	55	60	65	70	—	—	—	—	—	—	—	—	65	70	75	80	—	—	—	—
	—	—	—	—	*180*	*195*	*215*	*230*	—	—	—	—	—	—	—	—	*215*	*230*	*245*	*260*	—	—	—	—



Chamfer Mills

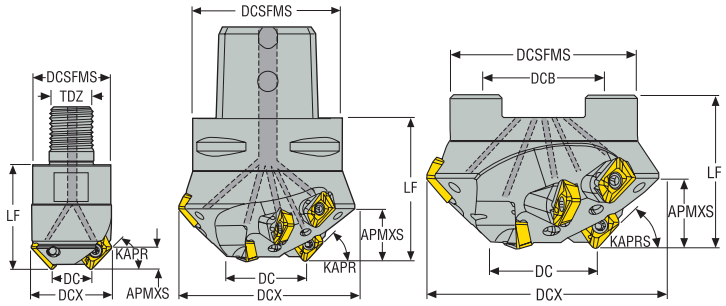
Turbo 12, R217/220.49-XO12 Chamfer mills, for XOMX12 inserts with 2 cutting edges and is available in many different grades for most common workpiece materials

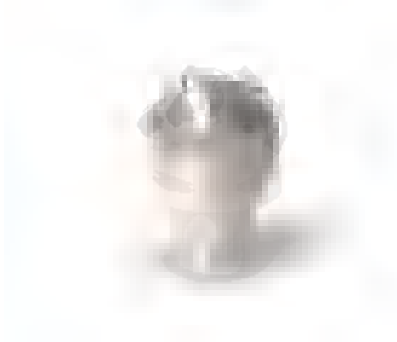
- Chamfer angle 30°, 45°, 60° and 75°
- Max. depth of cut 31 mm (1.22 inch) with the 75° milling cutter
- Front chamfering
- Available in combimaster, Seco-Capto or for arbor mounting

R215/220.49 Chamfer mills for SPMX06/09/12 insert types, 4-cutting edges, single sided positive inserts.

- Chamfer angle 45° and 60°
- Front and back chamfering
- Available in Weldon and Arbor mounting

R217/220.49-XO12 – Metric

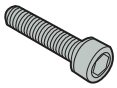




- For insert selection and cutting data recommendations, see page(s) 767-769
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	APMXS	ZEFP	ZNP	DCB	DCSFMS	LF	RPMX	Weight	Insert
				mm	mm	mm			mm	mm	mm		kg	
R217.49-1620.RE-XO12-30.3A	02669573	Combimaster	30,0	20,0	39,8	5,5	3	3	–	30,0	40,0	16400	0,3	XO.X12
R217.49-1616.RE-XO12-45.2A	02669571	Combimaster	45,0	16,0	30,8	8,0	2	2	–	30,0	40,0	18600	0,3	XO.X12
R217.49-1620.RE-XO12-45.3A	02669574	Combimaster	45,0	20,0	34,8	7,7	3	3	–	30,0	40,0	17400	0,3	XO.X12
R217.49-1216.RE-XO12-60.2A	02669572	Combimaster	60,0	16,0	27,0	9,0	2	2	–	23,0	30,0	20100	0,2	XO.X12
R217.49-1620.RE-XO12-60.3A	02669575	Combimaster	60,0	20,0	30,5	9,0	3	3	–	30,0	40,0	18400	0,3	XO.X12
R217.49-1220.RE-XO12-75.2A	02669576	Combimaster	75,0	20,0	25,4	11,0	2	2	–	23,0	30,0	20500	0,2	XO.X12
C6-R217.49-032-15-XO12-30.3A	02669613	Seco-Capto	30,0	32,0	88,8	15,9	3	9	–	63,0	60,0	10900	1,6	XO.X12
C6-R217.49-032-22-XO12-45.3A	02669615	Seco-Capto	45,0	32,0	76,4	22,5	3	9	–	63,0	60,0	11800	1,4	XO.X12
C6-R217.49-032-28-XO12-60.3A	02669616	Seco-Capto	60,0	32,0	64,0	28,0	3	9	–	63,0	60,0	12900	1,3	XO.X12
C5-R217.49-032-42-XO12-75.3A	02669617	Seco-Capto	75,0	32,0	54,1	42,5	3	12	–	50,0	70,0	14100	0,8	XO.X12
R220.49-0035-15-XO12-30.3A	02669634	Arbor	30,0	35,0	91,9	15,9	3	9	27,0	62,0	50,0	10700	1,1	XO.X12
R220.49-0035-22-XO12-45.3A	02669637	Arbor	45,0	35,0	79,4	22,5	3	9	27,0	62,0	50,0	11600	0,9	XO.X12
R220.49-0035-28-XO12-60.3A	02669638	Arbor	60,0	35,0	67,0	28,0	3	9	27,0	62,0	50,0	12600	0,7	XO.X12
R220.49-0035-31-XO12-75.3A	02669639	Arbor	75,0	35,0	51,5	31,0	3	9	22,0	47,0	50,0	14400	0,4	XO.X12

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R217.49 Ø 20 30/45°	–	H4B-T10P	C03509-T10P
R217.49 Ø 16 45/60°	–	H4B-T10P	C03507-T10P
R217.49 Ø 20 60/75°	–	H4B-T10P	C03507-T10P
Cx-R217.49 Ø 32 30/45/60/75°	–	H4B-T10P	C03509-T10P
R220.49-... 30/45/60°	MC6S12X35	H4B-T10P	C03509-T10P
R220.49-...75°	MC6S10X40	H4B-T10P	C03509-T10P

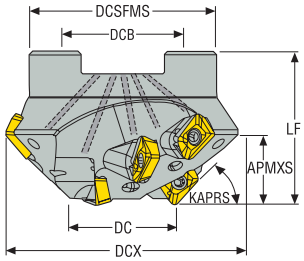
Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.49-..	3.0NM	T00-10P30

Torque and fixed keys, see page 872

R217/220.49-XO12 – inch

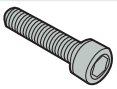




- For insert selection and cutting data recommendations, see page(s) 767-769
- For complete insert programme, see page(s) 846, 847
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	APMXS	ZEFP	ZNP	DCB	DCSFMS	LF	RPMX	Weight	Insert
				inch	inch	inch			inch	inch	inch		lbs	
R220.49-01.38-15-XO12-30.3A	02670045	Arbor	30,0	1.378	3.618	0.626	3	9	1.000	2.441	1.969	14400	2.430	XO.X12
R220.49-01.38-22-XO12-45.3A	02670048	Arbor	45,0	1.378	3.126	0.886	3	9	1.000	2.441	1.969	14400	1.980	XO.X12
R220.49-01.38-28-XO12-60.3A	02670049	Arbor	60,0	1.378	2.638	1.110	3	9	1.000	2.441	1.969	14400	1.320	XO.X12
R220.49-01.38-31-XO12-75.3A	02670051	Arbor	75,0	1.378	2.028	1.244	3	9	0.750	1.850	1.969	14400	0.880	XO.X12

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R220.49-... 30/45/60°	UC6S1/2UNFX1-1/2	H4B-T10P	C03509-T10P
R220.49-...75°	UC6S3/8UNFX11/2	H4B-T10P	C03509-T10P

Accessories

For cutter	Insert clamping torque	Torque key
		
R217/220.49-..	26.6IN.LBS	T00-10P30

Torque and fixed keys, see page 872

R217/220.49-XO12 – Insert selection – mm/*Inch*

SMG		f_z		
		50%	30%	10%
P1	XOMX120408TR-ME08 F40M	0,17 *0.0065*	0,20 *0.0080*	0,32 *0.013*
P2	XOMX120408TR-ME08 F40M	0,17 *0.0065*	0,20 *0.0080*	0,32 *0.013*
P3	XOMX120408TR-M12 MP2501	0,25 *0.010*	0,28 *0.011*	0,46 *0.018*
P4	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 *0.011*	0,46 *0.018*
P5	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
P6	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
P7	XOMX120408TR-M12 MP2501	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
P8	XOMX120408TR-M12 MP2501	0,25 *0.010*	0,28 *0.011*	0,46 *0.018*
P11	XOMX120408TR-M12 MP3501	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
P12	XOEX120408R-M07 MS2500	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
M1	XOEX120408R-M07 F40M	0,20 *0.0080*	0,22 *0.0085*	0,36 *0.014*
M2	XOEX120408R-M07 F40M	0,18 *0.0070*	0,20 *0.0080*	0,34 *0.013*
M3	XOEX120408R-M07 F40M	0,14 *0.0055*	0,17 *0.0065*	0,26 *0.010*
M4	XOEX120408R-M07 MS2050	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
M5	XOEX120408R-M07 MS2050	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
K1	XOMX120408TR-M12 MK1500	0,26 *0.010*	0,30 *0.012*	0,50 *0.020*
K2	XOMX120408TR-M12 MK1500	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
K3	XOMX120408TR-M12 MK2050	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
K4	XOMX120408TR-M12 MK2050	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
K5	XOMX120408TR-M12 MK2050	0,22 *0.0085*	0,25 *0.010*	0,40 *0.016*
K6	XOMX120408TR-M12 MK2050	0,24 *0.0095*	0,28 *0.011*	0,44 *0.017*
K7	XOMX120408TR-M12 MK2050	0,22 *0.0085*	0,25 *0.010*	0,40 *0.016*
N1	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 *0.0085*	0,36 *0.014*
N2	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 *0.0085*	0,36 *0.014*
N3	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 *0.0085*	0,36 *0.014*
N11	XOEX120408FR-E06 H15	0,19 *0.0075*	0,22 *0.0085*	0,36 *0.014*
S1	XOEX120408R-M07 F40M	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
S2	XOEX120408R-M07 F40M	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
S3	XOEX120408R-M07 F40M	0,11 *0.0044*	0,13 *0.0050*	0,20 *0.0080*
S11	XOEX120408R-M07 MS2050	0,14 *0.0055*	0,16 *0.0065*	0,26 *0.010*
S12	XOEX120408R-M07 MS2050	0,14 *0.0055*	0,16 *0.0065*	0,26 *0.010*
S13	XOEX120408R-M07 MS2050	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
H5	XOMX120408TR-M12 MP3000	0,16 *0.0065*	0,19 *0.0075*	0,30 *0.012*
H8	XOMX120408TR-M12 MP3000	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*
H11	XOMX120408TR-MD13 MP1501	0,17 *0.0065*	0,20 *0.0080*	0,32 *0.013*
H12	XOMX120408TR-M12 MP1501	0,12 *0.0048*	0,14 *0.0055*	0,22 *0.0085*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.49-XO12 – Cutting data v_c = (m/min)/*(sf/min)*

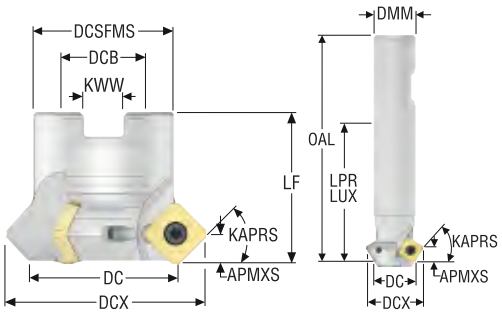
SMG	MK2050			MP3000			MS2050			F40M			MP2050			H15		
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
P1	315 *1025*	355 *1175*	430 *1400*	305 *1000*	340 *1125*	410 *1350*	315 *1025*	350 *1150*	420 *1375*	285 *940*	320 *1050*	385 *1275*	370 *1225*	415 *1350*	495 *1625*	— —	— —	— —
P2	310 *1025*	345 *1125*	410 *1350*	295 *970*	335 *1100*	395 *1300*	300 *980*	340 *1125*	405 *1325*	275 *900*	310 *1025*	370 *1225*	355 *1175*	400 *1300*	480 *1575*	— —	— —	— —
P3	270 *890*	300 *980*	360 *1175*	260 *850*	285 *940*	345 *1125*	265 *870*	295 *970*	355 *1175*	240 *790*	265 *870*	320 *1050*	310 *1025*	345 *1125*	415 *1350*	— —	— —	— —
P4	235 *770*	265 *870*	320 *1050*	230 *750*	255 *840*	310 *1025*	235 *770*	265 *870*	320 *1050*	210 *690*	240 *790*	290 *950*	275 *900*	310 *1025*	375 *1225*	— —	— —	— —
P5	225 *740*	255 *840*	305 *1000*	220 *720*	245 *800*	295 *970*	225 *740*	250 *820*	305 *1000*	205 *670*	230 *750*	275 *900*	270 *890*	295 *970*	355 *1175*	— —	— —	— —
P6	260 *850*	285 *940*	345 *1125*	250 *820*	275 *900*	330 *1075*	255 *840*	280 *920*	340 *1125*	230 *750*	255 *840*	310 *1025*	300 *980*	335 *1100*	400 *1300*	— —	— —	— —
P7	245 *800*	270 *890*	325 *1075*	235 *770*	260 *850*	315 *1025*	240 *790*	265 *870*	320 *1050*	220 *720*	240 *790*	290 *950*	285 *940*	315 *1025*	380 *1250*	— —	— —	— —
P8	225 *740*	250 *820*	300 *980*	220 *720*	240 *790*	290 *950*	220 *720*	245 *800*	295 *970*	200 *660*	225 *740*	270 *890*	260 *850*	290 *950*	350 *1150*	— —	— —	— —
P11	240 *790*	260 *850*	315 *1025*	230 *750*	250 *820*	305 *1000*	235 *770*	260 *850*	310 *1025*	215 *710*	235 *770*	285 *940*	275 *900*	305 *1000*	370 *1225*	— —	— —	— —
P12	155 *510*	170 *560*	210 *690*	150 *490*	165 *540*	200 *660*	150 *490*	165 *540*	200 *660*	135 *445*	150 *490*	185 *610*	175 *570*	195 *640*	240 *790*	— —	— —	— —
M1	— —	— —	— —	220 *720*	250 *820*	295 *970*	245 *800*	275 *900*	325 *1075*	220 *720*	250 *820*	295 *970*	255 *840*	290 *950*	340 *1125*	— —	— —	— —
M2	— —	— —	— —	180 *590*	205 *670*	245 *800*	205 *670*	225 *740*	275 *900*	185 *610*	205 *670*	250 *820*	215 *710*	235 *770*	285 *940*	— —	— —	— —
M3	— —	— —	— —	150 *490*	165 *540*	200 *660*	160 *520*	180 *590*	220 *720*	145 *475*	165 *540*	200 *660*	170 *560*	190 *620*	230 *750*	— —	— —	— —
M4	— —	— —	— —	110 *360*	125 *410*	155 *510*	125 *410*	135 *445*	170 *560*	115 *375*	125 *410*	155 *510*	130 *425*	145 *475*	175 *570*	— —	— —	— —
M5	— —	— —	— —	95 *310*	105 *345*	130 *425*	105 *345*	115 *375*	140 *460*	95 *310*	105 *345*	125 *410*	110 *360*	120 *395*	145 *475*	— —	— —	— —
K1	330 *1075*	375 *1225*	440 *1450*	235 *770*	265 *870*	310 *1025*	— —	— —	— —	215 *710*	245 *800*	290 *950*	— —	— —	— —	— —	— —	— —
K2	295 *970*	330 *1075*	395 *1300*	205 *670*	230 *750*	280 *920*	— —	— —	— —	195 *640*	215 *710*	260 *850*	— —	— —	— —	— —	— —	— —
K3	250 *820*	280 *920*	335 *1100*	175 *570*	195 *640*	235 *770*	— —	— —	— —	165 *540*	185 *610*	220 *720*	— —	— —	— —	— —	— —	— —
K4	235 *770*	265 *870*	320 *1050*	165 *540*	190 *620*	225 *740*	— —	— —	— —	160 *520*	175 *570*	210 *690*	— —	— —	— —	— —	— —	— —
K5	145 *475*	165 *540*	195 *640*	105 *345*	115 *375*	140 *460*	— —	— —	— —	95 *310*	105 *345*	130 *425*	— —	— —	— —	— —	— —	— —
K6	210 *690*	235 *770*	285 *940*	145 *475*	165 *540*	200 *660*	— —	— —	— —	140 *460*	155 *510*	185 *610*	— —	— —	— —	— —	— —	— —
K7	185 *610*	210 *690*	250 *820*	130 *425*	150 *490*	175 *570*	— —	— —	— —	125 *410*	135 *445*	165 *540*	— —	— —	— —	— —	— —	— —
N1	— —	— —	— —	— —	— —	— —	— —	— —	— —	1625 *5325*	1800 *5900*	2150 *7050*	— —	— —	— —	1750 *5750*	1925 *6325*	2325 *7625*
N2	— —	— —	— —	— —	— —	— —	— —	— —	— —	650 *2125*	720 *2350*	870 *2850*	— —	— —	— —	700 *2300*	780 *2550*	940 *3075*
N3	— —	— —	— —	— —	— —	— —	— —	— —	— —	435 *1425*	480 *1575*	580 *1900*	— —	— —	— —	470 *1550*	520 *1700*	630 *2075*
N11	— —	— —	— —	— —	— —	— —	— —	— —	— —	500 *1650*	550 *1800*	660 *2175*	— —	— —	— —	540 *1775*	600 *1975*	720 *2350*
S1	— —	— —	— —	50 *165*	60 *195*	75 *245*	60 *195*	65 *215*	80 *260*	55 *180*	60 *195*	70 *230*	65 *215*	70 *230*	85 *280*	— —	— —	— —
S2	— —	— —	— —	42 *140*	48 *155*	60 *195*	47 *155*	50 *165*	65 *215*	42 *140*	47 *155*	55 *180*	50 *165*	55 *180*	70 *230*	— —	— —	— —
S3	— —	— —	— —	37 *120*	42 *140*	50 *165*	41 *135*	46 *150*	55 *180*	37 *120*	41 *135*	50 *165*	45 *150*	50 *165*	60 *195*	— —	— —	— —
S11	— —	— —	— —	— —	— —	— —	80 *260*	90 *295*	110 *360*	75 *245*	85 *280*	100 *330*	90 *295*	100 *330*	120 *395*	— —	— —	— —
S12	— —	— —	— —	— —	— —	— —	55 *180*	65 *215*	75 *245*	50 *165*	55 *180*	70 *230*	60 *195*	70 *230*	85 *280*	— —	— —	— —
S13	— —	— —	— —	— —	— —	— —	33 *110*	36 *120*	44 *145*	30 *100*	33 *110*	40 *130*	36 *120*	40 *130*	48 *155*	— —	— —	— —
H5	— —	— —	— —	46 *150*	50 *165*	60 *195*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	49 *160*	55 *180*	65 *215*	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	60 *195*	65 *215*	80 *260*	— —	— —	— —	— —	— —	— —	65 *215*	75 *245*	90 *295*	— —	— —	— —
H12	— —	— —	— —	95 *310*	105 *345*	125 *410*	— —	— —	— —	— —	— —	— —	110 *360*	120 *395*	150 *490*	— —	— —	— —

R217/220.49-XO12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	MK1500			MP1501			MP2501			MS2500			MP3501			MM4500		
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%
P1	—	—	—	440	485	560	430	475	550	415	460	550	385	425	490	235	260	310
	—	—	—	*1450*	*1600*	*1825*	*1400*	*1550*	*1800*	*1350*	*1500*	*1800*	*1275*	*1400*	*1600*	*770*	*850*	*1025*
P2	—	—	—	430	470	540	420	465	530	395	445	530	375	415	470	220	250	300
	—	—	—	*1400*	*1550*	*1775*	*1375*	*1525*	*1750*	*1300*	*1450*	*1750*	*1225*	*1350*	*1550*	*720*	*820*	*980*
P3	—	—	—	375	405	470	365	400	460	345	385	460	330	355	410	195	215	260
	—	—	—	*1225*	*1325*	*1550*	*1200*	*1300*	*1500*	*1125*	*1275*	*1500*	*1075*	*1175*	*1350*	*640*	*710*	*850*
P4	—	—	—	330	365	420	325	355	410	305	345	415	290	320	370	170	195	235
	—	—	—	*1075*	*1200*	*1375*	*1075*	*1175*	*1350*	*1000*	*1125*	*1350*	*950*	*1050*	*1225*	*560*	*640*	*770*
P5	—	—	—	315	345	400	310	340	395	300	330	395	275	305	355	165	185	225
	—	—	—	*1025*	*1125*	*1300*	*1025*	*1125*	*1300*	*980*	*1075*	*1300*	*900*	*1000*	*1175*	*540*	*610*	*740*
P6	—	—	—	360	390	450	355	380	440	335	370	445	315	340	395	190	210	250
	—	—	—	*1175*	*1275*	*1475*	*1175*	*1250*	*1450*	*1100*	*1225*	*1450*	*1025*	*1125*	*1300*	*620*	*690*	*820*
P7	—	—	—	340	365	425	335	360	415	315	350	420	300	320	375	175	195	235
	—	—	—	*1125*	*1200*	*1400*	*1100*	*1175*	*1350*	*1025*	*1150*	*1375*	*980*	*1050*	*1225*	*570*	*640*	*770*
P8	—	—	—	315	340	395	310	335	385	290	325	390	275	300	345	165	180	220
	—	—	—	*1025*	*1125*	*1300*	*1025*	*1100*	*1275*	*950*	*1075*	*1275*	*900*	*980*	*1125*	*540*	*590*	*720*
P11	—	—	—	330	355	410	325	350	405	305	340	410	290	315	365	170	190	230
	—	—	—	*1075*	*1175*	*1350*	*1075*	*1150*	*1325*	*1000*	*1125*	*1350*	*950*	*1025*	*1200*	*560*	*620*	*750*
P12	—	—	—	210	230	265	210	225	260	195	220	265	185	200	235	110	125	150
	—	—	—	*690*	*750*	*870*	*690*	*740*	*850*	*640*	*720*	*870*	*610*	*660*	*770*	*360*	*410*	*490*
M1	—	—	—	—	—	—	225	255	300	280	320	380	210	235	280	190	215	255
	—	—	—	—	—	—	*740*	*840*	*980*	*920*	*1050*	*1250*	*690*	*770*	*920*	*620*	*710*	*840*
M2	—	—	—	—	—	—	185	210	250	240	265	320	175	195	235	160	175	215
	—	—	—	—	—	—	*610*	*690*	*820*	*790*	*870*	*1050*	*570*	*640*	*770*	*520*	*570*	*710*
M3	—	—	—	—	—	—	150	170	205	185	210	255	140	155	190	125	140	170
	—	—	—	—	—	—	*490*	*560*	*670*	*610*	*690*	*840*	*460*	*510*	*620*	*410*	*460*	*560*
M4	—	—	—	—	—	—	115	130	160	145	160	195	105	120	150	95	110	130
	—	—	—	—	—	—	*375*	*425*	*520*	*475*	*520*	*640*	*345*	*395*	*490*	*310*	*360*	*425*
M5	—	—	—	—	—	—	95	105	135	120	135	165	90	100	125	80	90	110
	—	—	—	—	—	—	*310*	*345*	*445*	*395*	*445*	*540*	*295*	*330*	*410*	*260*	*295*	*360*
K1	350	395	465	430	475	540	420	465	530	310	355	420	375	420	475	—	—	—
	1150	*1300*	*1525*	*1400*	*1550*	*1775*	*1375*	*1525*	*1750*	*1025*	*1175*	*1375*	*1225*	*1375*	*1550*	—	—	—
K2	310	345	420	380	420	485	375	410	475	280	310	375	335	370	425	—	—	—
	1025	*1125*	*1375*	*1250*	*1375*	*1600*	*1225*	*1350*	*1550*	*920*	*1025*	*1225*	*1100*	*1225*	*1400*	—	—	—
K3	260	295	355	325	355	410	315	350	405	240	265	320	280	310	360	—	—	—
	850	*970*	*1175*	*1075*	*1175*	*1350*	*1025*	*1150*	*1325*	*790*	*870*	*1050*	*920*	*1025*	*1175*	—	—	—
K4	250	280	340	310	340	390	300	330	385	230	250	305	270	295	345	—	—	—
	820	*920*	*1125*	*1025*	*1125*	*1275*	*980*	*1075*	*1275*	*750*	*820*	*1000*	*890*	*970*	*1125*	—	—	—
K5	155	175	205	190	205	235	185	205	235	140	155	185	165	185	210	—	—	—
	510	*570*	*670*	*620*	*670*	*770*	*610*	*670*	*770*	*460*	*510*	*610*	*540*	*610*	*690*	—	—	—
K6	220	245	300	270	300	345	265	295	340	200	220	270	235	260	305	—	—	—
	720	*800*	*980*	*890*	*980*	*1125*	*870*	*970*	*1125*	*660*	*720*	*890*	*770*	*850*	*1000*	—	—	—
K7	200	220	265	245	265	305	240	260	300	180	195	240	215	235	270	—	—	—
	660	*720*	*870*	*800*	*870*	*1000*	*790*	*850*	*980*	*590*	*640*	*790*	*710*	*770*	*890*	—	—	—
N1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
N11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S1	—	—	—	—	—	—	—	—	—	70	80	95	49	55	70	30	33	40
	—	—	—	—	—	—	—	—	—	*230*	*260*	*310*	*160*	*180*	*230*	*100*	*110*	*130*
S2	—	—	—	—	—	—	—	—	—	55	65	75	40	45	55	24	27	32
	—	—	—	—	—	—	—	—	—	*180*	*215*	*245*	*130*	*150*	*180*	*80*	*90*	*105*
S3	—	—	—	—	—	—	—	—	—	50	55	65	35	40	49	21	23	28
	—	—	—	—	—	—	—	—	—	*165*	*180*	*215*	*115*	*130*	*160*	*70*	*75*	*90*
S11	—	—	—	—	—	—	—	—	—	100	110	135	70	80	95	42	47	55
	—	—	—	—	—	—	—	—	—	*330*	*360*	*445*	*230*	*260*	*310*	*140*	*155*	*180*
S12	—	—	—	—	—	—	—	—	—	70	75	95	49	55	65	38	43	55
	—	—	—	—	—	—	—	—	—	*230*	*245*	*310*	*160*	*180*	*215*	*125*	*140*	*180*
S13	—	—	—	—	—	—	—	—	—	40	44	55	28	31	39	22	25	30
	—	—	—	—	—	—	—	—	—	*130*	*145*	*180*	*90*	*100*	*130*	*70*	*80*	*100*
H5	—	—	—	60	65	80	—	—	—	—	—	—	45	50	60	—	—	—
	—	—	—	*195*	*215*	*260*	—	—	—	—	—	—	*150*	*165*	*195*	—	—	—
H8	—	—	—	60	70	85	—	—	—	—	—	—	48	55	65	—	—	—
	—	—	—	*195*	*230*	*280*	—	—	—	—	—	—	*155*	*180*	*215*	—	—	—
H11	—	—	—	75	80	100	—	—	—	—	—	—	55	65	80	—	—	—
	—	—	—	*245*	*260*	*330*	—	—	—	—	—	—	*180*	*215*	*260*	—	—	—
H12	—	—	—	110	125	150	—	—	—	—	—	—	85	95	115	—	—	—
	—	—	—	*360*	*410*	*490*	—	—	—	—	—	—	*280*	*310*	*375*	—	—	—

R215.39/49 - R220.49 – Metric

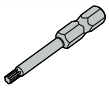




- For insert selection and cutting data recommendations, see page(s) 772-773
- For complete insert programme, see page(s) 838
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	APMXS	ZEFP	DCB	DCSFMS	OAL	LF	LPR	LUX	RPMX	Weight	Insert
				mm	mm	mm		mm	mm	mm	mm	mm	mm		kg	
R215.49-1609.3-06	75002621	Weldon	45,0	9,0	16,0	4,0	1	–	–	80,0	–	32,0	32,0	55600	0,2	SPMX0602
R215.49-2016.3-09	75002622	Weldon	45,0	16,0	26,0	5,0	2	–	–	110,0	–	60,0	60,0	27200	0,3	SPMX0903
R215.39-2020.3-09	75002620	Weldon	60,0	20,0	27,0	6,5	2	–	–	110,0	–	60,0	60,0	24300	0,3	SPMX0903
R215.49-3225.3-12	75002623	Weldon	45,0	25,0	39,0	7,0	2	–	–	130,0	–	70,0	70,0	16900	0,7	SPMX12T3
R220.49-0040-12	75012896	Arbor	45,0	40,0	54,0	7,0	3	22,0	37,0	–	40,0	–	–	13400	0,3	SPMX12T3

Spare Parts, included in delivery

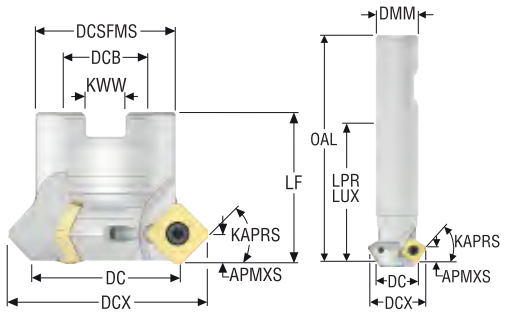
For cutter	Arbor screw	Insert key	Insert screw
			
R215.49-06	–	1/4HEX-T07PX50	C02205-T07P
R215.49-09	–	1/4HEX-T09PX50	C03007-T09P
R215.39-09	–	1/4HEX-T09PX50	C03007-T09P
R215.49-12	–	1/4HEX-T15PX50	C03510-T15P
R220.49-12	220.17-691	1/4HEX-T15PX50	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R215.49-06	1/4HEX-S-HANDLE-0.8-5.0NM	0.9NM	T00-07P09
R215.49-09	1/4HEX-S-HANDLE-0.8-5.0NM	2.0NM	T00-09P20
R215.39-09	1/4HEX-S-HANDLE-0.8-5.0NM	2.0NM	T00-09P20
R215.49-12	1/4HEX-S-HANDLE-0.8-5.0NM	3.0NM	T00-15P30
R220.49-12	1/4HEX-S-HANDLE-0.8-5.0NM	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R215.39/49 - R220.49 – inch

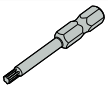




- For insert selection and cutting data recommendations, see page(s) 772-773
- For complete insert programme, see page(s) 838
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	KAPRS°	DC	DCX	APMXS	ZEFP	DCB	DCSFMS	OAL	LF	LPR	LUX	RPMX	Weight	Insert
				inch	inch	inch		inch	inch	inch	inch	inch	inch		lbs	
R215.49-00.375-3	00070083	Weldon	45,0	0.392	0.647	0.157	1	–	–	3.150	–	1.240	1.240	55600	0.440	SPMX0602
R215.49-00.625-3	00072168	Weldon	45,0	0.625	1.039	0.236	2	–	–	4.331	–	2.362	2.362	27200	0.660	SPMX0903
R215.39-00.750-3	00070080	Weldon	60,0	0.750	1.043	0.236	2	–	–	4.331	–	2.362	2.362	24300	0.660	SPMX0903
R215.49-01.00-3	00070081	Weldon	45,0	1.000	1.551	0.276	2	–	–	5.118	–	2.913	2.913	16900	1.320	SPMX12T3
R220.49-01.50	00070079	Arbor	45,0	1.500	2.047	0.276	3	0.750	1.575	–	1.575	–	–	13400	0.660	SPMX12T3

Spare Parts, included in delivery

For cutter	Arbor screw	Insert key	Insert screw
			
R215-49.00.375	–	1/4HEX-T07PX50	C02205-T07P
R215-49.00.625	–	1/4HEX-T09PX50	C03007-T09P
R215.39-00.750	–	1/4HEX-T09PX50	C03007-T09P
R215-49.01.00	–	1/4HEX-T15PX50	C03510-T15P
R220.49-01.50	220.17-695	1/4HEX-T15PX50	C03508-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R215-49.00.375	1/4HEX-S-HANDLE-0.8-5.0NM	8.0IN.LBS	T00-07P09
R215-49.00.625-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	17.7IN.LBS	T00-09P20
R215-49.01.00-01.50	1/4HEX-S-HANDLE-0.8-5.0NM	26.6IN.LBS	T00-15P30

Torque and fixed keys, see page 872

R217/220.49-SPMX06/09/12 – Insert selection – mm/*Inch*

SMG		a_p	f_z		
			50%	30%	10%
P1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,28 *0.011*	0,32 *0.013*	0,50 *0.020*
P2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,30 *0.012*	0,32 *0.013*	0,50 *0.020*
P3	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,28 *0.011*	0,30 *0.012*	0,48 *0.019*
P4	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,48 *0.019*
P5	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
P6	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
P7	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
P8	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,28 *0.011*	0,30 *0.012*	0,48 *0.019*
P11	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
P12	SPMX 06/09/12-75 F40M	3,5 *0.14*	0,18 *0.0070*	0,20 *0.0080*	0,32 *0.013*
M1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,30 *0.012*	0,32 *0.013*	0,50 *0.020*
M2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
M3	SPMX 06/09/12-75 F40M	3,5 *0.14*	0,22 *0.0085*	0,24 *0.0095*	0,38 *0.015*
M4	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*
M5	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*
K1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,30 *0.012*	0,32 *0.013*	0,50 *0.020*
K2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
K3	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
K4	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
K5	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,24 *0.0095*	0,26 *0.010*	0,42 *0.017*
K6	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,26 *0.010*	0,30 *0.012*	0,46 *0.018*
K7	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,24 *0.0095*	0,26 *0.010*	0,42 *0.017*
N1	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 *0.014*	0,42 *0.017*	0,65 *0.026*
N2	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 *0.014*	0,42 *0.017*	0,65 *0.026*
N3	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 *0.014*	0,42 *0.017*	0,65 *0.026*
N11	SPMX 06/09/12-75 F40M	4,0 *0.16*	0,36 *0.014*	0,42 *0.017*	0,65 *0.026*
S1	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*
S2	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*
S3	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,19 *0.0075*	0,20 *0.0080*	0,30 *0.012*
S11	SPMX 06/09/12-75 F40M	3,0 *0.12*	0,22 *0.0085*	0,25 *0.010*	0,38 *0.015*
S12	SPMX 06/09/12-75 F40M	3,0 *0.12*	0,22 *0.0085*	0,25 *0.010*	0,38 *0.015*
S13	SPMX 06/09/12-75 F40M	2,5 *0.10*	0,20 *0.0080*	0,22 *0.0085*	0,32 *0.013*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R217/220.49-SPMX06/09/12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M		
	50%	30%	10%
P1	275 *900*	300 *980*	355 *1175*
P2	265 *870*	290 *950*	345 *1125*
P3	230 *750*	255 *840*	300 *980*
P4	205 *670*	225 *740*	265 *870*
P5	195 *640*	220 *720*	260 *850*
P6	220 *720*	250 *820*	290 *950*
P7	210 *690*	235 *770*	275 *900*
P8	195 *640*	215 *710*	255 *840*
P11	200 *660*	225 *740*	265 *870*
P12	135 *445*	145 *475*	175 *570*
M1	215 *710*	235 *770*	280 *920*
M2	175 *570*	200 *660*	230 *750*
M3	145 *475*	155 *510*	190 *620*
M4	110 *360*	120 *395*	145 *475*
M5	90 *295*	100 *330*	120 *395*
K1	210 *690*	230 *750*	275 *900*
K2	185 *610*	210 *690*	245 *800*
K3	160 *520*	175 *570*	205 *670*
K4	150 *490*	170 *560*	200 *660*
K5	90 *295*	105 *345*	120 *395*
K6	135 *445*	150 *490*	175 *570*
K7	120 *395*	130 *425*	155 *510*
N1	1525 *5000*	1700 *5575*	2000 *6550*
N2	620 *2025*	690 *2275*	810 *2650*
N3	410 *1350*	460 *1500*	540 *1775*
N11	470 *1550*	520 *1700*	620 *2025*
S1	50 *165*	55 *180*	70 *230*
S2	41 *135*	46 *150*	55 *180*
S3	36 *120*	40 *130*	48 *155*
S11	70 *230*	80 *260*	95 *310*
S12	50 *165*	55 *180*	65 *215*
S13	29 *95*	32 *105*	38 *125*

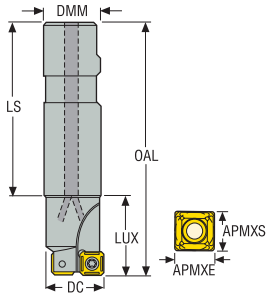


R417.19 SPOT FACING

Seco spot facing mills are cutters for milling spot faces of blind and countersunk holes. Key benefits include smooth cutting, reduced spindle bearing wear via a highly balanced tool and high security through a center-lock clamping system, all engineered in an economical solution.

- Strong SPMX inserts, available in many different grades for most workpiece materials
- Inserts with 4 cutting edges
- Cutter range metric, Ø 18-42mm (Imperial Ø 0.625-1.620 inch)

R417.19-SPMX – Metric

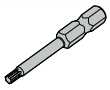




- For insert selection and cutting data recommendations, see page(s) 777-779
- For complete insert programme, see page(s) 838
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	APMXE	DMM	LUX	LS	OAL	RPMX	Weight	Centre insert SPMX	Periph insert SPMX
			mm			mm	mm	mm	mm	mm	mm		kg		
R417.19-2018.3-06A	00070768	Weldon	18,0	1	2	5,0	9,0	20,0	20,0	87,0	110,0	39200	0,3	0602AP (1)	060204 (1)
R417.19-2020.3-07A	00012939	Weldon	20,0	1	2	7,0	10,0	20,0	28,0	92,0	120,0	26200	0,3	0703AP (1)	070304 (1)
R417.19-2022.3-07A	02201611	Weldon	22,0	1	2	7,0	11,0	20,0	70,0	92,0	120,0	25000	0,3	0703AP (1)	070304 (1)
R417.19-2524.3-07A	02201606	Weldon	24,0	1	2	7,0	12,0	25,0	31,0	98,0	130,0	24000	0,5	0703AP (1)	070304 (1)
R417.19-2526.3-09A	00070772	Weldon	26,0	1	2	8,0	13,0	25,0	74,0	98,0	130,0	21200	0,5	0903AP (1)	090304 (1)
R417.19-2530.3-09A	02201604	Weldon	30,0	1	2	8,0	15,0	25,0	74,0	90,0	130,0	19800	0,5	0903AP (1)	090304 (1)
R417.19-3232.3-09A	02201607	Weldon	32,0	1	2	8,0	16,0	32,0	38,0	90,0	130,0	19200	0,8	0903AP (1)	090304 (1)
R417.19-3236.3-12A	02201608	Weldon	36,0	1	2	11,0	18,0	32,0	70,0	90,0	130,0	12600	0,8	12T3AP (1)	12T308 (1)
R417.19-3238.3-12A	02448870	Weldon	38,0	1	2	11,0	19,0	32,0	70,0	90,0	130,0	12300	0,8	12T3AP (1)	12T308 (1)
R417.19-3242.3-12A	02448871	Weldon	42,0	1	2	11,0	21,0	32,0	70,0	90,0	130,0	12000	0,8	12T3AP (1)	12T308 (1)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R417.19-06A	1/4HEX-T07PX50	C02205-T07P
R417.19-07A	1/4HEX-T07PX50	C02506-T07P
R417.19-09A	1/4HEX-T09PX50	C03007-T09P
R417.19-12A	1/4HEX-T15PX50	C03510-T15P

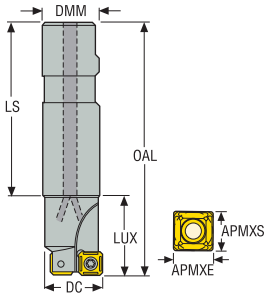
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R417.19-06A	1/4HEX-S-HANDLE-0.8-5.0NM	0.9NM	T00-07P09
R417.19-07A	1/4HEX-S-HANDLE-0.8-5.0NM	0.9NM	T00-07P09
R417.19-09A	1/4HEX-S-HANDLE-0.8-5.0NM	2.0NM	T00-09P20
R417.19-12A	1/4HEX-S-HANDLE-0.8-5.0NM	3.0NM	T00-15P30

Torque and fixed keys, see page 872

R417.19-SPMX – inch

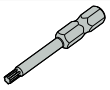




- For insert selection and cutting data recommendations, see page(s) 777-779
- For complete insert programme, see page(s) 838
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	ZNP	APMXS	APMXE	DMM	LUX	LS	OAL	RPMX	Weight	Centre insert SPMX	Periph insert SPMX
			inch			inch	inch	inch	inch	inch	inch		lbs		
R417.19-00.62-3	75072193	Weldon	0.625	1	2	0.197	0.276	0.750	0.787	2.559	3.740	49100	0.660	0602AP (1)	060204 (1)
R417.19-00.750-3	75072183	Weldon	0.750	1	2	0.197	0.276	0.750	1.181	3.150	4.331	32500	0.660	0602AP (1)	060204 (1)
R417.19-00.81-3	75054856	Weldon	0.812	1	2	0.276	0.276	0.750	2.717	3.346	4.724	26200	0.880	0703AP (1)	070304 (1)
R417.19-01.00-3	75072173	Weldon	1.000	1	2	0.315	0.472	1.000	1.575	3.543	5.118	22500	1.100	0903AP (1)	090304 (1)
R417.19-01.18-3	75054857	Weldon	1.181	1	2	0.315	0.472	1.000	2.874	3.543	5.118	21200	1.320	0903AP (1)	090304 (1)
R417.19-01.37-3	75054858	Weldon	1.375	1	2	0.433	0.472	1.250	2.874	3.543	5.118	12600	3.310	12T3AP (1)	12T308 (1)
R417.19-01.62-3	75054859	Weldon	1.620	1	2	0.433	0.472	1.250	2.874	3.543	5.118	12000	1.980	12T3AP (1)	12T308 (1)

Spare Parts, included in delivery

For cutter	Insert key	Insert screw
		
R417.19-00.625-00.750	1/4HEX-T07PX50	C02205-T07P
R417.19-00.812	1/4HEX-T07PX50	C02506-T07P
R417.19-01.00-01.18	1/4HEX-T09PX50	C03007-T09P
R417.19-01.37-01.62	1/4HEX-T15PX50	C03510-T15P

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R417.19-00.625-00.750	1/4HEX-S-HANDLE-0.8-5.0NM	8.0IN.LBS	T00-07P09
R417.19-00.812	1/4HEX-S-HANDLE-0.8-5.0NM	8.0IN.LBS	T00-07P09
R417.19-01.00-01.18	1/4HEX-S-HANDLE-0.8-5.0NM	17.7IN.LBS	T00-09P20
R417.19-01.37-01.62	1/4HEX-S-HANDLE-0.8-5.0NM	26.6IN.LBS	T00-15P30

Torque and fixed keys, see page 872

R417.19-SPMX06/07 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	30%	10%
P1	SPMX 06/07-75 F40M	0,080 *0.0032*	0,085 *0.0034*	0,13 *0.0050*
P2	SPMX 06/07-75 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
P3	SPMX 06/07-75 F40M	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
P4	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
P5	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
P6	SPMX 06/07-75 F40M	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
P7	SPMX 06/07-75 F40M	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
P8	SPMX 06/07-75 F40M	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
P11	SPMX 06/07-75 F40M	0,070 *0.0028*	0,080 *0.0032*	0,12 *0.0048*
P12	SPMX 06/07-75 F40M	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
M1	SPMX 06/07-75 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
M2	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
M3	SPMX 06/07-75 F40M	0,060 *0.0024*	0,065 *0.0026*	0,10 *0.0040*
M4	SPMX 06/07-75 F40M	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
M5	SPMX 06/07-75 F40M	0,050 *0.0020*	0,055 *0.0022*	0,085 *0.0034*
K1	SPMX 06/07-75 F40M	0,080 *0.0032*	0,090 *0.0036*	0,13 *0.0050*
K2	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
K3	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
K4	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
K5	SPMX 06/07-75 F40M	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*
K6	SPMX 06/07-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
K7	SPMX 06/07-75 F40M	0,065 *0.0026*	0,070 *0.0028*	0,11 *0.0044*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R417.19-SPMX09/12 – Insert selection – mm/*Inch*

SMG		f_z		
		100%	30%	10%
P1	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P2	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
P3	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P4	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P5	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P6	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P7	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P8	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,19 *0.0075*
P11	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
P12	SPMX 09/12-75 F40M	0,075 *0.0030*	0,080 *0.0032*	0,12 *0.0048*
M1	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
M2	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
M3	SPMX 09/12-75 F40M	0,085 *0.0034*	0,095 *0.0038*	0,15 *0.0060*
M4	SPMX 09/12-75 F40M	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
M5	SPMX 09/12-75 F40M	0,075 *0.0030*	0,085 *0.0034*	0,13 *0.0050*
K1	SPMX 09/12-75 F40M	0,12 *0.0048*	0,13 *0.0050*	0,20 *0.0080*
K2	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K3	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K4	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K5	SPMX 09/12-75 F40M	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*
K6	SPMX 09/12-75 F40M	0,11 *0.0044*	0,12 *0.0048*	0,18 *0.0070*
K7	SPMX 09/12-75 F40M	0,10 *0.0040*	0,11 *0.0044*	0,16 *0.0065*

SMG = Seco material group
f_z = mm/tooth (in/tooth), v_c = m/min (sf/min), a_e/DC = %
All cutting data are start values

R417.19-SPMX06/07/09/12 – Cutting data v_c = (m/min)/*(sf/min)*

SMG	F40M		
	100%	30%	10%
P1	195 *640*	225 *740*	240 *790*
P2	195 *640*	220 *720*	240 *790*
P3	180 *590*	205 *670*	225 *740*
P4	170 *560*	195 *640*	215 *710*
P5	165 *540*	190 *620*	210 *690*
P6	175 *570*	205 *670*	220 *720*
P7	170 *560*	195 *640*	215 *710*
P8	165 *540*	190 *620*	205 *670*
P11	165 *540*	195 *640*	210 *690*
P12	120 *395*	150 *490*	165 *540*
M1	170 *560*	200 *660*	215 *710*
M2	150 *490*	180 *590*	200 *660*
M3	130 *425*	160 *520*	175 *570*
M4	105 *345*	135 *445*	150 *490*
M5	90 *295*	115 *375*	130 *425*
K1	170 *560*	200 *660*	215 *710*
K2	160 *520*	185 *610*	205 *670*
K3	140 *460*	170 *560*	185 *610*
K4	135 *445*	165 *540*	180 *590*
K5	90 *295*	115 *375*	130 *425*
K6	125 *410*	150 *490*	170 *560*
K7	110 *360*	140 *460*	155 *510*

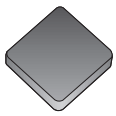
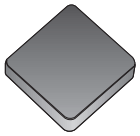
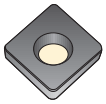
Introduction

Polycrystalline Cubic Boron Nitride (PCBN) is a material which is sintered at extremely high pressure and high temperature into a wear-resistant material with properties close to those of diamond. Due to the hot hardness, oxidation resistance and fracture toughness of the material, inserts made of PCBN have excellent edge strength and long tool life when machining hard ferrous materials and pearlitic grey cast iron.

Secomax™ PCBN inserts are suitable for machining:

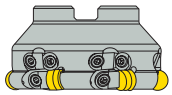
- Hardened steel (including hard-facing alloys)
- Pearlitic grey cast iron
- Chilled and white cast iron
- Manganese steel
- Cemented carbide
- Powder Metallurgy (PM) alloys

For more information including a comprehensive guide to understanding and applying PCBN successfully, please ask your sales representative for the Secomax™ PCBN, Technical Guide (available in English).

Selection of insert type	
	• Solid insert • According to the geometry, two sides can be used. • Grades: CBN200, CBN300, CBN300P, CBN500, CBN600
	• CBN layer sintered on to carbide. One side is usable. • Grades: CBN200
	

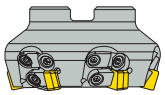
Cutters for PCBN inserts

Face milling cutter type R217/220.70



- Cutter especially developed for CBN inserts, 2 insert sizes.
- Maximum cutting depth 3 mm DC = 20-63 mm and maximum cutting depth 4,5 mm DC = 63-200 mm (DC = 125-200 mm fitted with wiper insert).
- Inserts for finishing: RNGN060300E (E = honed) RNGN/RNMN090300E
- Inserts for roughing: RNGN/RNMN060300S (S = chamfered and honed) RNGN/RNMN090300S
- Wiper insert: SNEX120312ZZ
- The relation between cutting depth and number of usable cutting edges (per side).

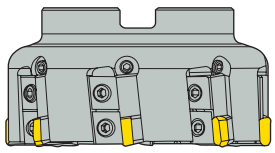
Face milling cutter type 220.74



- Cutter especially developed for CBN inserts, maximum cutting depth 8,0 mm D = 63-200 mm. (D = 125-200 mm fitted with wiper insert).
- Inserts for finishing: SNEN0903ENE-M06 (E = honed) SNMN090308E SNMN090312E
- Inserts for roughing: SNEN0903ENS-M08 (S = chamfered and honed) SNMN090308S SNMN090312S SNMN090316S
- Wiper insert: SNEX120312ZZ

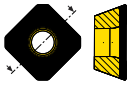
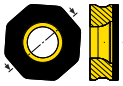
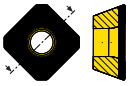
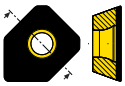
D.O.C a_p (mm)	D.O.C a_p (inch)	RN.. 060300	RN.. 090300	D.O.C a_p (mm)	D.O.C a_p (inch)	RN.. 060300	RNMN 090300
0,1	.004	20	24	1,2	.048	5	7
0,15	.006	16	20	1,5	.060	5	6
0,2	.008	14	17	1,8	.072	4	5
0,25	.010	12	15	2,0	.080	4	5
0,3	.012	11	14	2,5	.100	3	4
0,4	.016	10	12	3,0	.120	3	4
0,5	.020	8	10	3,5	.140	–	4
0,8	.032	7	8	4,0	.160	–	3
1,0	.040	6	7	4,5	.200	–	–

Square shoulder and slot milling cutter type R220.68



- Insert with corner chamfernfor finishing operations: TNGN1604PNE
- Insert with corner chamfer for roughing operations: TNGN1604PNS
- Insert with corner radius for roughing operations: TNGN1604PRS

Inserts for standard milling cutters

Face milling cutters	Face milling cutters	Face milling cutters	Face milling cutters
			
• For roughing • SEEX09T3AFTN-D09-LF • SEEX1204AFTN-D16-LF • R220.53	• For roughing • ONEW05 • Octomill R217/220.48	• For roughing • SEEN1203AFTN-D16 • R220.13	• For finishing • SEEX1203AETN-MD13-LF • R220.30
Wiper insert for high quality surface finish	**Disc milling cutter**	**High feed milling cutter**	**Copy milling cutter**
			
• SEEX1204ZZTN-D16-LF	• RDHW0803M0S-01030-LF • R335.25/R335.18	• 218.19-100T-MD08-LF	• RDHW0803M0S-01030-LF • R217/220.29

Cutting speed recommendations are in the cutting data table.
Feed rate recommendations are in the cutting data table.
Formulae for cutting data calculation are on page 862

PCBN, Finishing a_p < 0,5 mm/*Inch*

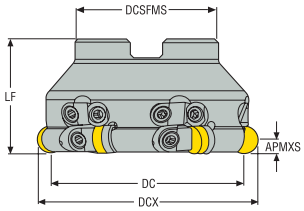
SMG	CBN200		CBN300		CBN500	
	v_c	f_z	v_c	f_z	v_c	f_z
K1	700 — 1900 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —
H3	110 — 350 —	0,050 — 0,20 —	— —	— —	— —	— —
H5	200 — 320 —	0,050 — 0,20 —	— —	— —	— —	— —
H7	200 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
H8	170 — 250 —	0,050 — 0,20 —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —
H21	120 — 220 —	0,050 — 0,20 —	— —	— —	130 — 230 —	0,050 — 0,20 —
H31	120 — 220 —	0,050 — 0,20 —	— —	— —	100 — 270 —	0,050 — 0,20 —
PM1	180 — 400 —	0,050 — 0,20 —	— —	— —	— —	— —
PM2	150 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
PM3	— —	— —	— —	— —	— —	— —
HF1	— —	— —	— —	— —	— —	— —
HF2	— —	— —	— —	— —	— —	— —

PCBN, Roughing a_p 0,5-3,0 mm/*Inch*

SMG	CBN200		CBN300		CBN500	
	v_c	f_z	v_c	f_z	v_c	f_z
K1	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —	700 — 1700 —	0,050 — 0,20 —
H3	— —	— —	— —	— —	— —	— —
H5	— —	— —	— —	— —	— —	— —
H7	— —	— —	— —	— —	— —	— —
H8	— —	— —	— —	— —	— —	— —
H11	— —	— —	— —	— —	— —	— —
H21	120 — 220 —	0,050 — 0,20 —	— —	— —	130 — 230 —	0,050 — 0,20 —
H31	120 — 220 —	0,050 — 0,20 —	— —	— —	100 — 270 —	0,050 — 0,20 —
PM1	180 — 400 —	0,050 — 0,20 —	— —	— —	— —	— —
PM2	150 — 300 —	0,050 — 0,20 —	— —	— —	— —	— —
PM3	— —	— —	— —	— —	— —	— —
HF1	150 — 240 —	0,050 — 0,20 —	— —	— —	150 — 250 —	0,050 — 0,20 —
HF2	120 — 300 —	0,050 — 0,20 —	— —	— —	120 — 300 —	0,050 — 0,20 —

220.70-06/09 – Metric





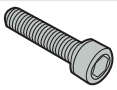
- For insert selection and cutting data recommendations, see page(s) 783
- For complete insert programme, see page(s) 791
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm	mm	mm	mm	mm		kg	
R220.70-0063-09-6	00023749	Arbor	63,0	6	4,5	72,5	22,0	47,0	40,0	10200	0,8	RN..09
R220.70-0080-09-6	00023750	Arbor	80,0	6	4,5	89,5	27,0	62,0	50,0	9100	1,4	RN..09
R220.70-0100-09-8	00023751	Arbor	100,0	8	4,5	109,5	32,0	77,0	50,0	8100	2,0	RN..09
R220.70-8160-09-10	00023753	Arbor	160,0	10	4,5	169,5	40,0	90,0	63,0	6400	5,7	RN..09/SNEX12*

Spare Parts, included in delivery

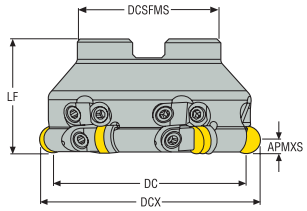
For cutter	Anvil	Anvil screw	Arbor screw	Gauge screw	Insert key	Insert shim	Insert wedge	Setting gauge	Setting wedge	Shim screw	Wedge	Wedge screw
												
R220.70-0063	–	–	220.17-692	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-0080	–	–	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-0100	–	–	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	–	AS6011F	–	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.70-8160	268-621	F94009-T09P	–	LD6019-T15P	1/4HEX-T15PX50	117.10-620	CW0608S	AS6011F	AS6011	174.10-652-T07P	CW0608M	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Shim key	Torque key
					
R220.70-0063-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	3.5NM	H4B-T07P	T00-15P35
R220.70-8160	1/4HEX-S-HANDLE-0.8-5.0NM	MC6S12X40	3.5NM	H4B-T07P	T00-15P35

Torque and fixed keys, see page 872

220.70-06/09 – inch

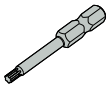
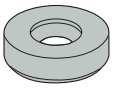




- For insert selection and cutting data recommendations, see page(s) 783
- For complete insert programme, see page(s) 791
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch	inch	inch	inch	inch		lbs	
R220.70-03.00-09-6	00059852	Arbor	3.150	6	0.177	3.520	1.000	3.543	2.382	15900	3.530	RN..09

Spare Parts, included in delivery

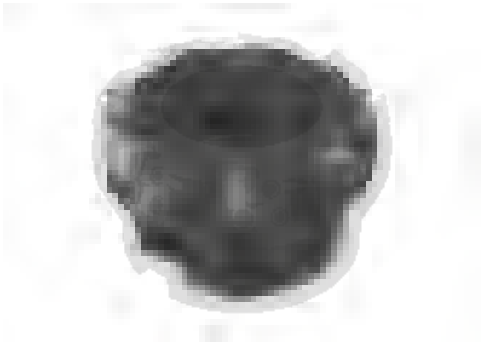
For cutter	Gauge screw	Insert key	Insert shim	Setting gauge	Shim screw	Wedge	Wedge screw
							
R220.70-03.00	LD6019-T15P	1/4HEX-T15PX50	117.10-620	AS6011F	174.10-652-T07P	CW0608M	LD6018T-T15P

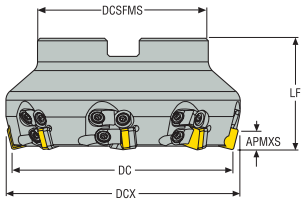
Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Shim key	Torque key
				
R220.70-03.00	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	H4B-T07P	T00-15P35

Torque and fixed keys, see page 872

220.74-09 – Metric





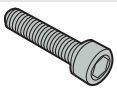
- For insert selection and cutting data recommendations, see page(s) 783
- For complete insert programme, see page(s) 793-792
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm	mm		kg	
R220.74-0063-09-6	00023743	Arbor	63,0	6	8,0	75,0	65,3	22,0	47,0	40,0	10200	0,8	SN..09..
R220.74-0080-09-6	00023744	Arbor	80,0	6	8,0	75,0	82,3	27,0	62,0	50,0	9100	1,4	SN..09..
R220.74-0100-09-8	00023745	Arbor	100,0	8	8,0	75,0	102,3	32,0	77,0	50,0	8100	2,1	SN..09..
R220.74-8160-09-10	00023747	Arbor	160,0	10	8,0	75,0	162,3	40,0	90,0	63,0	6400	6,2	SN..09/SNEX12*
R220.74-8200-09-12	00023748	Arbor	200,0	12	8,0	75,0	202,3	60,0	130,0	63,0	5700	9,0	SN..09/SNEX12*

Spare Parts, included in delivery

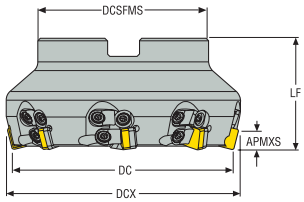
For cutter	Anvil	Anvil screw	Arbor screw	Insert key	Insert shim	Setting gauge	Setting screw	Shim screw	Wedge	Wedge screw
										
R220.74-0063	–	–	220.17-692	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-0080	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-0100	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-8160	–	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-8200	268-621	F94009-T09P	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P

Accessories

For cutter	Adjustable Torque key	Anvil Key	Arbor screw	Insert clamping torque	Shim key	Torque key
						
R220.74-0063-0100	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	3.5NM	H4B-T07P	T00-15P35
R220.74-8160	1/4HEX-S-HANDLE-0.8-5.0NM	H4B-T09P	MC6S12X40	3.5NM	H4B-T07P	T00-15P35
R220.74-8200	1/4HEX-S-HANDLE-0.8-5.0NM	H4B-T09P	–	3.5NM	H4B-T07P	T00-15P35

Torque and fixed keys, see page 872

220.74-09 – inch





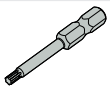
- For insert selection and cutting data recommendations, see page(s) 783
- For complete insert programme, see page(s) 793-792
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCX	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch	inch		lbs	
R220.74-04.00-09-8	00059859	Arbor	4.028	8	0.315	75,0	4.028	1.500	3.543	2.374	8100	6.390	SN..09
R220.74-05.00-09-8	00059860	Arbor	5.008	8	0.315	75,0	5.012	1.500	3.543	2.374	7200	8.600	SN..09 / SNEX12*
R220.74-06.00-09-10	00059861	Arbor	6.299	10	0.315	75,0	6.390	2.000	4.331	2.374	6400	13.670	SN..09 / SNEX12*

Spare Parts, included in delivery

For cutter	Anvil	Anvil screw	Insert key	Insert shim	Setting gauge	Setting screw	Shim screw	Wedge	Wedge screw
									
R220.74-04.00	–	–	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-05.00	268-621	F94009-T09P	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P
R220.74-06.00	268-621	F94009-T09P	1/4HEX-T15PX50	174.10-620	AS6011	LD6019-T15P	174.10-652-T07P	CW0608M	LD6018T-T15P

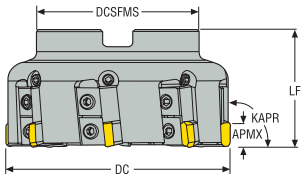
Accessories

For cutter	Adjustable Torque key	Anvil Key	Arbor screw	Insert clamping torque	Shim key	Torque key
						
R220.74-04.00	1/4HEX-S-HANDLE-0.8-5.0NM	–	–	31.0IN.LBS	H4B-T07P	T00-15P35
R220.74-05.00	1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-T09PX50	–	31.0IN.LBS	1/4HEX-T07PX50	T00-15P35
R220.74-06.00	1/4HEX-S-HANDLE-0.8-5.0NM	H4B-T09P	58215080	31.0IN.LBS	H4B-T07P	T00-15P35

Torque and fixed keys, see page 872

R220.68-T16C – Metric





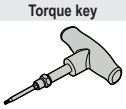
- For insert selection and cutting data recommendations, see page(s) 783
- For complete insert programme, see page(s) 794
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCB	DCSFMS	LF	RPMX	Weight	Insert
			mm		mm		mm	mm	mm		kg	
R220.68-0063-T11C-4	02600204	Arbor	63,0	4	5,0	90,0	22,0	47,0	63,0	20600	1,1	TNGN1103..
R220.68-0080-T11C-5	02600206	Arbor	80,0	5	5,0	90,0	27,0	62,0	63,0	16700	1,7	TNGN1103..
R220.68-0100-T11C-6	02600207	Arbor	100,0	6	5,0	90,0	32,0	77,0	63,0	13400	2,7	TNGN1103..
R220.68-0125-T11C-8	02600208	Arbor	125,0	8	5,0	90,0	40,0	90,0	63,0	10400	3,4	TNGN1103..
R220.68-8160-T11C-10	02600209	Arbor	160,0	10	5,0	90,0	40,0	90,0	63,0	8400	5,6	TNGN1103..
R220.68-0063-T16C-4	00063814	Arbor	63,0	4	14,0	90,0	22,0	47,0	63,0	12000	1,1	TNGN1604..
R220.68-0080-T16C-5	00063812	Arbor	80,0	5	14,0	90,0	27,0	62,0	63,0	9600	1,9	TNGN1604..
R220.68-0125-T16C-8	00063815	Arbor	125,0	8	14,0	90,0	40,0	90,0	63,0	6100	3,4	TNGN1604..
R220.68-8160-T16C-10	00063813	Arbor	160,0	10	14,0	90,0	40,0	90,0	63,0	4800	5,9	TNGN1604..

Spare Parts, included in delivery

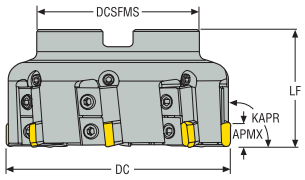
For cutter	Adjustment unit	Arbor screw	Cassette	Insert wedge	Setting key	Wedge clamp	Wedge key	Wedge screw
								
R220.68-0063-T11C	AU1114T-T15P	220.17-696	TN11PR	L257.9-120-T11	–	L257.9-120M	H6B-T25P	LD8020-T25P
R220.68-0080-T11C	AU1114T-T15P	MC6S12X40	TN11PR	L257.9-120-T11	–	L257.9-120M	H6B-T25P	LD8020-T25P
R220.68-0100-T11C	AU1114T-T15P	MC6S16X35	TN11PR	L257.9-120-T11	–	L257.9-120M	H6B-T25PL	LD8020-T25P
R220.68-0125-T11C	AU1114T-T15P	–	TN11PR	L257.9-120-T11	–	L257.9-120M	H6B-T25PL	LD8020-T25P
R220.68-8160-T11C	AU1114T-T15P	–	TN11PR	L257.9-120-T11	–	L257.9-120M	1/4HEX-T25PX90	LD8020-T25P
R220.68-0063-T16C	AU1114T-T15P	220.17-696	TN16PR	L257.9-120-T16	T15P-4	L257.9-120M	H6B-T25PL	LD8020-T25P
R220.68-0080-T16C	AU1114T-T15P	MC6S12X40	TN16PR	L257.9-120-T16	T15P-4	L257.9-120M	H6B-T25PL	LD8020-T25P
R220.68-0125-T16C	AU1114T-T15P	–	TN16PR	L257.9-120-T16	T15P-4	L257.9-120M	H6B-T25PL	LD8020-T25P
R220.68-8160-T16C	AU1114T-T15P	–	TN16PR	L257.9-120-T16	T15P-4	L257.9-120M	H6B-T25PL	LD8020-T25P

Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.68-0063-0125-T11C	–	–	6.0NM	T00T-25P60
R220.68-8160-T11C	1/4HEX-T-HANDLE-5.0-14.0NM	MC6S12X40	6.0NM	T00T-25P60
R220.68-0063-0125-T16C	–	–	6.0NM	T00T-25P60
R220.68-8160-T16C	–	MC6S12X40	6.0NM	T00T-25P60

Torque and fixed keys, see page 872

R220.68-T16C – inch





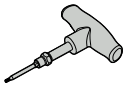
- For insert selection and cutting data recommendations, see page(s) 783
- For complete insert programme, see page(s) 794
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	ZEFP	APMXS	KAPRS°	DCB	DCSFMS	LF	RPMX	Weight	Insert
			inch		inch		inch	inch	inch		lbs	
R220.68-02.50-T11C-4	02611344	Arbor	2.500	4	0.197	90,0	0.750	1.850	2.480	20600	2.430	TN..11
R220.68-03.00-T11C-5	02611345	Arbor	3.000	5	0.197	90,0	1.000	2.441	2.480	9600	3.970	TN..11
R220.68-04.00-T11C-6	02611346	Arbor	4.000	6	0.197	90,0	1.500	3.031	2.480	7600	5.730	TN..11
R220.68-05.00-T11C-8	02611347	Arbor	5.000	8	0.197	90,0	1.500	3.543	2.480	6100	7.500	TN..11
R220.68-06.00-T11C-10	02611348	Arbor	6.000	10	0.197	90,0	2.000	4.331	2.480	4800	12.350	TN..11

Spare Parts, included in delivery

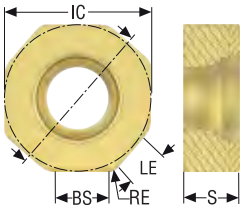
For cutter	Adjustment unit	Arbor screw	Cassette	Circlip	Insert key	Insert wedge	Ring	Wedge clamp	Wedge key	Wedge screw
										
R220.68-02.50	AU1114T-T15P	220.17-695	TN11PR	SGH19SMS1582	H4B-T15P	L257.9-120-T11	220.13-114	L257.9-120M	H6B-T25P	LD8020-T25P
R220.68-03.00	AU1114T-T15P	UC6S1/2UNFX1-1/4	TN11PR	–	H4B-T15P	L257.9-120-T11	–	L257.9-120M	H6B-T25P	LD8020-T25P
R220.68-04.00	AU1114T-T15P	UC6S3/4UNFX2	TN11PR	–	H4B-T15PL	L257.9-120-T11	–	L257.9-120M	H6B-T25PL	LD8020-T25P
R220.68-05.00	AU1114T-T15P	UC6S3/4UNFX2	TN11PR	–	H4B-T15PL	L257.9-120-T11	–	L257.9-120M	H6B-T25PL	LD8020-T25P
R220.68-06.00	AU1114T-T15P	–	TN11PR	–	1/4HEX-T15PX90	L257.9-120-T11	–	L257.9-120M	1/4HEX-T25PX90	LD8020-T25P

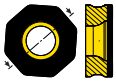
Accessories

For cutter	Adjustable Torque key	Arbor screw	Insert clamping torque	Torque key
				
R220.68-02.50-05.00	–	–	53.1IN.LBS	T00T-25P60
R220.68-06.00	1/4HEX-T-HANDLE-5.0-14.0NM	58215080	53.1IN.LBS	T00T-25P60

Torque and fixed keys, see page 872

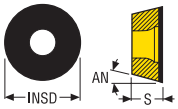
ONEW05





Designation	IC	BS	RE	LE	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
ONEW050410ANSN-02020-LF	12,0 *0.472*	0,3 *0.012*	1,0 *0.039*	3,6 *0.142*	4,427 *0.174*	0,0 °	■					

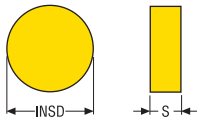
RDHW





Designation	INSD	S	AN°	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
RDHW0803M0S-01030-LF	8,0 *0.315*	3,18 *0.125*	15,0 *0.591*	■					
RDHW10T3M0S-01030-8-LF	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	■					

RN.N-LF06/09/12



RNGN



RNGN-LF

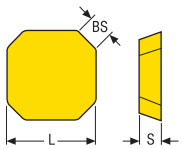


RNMN



Designation	INSD	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
RNGN060300S-02020-LF	6,35 *0.250*	3,18 *0.125*	0,0 °	■					
RNGN090300S-02020-LF	9,52 *0.375*	3,18 *0.125*	0,0 °	■					
RNGN120400S-02020-LF	12,7 *0.500*	4,76 *0.187*	0,0 °	■					
RNGN060300S	6,35 *0.250*	3,18 *0.125*	0,0 °	■					
RNGN090300S	9,52 *0.375*	3,18 *0.125*	0,0 °	■					
RNMN060300S	6,35 *0.250*	3,18 *0.125*	0,0 °		■	■			
RNMN060300S-02020P	6,35 *0.250*	3,18 *0.125*	0,0 °						■
RNMN090300E	9,52 *0.375*	3,18 *0.125*	0,0 °		■		■		
RNMN090300S	9,52 *0.375*	3,18 *0.125*	0,0 °		■	■			
RNMN090300S-02020	9,52 *0.375*	3,18 *0.125*	0,0 °				■	■	
RNMN090300S-02020P	9,52 *0.375*	3,18 *0.125*	0,0 °						■

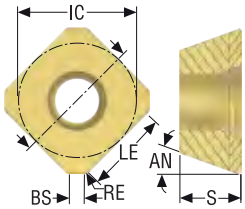
SEE.12

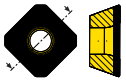




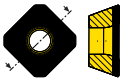
Designation	RE	BS	L	S	GAN	Grades Coated					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SEEN1203AFTN-D16	1,0 *0.039*	1,5 *0.059*	12,7 *0.500*	3,18 *0.125*	0,0 °		■				

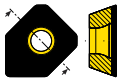
SEEX





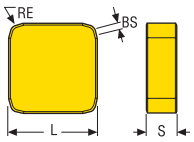






Designation	IC	BS	RE	LE	S	AN°	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SEEX09T3AFTN-D09-LF	9,52 *0.375*	1,25 *0.049*	0,5 *0.020*	2,86 *0.113*	3,97 *0.156*	20,0	0,0 °	■					
SEEX1203AETN-MD13-LF	12,7 *0.500*	8,0 *0.315*	1,0 *0.039*	2,2 *0.087*	3,18 *0.125*	20,0	0,0 °	■					
SEEX1204AFTN-D16-LF	12,7 *0.500*	1,6 *0.063*	1,1 *0.043*	3,81 *0.150*	4,76 *0.187*	20,0	0,0 °	■					
SEEX1204ZZTN-D16-LF	12,7 *0.500*	7,53 *0.296*	1,0 *0.039*	3,81 *0.150*	4,76 *0.187*	20,0	0,0 °	■					

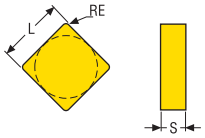
SNEN





Designation	RE	BS	L	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SNEN0903ENE-M06	0,8 *0.031*	0,9 *0.035*	9,52 *0.375*	3,18 *0.125*	0,0 °	■					
SNEN0903ENS-M08	0,8 *0.031*	0,9 *0.035*	9,52 *0.375*	3,18 *0.125*	0,0 °	■					

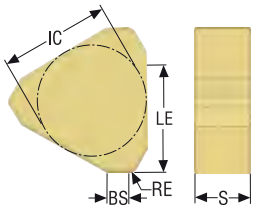
SN..06/09/SNEX12





Designation	RE	L	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
SNMN060308E	0,8 *0.031*	6,35 *0.250*	3,18 *0.125*	0,0 °				■		
SNMN060308S	0,8 *0.031*	6,35 *0.250*	3,18 *0.125*	0,0 °		■				
SNMN090308E	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °		■				
SNMN090308S	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °		■				
SNMN090312S	1,2 *0.047*	9,525 *0.375*	3,18 *0.125*	0,0 °		■	■			
SNMN090312S-02020P	1,2 *0.047*	9,525 *0.375*	3,18 *0.125*							■
SNMN090316S	1,6 *0.063*	9,525 *0.375*	3,18 *0.125*	0,0 °		■				
SNGN090308E	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNGN090308S	0,8 *0.031*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNGN090312S	1,2 *0.047*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNGN090316S	1,6 *0.063*	9,525 *0.375*	3,18 *0.125*	0,0 °	■					
SNEX120312ZZ	1,2 *0.047*	12,7 *0.500*	3,18 *0.125*	0,0 °	■					

TNGN

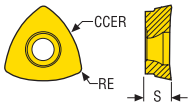


TNGN



Designation	IC	BS	RE	LE	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
TNGN1103PNE	6,35 *0.250*	1,0 *0.039*	0,8 *0.031*	3,3 *0.130*	3,18 *0.125*	0,0 °	■					
TNGN1103PNS	6,35 *0.250*	1,0 *0.039*	0,8 *0.031*	3,3 *0.130*	3,18 *0.125*	0,0 °	■					
TNGN1103PRS	6,35 *0.250*	1,0 *0.039*	1,2 *0.047*	3,3 *0.130*	3,18 *0.125*	0,0 °	■					
TNGN1604PNE	9,52 *0.375*	1,9 *0.075*	0,8 *0.031*	4,95 *0.195*	4,76 *0.187*	0,0 °	■					
TNGN1604PNS	9,52 *0.375*	1,9 *0.075*	0,8 *0.031*	4,95 *0.195*	4,76 *0.187*	0,0 °	■					
TNGN1604PRS	9,52 *0.375*	1,3 *0.051*	1,2 *0.047*	4,95 *0.195*	4,76 *0.187*	0,0 °	■					

218.19





Designation	RE	CCER	S	GAN	Grades CBN					
	mm *Inch*	mm *Inch*	mm *Inch*		CBN200	CBN300	CBN300P	CBN400C	CBN500	CBN600
218.19-100T-MD08-LF	0,8 *0.031*	10,0 *0.394*	2,81 *0.111*	0,0 °	■					

Introduction

Application areas

Secomax ceramics include a range of products developed to meet the manufacturing industries ever increasing demands on productivity and product performance.

The inserts are die-pressed and sintered by a HIP process using very fine and pure raw materials with fine microstructure to reach excellent material properties. All surfaces are then ground ensuring a product with superior dimensions and tolerances.

This comes together in a product with outstanding features:

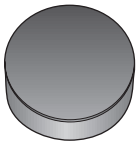
– high thermal shock resistance

– optimised fracture toughness

– excellent wear resistance

– high product quality

CS300



Format:
Solid.

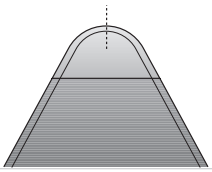
Composition:
Sialon (Si, Al, O, N) ceramic grade.

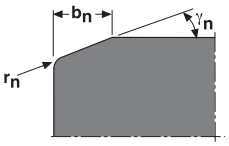
Coating:
No coating.

Chamfer size and angle

CS300	=	0,10 mm x 20°
S	=	Chamfered and honed
T	=	Chamfered, no honing
E	=	Honed

Chamfer size and angle



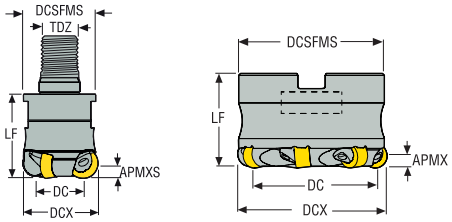


b_n = Chamfer width
γ_n = Chamfer angle
r_n = Hone radius

Ceramic, Roughing a_p 0,5 – 3,0 mm/*Inch*

SMG	CS300	
	v_c	f_z
S1	600 — 1000 *2000 — 3200*	0,050 — 0,15 *0.00197 — 0.00590*
S2	600 — 1000 *2000 — 3200*	0,050 — 0,15 *0.00197 — 0.00590*
S3	600 — 1000 *2000 — 3200*	0,050 — 0,15 *0.00197 — 0.00590*
S11	— —	— —
S12	— —	— —
S13	— —	— —

R217/220.26 - Metric



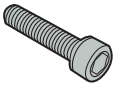
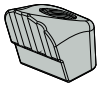


- For insert selection and cutting data recommendations, see page(s) 796
- For complete insert programme, see page(s) 799
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	DCB	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			mm	mm		mm	mm		mm	mm		kg	
R217.26-1632.RE-RN1204.3A	03115686	Combimaster	19,3	32,0	3	6,0	–	M16	30,0	35,0	19100	0,3	RN1204
R217.26-1632.RE-RP1204.3A	03204228	Combimaster	19,4	32,0	3	6,0	–	M16	30,0	35,0	20800	0,2	RP1204
R217.26-2040.RE-RN1204.4A	03115687	Combimaster	27,3	40,0	4	6,0	–	M20	36,5	40,0	17100	0,4	RN1204
R217.26-2040.RE-RP1204.4A	03115679	Combimaster	27,4	40,0	4	6,0	–	M20	36,5	40,0	18600	0,4	RP1204
R220.26-0050-RN1204.6A	03115702	Arbor	37,3	50,0	6	6,0	22,0	–	47,0	45,0	16700	0,5	RN1204
R220.26-0050-RP1204.6A	03133188	Arbor	37,4	50,0	6	6,0	22,0	–	47,0	45,0	16700	0,5	RP1204
R220.26-0050-RN1207.5A	03115710	Arbor	37,3	50,0	5	6,0	22,0	–	47,0	45,0	11900	0,5	RN1207
R220.26-0063-RN1207.6A	03115711	Arbor	50,3	63,0	6	6,0	27,0	–	60,0	50,0	10600	0,8	RN1207
R220.26-0063-RN1207.7A	03115712	Arbor	50,3	63,0	7	6,0	27,0	–	60,0	50,0	10600	0,9	RN1207
R220.26-0080-RN1207.7A	03115713	Arbor	67,3	80,0	7	6,0	32,0	–	77,0	50,0	9400	1,6	RN1207
R220.26-0080-RN1207.8A	03115714	Arbor	67,3	80,0	8	6,0	32,0	–	77,0	50,0	9400	1,4	RN1207
R220.26-0100-RN1207.8A	03115715	Arbor	87,3	100,0	8	6,0	40,0	–	90,0	63,0	8400	2,8	RN1207
R220.26-0125-RN1207.9	03115716	Arbor	112,3	125,0	9	6,0	40,0	–	90,0	63,0	7500	3,6	RN1207

Spigot size = DCB

Spare Parts, included in delivery

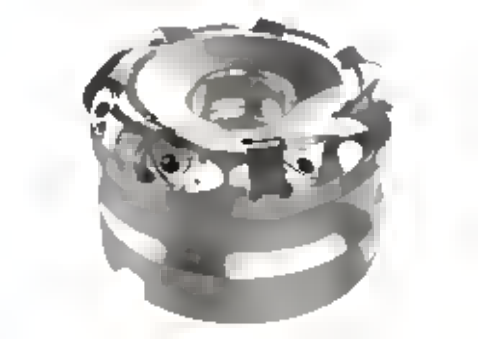
For cutter	Arbor screw	Insert key	Wedge clamp	Wedge screw
				
R217/220.26-..	–	1/4HEX-H2.5X50	CW0508	LD5015C
R217/220.26-..	220.17-692	1/4HEX-H2.5X50	CW0508	LD5015C
R217/220.26-..	MC6S12X40	1/4HEX-H2.5X50	CW0508	LD5015C
R217/220.26-..	950E1645	1/4HEX-H2.5X50	CW0508	LD5015C
R217/220.26-..	MC6S20X50	1/4HEX-H2.5X50	CW0508	LD5015C

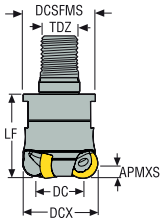
Accessories

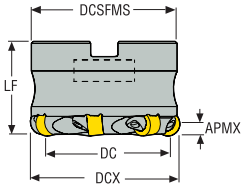
For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.26-..	1/4HEX-S-HANDLE-0.8-5.0NM	3.5NM	H00-2535

Torque and fixed keys, see page 872

R217/220.26 - inch



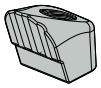




- For insert selection and cutting data recommendations, see page(s) 796
- For complete insert programme, see page(s) 799
- For ISO attribute explanation, see page 16

Designation	Item number	Type of mounting	DC	DCX	ZEFP	APMXS	TDZ	DCSFMS	LF	RPMX	Weight	Insert
			inch	inch		inch		inch	inch		lbs	
R217.26-01.50-20RE-RN1207.3A	10008700	Arbor	1.001	1.500	3	0.236	M20	1.437	1.575	12500	0.880	RN1207
R220.26-02.00-RN1207.5A	03115723	Arbor	1.501	2.000	5	0.236	–	1.750	2.000	11900	1.320	RN1207
R220.26-02.50-RN1207.6A	03115724	Arbor	2.001	2.500	6	0.236	–	2.250	2.000	10600	1.980	RN1207
R220.26-03.00-RN1207.7A	03115725	Arbor	2.499	3.000	7	0.236	–	2.750	2.000	9400	2.870	RN1207

Spare Parts, included in delivery

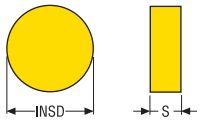
For cutter	Arbor screw	Insert key	Wedge clamp	Wedge screw
				
R217/220.26-..	–	1/4HEX-H2.5X50	CW0508	LD5015C
R217/220.26-..	UC6S3/8UNFX1-3/4	1/4HEX-H2.5X50	CW0508	LD5015C
R217/220.26-..	UC6S1/2UNFX1-1/2	1/4HEX-H2.5X50	CW0508	LD5015C

Accessories

For cutter	Adjustable Torque key	Insert clamping torque	Torque key
			
R217/220.26-..	1/4HEX-S-HANDLE-0.8-5.0NM	31.0IN.LBS	H00-2535

Torque and fixed keys, see page 872

RNGN12



RNGN



RPGN



Designation	INSD	S	Grades Ceramic				
	mm *Inch*	mm *Inch*	CS300				
RNGN120400T-01020	12,7 *0.500*	4,76 *0.187*	■				
RNGN120700T-01020	12,7 *0.500*	7,94 *0.313*	■				
RPGN120400T-01020	12,7 *0.500*	4,76 *0.187*	■				

Introduction

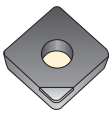
Polycrystalline Diamond (PCD) is produced by sintering together carefully selected particles of diamond under conditions of high temperature and high pressure. PCD cutting tools combine the hardness, abrasion resistance and thermal conductivity of diamond with the toughness of tungsten carbide.

Secomax™ PCD inserts are suitable for machining non-ferrous metals and alloys, e.g.:

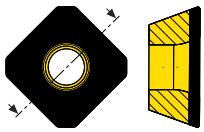
- Aluminium
- Copper
- Brass
- Bronze
- Cemented carbide

It can also be used for other materials, e.g.:

- Composites (MMC, ...)
- Reinforced plastics
- Graphite
- Tungsten carbide
- Ceramics
- Titanium alloys

Selection of insert types	
	• Sintered layer -LF • PCD sintered on carbide. • All cutting edges on one side are usable. • Grades: PCD20, PCD30M
	• Brazed tip -L1 and L2 • PCD brazed on to standard carbide inserts. • Grades:PCD05, PCD20, PCD30

Inserts for standard milling cutters

Face milling cutters		Face milling cutters	
• SEHN12 • R220.13 • R220.30		• SEEX12 • R220.53	
Face milling cutters		**Square shoulder milling cutters**	
• OFEX05 • R220.43		• XOEX06/10/12/16 • 217/220.69	

Cutting speed recommendations are in the cutting data table.
Feed rate recommendations are in the cutting data table.
Formulae for cutting data calculation are on page 862

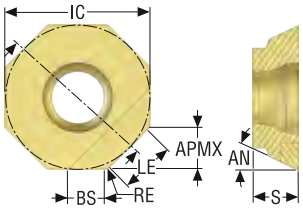
PCD, Roughing a_p 0,5 - 3,0 mm/*Inch*

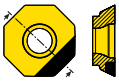
SMG	PCD05		PCD20		PCD30		PCD30M	
	v_c	f_z	v_c	f_z	v_c	f_z	v_c	f_z
N1	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	— —	— —	— —	— —
N2	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	— —	— —	— —	— —
N3	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	— —	— —	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*
N11	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	400 — 1200 *1400 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*
TS1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TS2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TS3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TS4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TP2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TP4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
GR1	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	— —	— —	— —	— —

PCD, Finishing a_p < 0,5 mm/*Inch*

SMG	PCD05		PCD20		PCD30		PCD30M	
	v_c	f_z	v_c	f_z	v_c	f_z	v_c	f_z
N1	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	600 — 3500 *2000 — 11400*	0,050 — 0,30 *0.00197 — 0.0118*	— —	— —	— —	— —
N2	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	400 — 2500 *1400 — 8200*	0,050 — 0,20 *0.00197 — 0.00787*	— —	— —	— —	— —
N3	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	— —	— —	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*	300 — 1000 *990 — 3200*	0,050 — 0,10 *0.00197 — 0.00393*
N11	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	400 — 1200 *1400 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*	600 — 1200 *2000 — 3900*	0,10 — 0,50 *0.00394 — 0.0196*
TS1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TS2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TS3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TS4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP1	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	100 — 1500 *330 — 4900*	0,10 — 0,40 *0.00394 — 0.0157*	— —	— —	— —	— —
TP2	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
TP3	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*	100 — 800 *330 — 2600*	0,050 — 0,20 *0.00197 — 0.00787*
TP4	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*	400 — 800 *1400 — 2600*	0,10 — 0,20 *0.00394 — 0.00787*
GR1	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	100 — 1500 *330 — 4900*	0,10 — 0,20 *0.00394 — 0.00787*	— —	— —	— —	— —

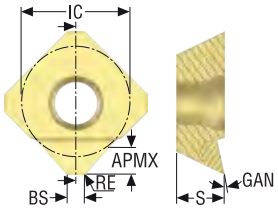
OFEX

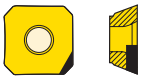




Designation	IC	BS	RE	LE	APMX	S	AN°	Grades PCD			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
OFEX05T305FN-M05	12,79 *0.504*	2,4 *0.094*	0,5 *0.020*	3,5 *0.138*	3,0 *0.118*	3,97 *0.156*	26,0		■		

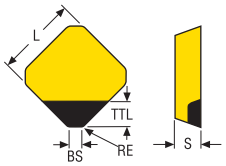
SEEX





Designation	IC	BS	RE	LE	APMX	S	GAN	Grades PCD			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
SEEX09T3AFFN-L1	9,525 *0.375*	1,5 *0.059*	0,4 *0.016*	1,95 *0.077*	2,8 *0.110*	3,97 *0.156*	12,0 °	■	■		

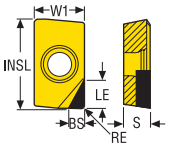
SEHN





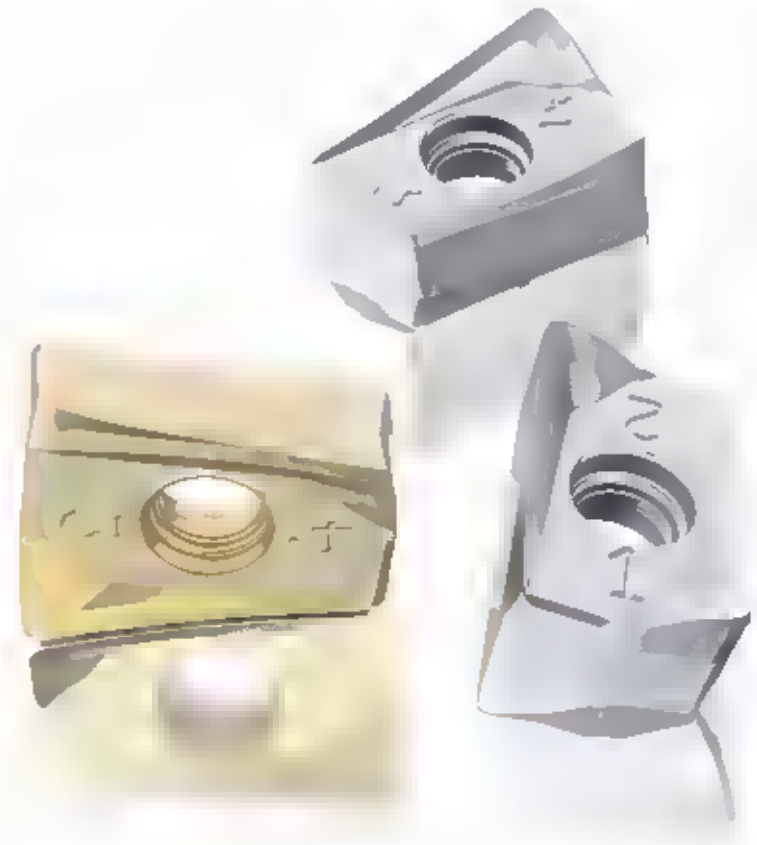
Designation	RE	BS	L	TTL	S	GAN	Grades PCD			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
SEHN1203AFFN-E08	1,0 *0.039*	1,6 *0.063*	12,7 *0.500*	– –	3,18 *0.125*	0,0 °		■		

XOEX

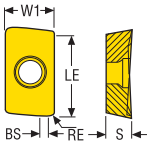




Designation	RE	BS	LE	INSL	W1	S	GAN	Grades PCD			
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		PCD05	PCD20	PCD30	PCD30M
XOEX060204FR	0,4 *0.016*	1,1 *0.043*	2,5 *0.098*	6,94 *0.273*	4,09 *0.161*	2,45 *0.096*	8,0 °	■			
XOEX10T304F	0,4 *0.016*	1,08 *0.043*	4,0 *0.157*	11,08 *0.436*	6,87 *0.270*	3,77 *0.148*	15,0 °	■	■		
XOEX120404FR	0,4 *0.016*	1,11 *0.044*	4,0 *0.157*	13,88 *0.546*	8,18 *0.322*	5,03 *0.198*	15,0 °		■	■	
XOEX120404FR-L2	0,4 *0.016*	1,95 *0.077*	4,5 *0.177*	13,7 *0.539*	8,18 *0.322*	4,95 *0.195*	14,0 °	■			
XOEX160508F	0,8 *0.031*	1,3 *0.051*	15,7 *0.618*	18,3 *0.720*	10,2 *0.402*	5,8 *0.228*	15,65 °	■	■		■



ABEX26

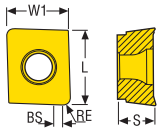


M15

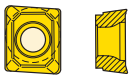


Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
ABEX2606ZFFR-M15	1,6 *0.063*	2,0 *0.079*	24,4 *0.961*	14,0 *0.551*	6,35 *0.250*	17,0 °	■		■		■			■					■			■		
ABEX2606ZZFR-M15	1,6 *0.063*	10,0 *0.394*	24,4 *0.961*	14,0 *0.551*	6,35 *0.250*	17,0 °					■								■					

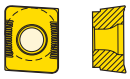
AC..15



M10/M11/M14/MD15

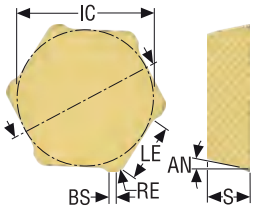


ME10

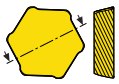


Designation	RE	BS	L	W1	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
ACET150612TR-ME10	1,2 *0.047*	0,13 *0.005*	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	22,0 °										■						■		
ACET150612TL-M11	1,2 *0.047*	0,13 *0.005*	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	14,0 °																■		
ACET150612TR-M11	1,2 *0.047*	0,13 *0.005*	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	14,0 °	■		■		■			■				■	■			■		
ACET150631TR-M11	3,1 *0.122*	0,0 –	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	14,0 °																■		
ACET150612TL-M14	1,2 *0.047*	0,13 *0.005*	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °																■		
ACET150612TR-M14	1,2 *0.047*	0,13 *0.005*	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °			■		■			■					■			■		
ACET150630TR-M14	3,0 *0.118*	0,0 –	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °					■								■					
ACET150631TR-M14	3,1 *0.122*	0,0 –	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °																■		
ACET150660TL-M14	6,0 *0.236*	0,0 –	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °																■		
ACET150660TR-M14	6,0 *0.236*	0,0 –	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °					■								■			■		
ACET150612TR-MD15	1,2 *0.047*	0,13 *0.005*	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °	■			■	■								■					
ACET150630TR-MD15	3,0 *0.118*	0,0 –	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °	■																	
ACMT150612TR-M14	1,2 *0.047*	0,13 *0.005*	15,0 *0.591*	12,7 *0.500*	6,35 *0.250*	15,0 °			■										■			■		

HPMN12

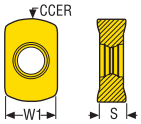


D25



Designation	RE	BS	IC	LE	S	AN°	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
HPMN1206ZETR-D25	1,7 *0.067*	0,8 *0.031*	21,458 *0.845*	9,0 *0.354*	6,35 *0.250*	11,0	■		■															

LOH.06



D07



M07



MD07

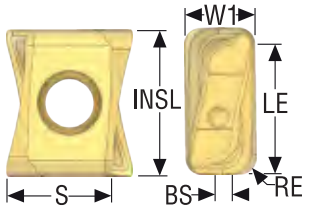


ME06

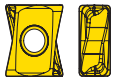


Designation	RE	W1	S	CCER	GAN	Grades Coated																	Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
LOHT060310TR-M07	1,0 *0.039*	6,35 *0.250*	3,57 *0.141*	5,5 *0.217*	20,0 °		■	■	■	■					■	■		■			■		
LOHT060310TR-MD07	1,0 *0.039*	6,35 *0.250*	3,57 *0.141*	5,5 *0.217*	7,0 °	■		■	■					■									
LOHT060310TR-ME06	1,0 *0.039*	6,35 *0.250*	3,57 *0.141*	5,5 *0.217*	27,0 °					■		■			■	■		■			■		
LOHW060310TR-D07	1,0 *0.039*	6,35 *0.250*	3,45 *0.136*	5,5 *0.217*	0,0 °	■			■		■												

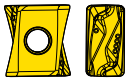
LOEX08/12



M08/MD08



M09/M12/MD13

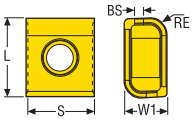


Designation	RE	BS	LE	S	INSL	W1	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
LOEX080404TR-M08	0,4 *0.016*	1,29 *0.051*	8,3 *0.327*	6,67 *0.263*	9,3 *0.366*	4,4 *0.173*	33,3 °	■		■	■					■							■		
LOEX080408TR-M08	0,8 *0.031*	0,9 *0.035*	8,3 *0.327*	6,6 *0.260*	9,3 *0.366*	4,4 *0.173*	34,0 °	■	■	■	■	■			■	■	■			■			■		
LOEX080412TR-M08	1,2 *0.047*	0,52 *0.020*	8,3 *0.327*	6,52 *0.257*	9,3 *0.366*	4,4 *0.173*	33,3 °			■						■							■		
LOEX080416TR-M08	1,6 *0.063*	0,13 *0.005*	8,3 *0.327*	6,45 *0.254*	9,3 *0.366*	4,4 *0.173*	33,3 °		■		■						■						■		
LOEX080404TR-MD08	0,4 *0.016*	1,29 *0.051*	8,3 *0.327*	6,67 *0.263*	9,3 *0.366*	4,4 *0.173*	29,0 °			■						■							■		
LOEX080408TR-MD08	0,8 *0.031*	0,92 *0.036*	8,3 *0.327*	6,6 *0.260*	9,3 *0.366*	4,4 *0.173*	29,5 °	■		■		■			■	■				■			■		
LOEX080412TR-MD08	1,2 *0.047*	0,52 *0.020*	8,3 *0.327*	6,52 *0.257*	9,3 *0.366*	4,4 *0.173*	29,5 °									■									
LOEX080416TR-MD08	1,6 *0.063*	0,13 *0.005*	8,3 *0.327*	6,45 *0.254*	9,3 *0.366*	4,4 *0.173*	29,5 °			■													■		
LOEX120704R-T4-M09	0,4 *0.016*	2,83 *0.111*	12,0 *0.472*	10,33 *0.407*	14,2 *0.559*	7,5 *0.295*	36,0 °																■		
LOEX120708R-T4-M09	0,8 *0.031*	2,47 *0.097*	12,0 *0.472*	10,26 *0.404*	14,2 *0.559*	7,5 *0.295*	36,0 °		■	■	■						■	■					■		
LOEX120716R-T4-M09	1,6 *0.063*	1,74 *0.069*	12,0 *0.472*	10,12 *0.398*	14,2 *0.559*	7,5 *0.295*	36,0 °				■						■						■		
LOEX120724R-T4-M09	2,4 *0.094*	1,01 *0.040*	12,0 *0.472*	9,98 *0.393*	14,2 *0.559*	7,5 *0.295*	36,0 °										■								
LOEX120731R-T4-M09	3,1 *0.122*	0,37 *0.015*	12,0 *0.472*	9,88 *0.389*	14,2 *0.559*	7,5 *0.295*	36,0 °				■						■						■		
LOEX120740R-T4-M09	4,0 *0.157*	0,14 *0.006*	12,0 *0.472*	9,74 *0.383*	14,2 *0.559*	7,5 *0.295*	36,0 °										■						■		
LOEX120750R-T2-M09	5,0 *0.197*	1,06 *0.042*	12,0 *0.472*	9,52 *0.375*	14,2 *0.559*	7,5 *0.295*	36,0 °																■		
LOEX120763R-T2-M09	6,3 *0.248*	0,43 *0.017*	12,0 *0.472*	9,28 *0.365*	14,2 *0.559*	7,5 *0.295*	36,0 °										■						■		
LOEX120708TR-T4-M12	0,8 *0.031*	2,47 *0.097*	12,0 *0.472*	10,26 *0.404*	14,2 *0.559*	7,5 *0.295*	35,0 °		■	■	■	■		■		■	■	■					■		
LOEX120712TR-T4-M12	1,2 *0.047*	2,1 *0.083*	12,0 *0.472*	10,19 *0.401*	14,2 *0.559*	7,5 *0.295*	35,0 °					■											■		
LOEX120716TR-T4-M12	1,6 *0.063*	1,74 *0.069*	12,0 *0.472*	10,12 *0.398*	14,2 *0.559*	7,5 *0.295*	35,0 °									■							■		
LOEX120720TR-T4-M12	2,0 *0.079*	1,37 *0.054*	12,0 *0.472*	10,04 *0.395*	14,2 *0.559*	7,5 *0.295*	35,0 °			■	■						■						■		
LOEX120724TR-T4-M12	2,4 *0.094*	1,01 *0.040*	12,0 *0.472*	9,98 *0.393*	14,2 *0.559*	7,5 *0.295*	35,0 °			■							■						■		
LOEX120731TR-T4-M12	3,1 *0.122*	0,37 *0.015*	12,0 *0.472*	9,88 *0.389*	14,2 *0.559*	7,5 *0.295*	35,0 °			■	■						■						■		
LOEX120708TR-T4-MD13	0,8 *0.031*	2,47 *0.097*	12,0 *0.472*	10,26 *0.404*	14,2 *0.559*	7,5 *0.295*	30,0 °	■		■					■	■							■		

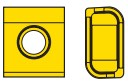
Designation	RE	BS	LE	S	INSL	W1	GAN	Grades Coated														Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
LOEX120712TR-T4-MD13	1,2 *0.047*	2,1 *0.083*	12,0 *0.472*	10,19 *0.401*	14,2 *0.559*	7,5 *0.295*	30,0 °			■						■								
LOEX120716TR-T4-MD13	1,6 *0.063*	1,74 *0.069*	12,0 *0.472*	10,12 *0.398*	14,2 *0.559*	7,5 *0.295*	30,0 °	■		■		■				■						■		

Note: LOEX1207xxR-2-M09 have only 2 edges

LNHQ14/17

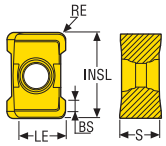


M11/M13

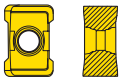


Designation	RE	L	W1	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
LNHQ140708TN4-M11	0,8 *0.031*	14,0 *0.551*	7,5 *0.295*	16,0 °			■													■		
LNHQ140731TN4-M11	3,1 *0.122*	14,0 *0.551*	7,5 *0.295*	16,0 °			■													■		
LNHQ140740TN4-M11	4,0 *0.157*	14,0 *0.551*	7,5 *0.295*	16,0 °																■		
LNHQ140750TN4-M11	5,0 *0.197*	14,0 *0.551*	7,5 *0.295*	16,0 °																■		
LNHQ140760TN4-M11	6,0 *0.236*	14,0 *0.551*	7,5 *0.295*	16,0 °			■													■		

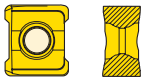
LNK.05/06



LNK.05



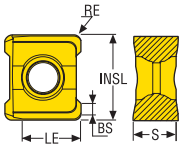
LNK.06



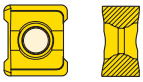
Designation	RE	BS	LE	INSL	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
LNKT050404PPN4-E05	0,4 *0.016*	1,3 *0.051*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	23,0 °																■		■
LNKT050404PPTN4-M06	0,4 *0.016*	1,3 *0.051*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °				■			■									■		
LNKT050408PPTN4-M06	0,8 *0.031*	1,3 *0.051*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °				■	■								■			■		
LNKT050416PPTN4-M06	1,6 *0.063*	0,8 *0.031*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °																■		
LNKT050420PPTN4-M06	2,0 *0.079*	0,8 *0.031*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °																■		
LNKT050424PPTN2-M06	2,4 *0.094*	0,6 *0.024*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °																■		
LNKT050431PPTL1-M06	3,1 *0.122*	0,6 *0.024*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °																■		
LNKT050431PPTR1-M06	3,1 *0.122*	0,6 *0.024*	5,0 *0.197*	10,0 *0.394*	4,7 *0.185*	15,0 °																■		
LNKT050431PPTR1C-M06	3,1 *0.122*	0,6 *0.024*	4,96 *0.195*	10,0 *0.394*	4,7 *0.185*	15,0 °																■		
LNKT050431PPTL1C-M06	3,1 *0.122*	0,6 *0.024*	4,96 *0.195*	10,0 *0.394*	4,7 *0.185*	15,0 °																■		
LNKT060504PPN-E05	0,4 *0.016*	1,6 *0.063*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT060508PPN-E05	0,8 *0.031*	1,1 *0.043*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	23,0 °																		■
LNKT060504PPTN-M06	0,4 *0.016*	1,6 *0.063*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °			■		■								■			■		
LNKT060508PPTN-M06	0,8 *0.031*	1,1 *0.043*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °			■	■	■			■	■				■			■		
LNKT060516PPTN-M06	1,6 *0.063*	1,3 *0.051*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °								■	■							■		
LNKT060531PPTN-M06	3,1 *0.122*	0,6 *0.024*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °																■		
LNKT060540PPTL-M06	4,0 *0.157*	0,8 *0.031*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °																■		
LNKT060540PPTR-M06	4,0 *0.157*	0,8 *0.031*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	15,0 °																■		
LNKW060504PPN-MD08	0,4 *0.016*	1,6 *0.063*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	0,0 °									■									
LNKW060508PPN-MD08	0,8 *0.031*	1,1 *0.043*	6,0 *0.236*	10,0 *0.394*	5,0 *0.197*	0,0 °			■					■										

LNK.0504031...C is the first choice for CW = 8 to 9mm and LNK.0504031 is the first choice for CW= 9 to 10mm

LNK.08



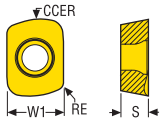
LNK.08



Designation	RE	BS	LE	INSL	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
LNKT080504PPN-E05	0,4 *0.016*	1,6 *0.063*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	23,0 °																	■
LNKT080508PPN-E05	0,8 *0.031*	1,1 *0.043*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	23,0 °																	■
LNKT080520PPN-E05	2,0 *0.079*	0,7 *0.028*	6,7 *0.264*	10,0 *0.394*	5,0 *0.197*	23,0 °																	■
LNKT080531PPN-E05	3,1 *0.122*	0,6 *0.024*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	23,0 °																	■
LNKT080504PPTN-M06	0,4 *0.016*	1,6 *0.063*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °			■		■								■			■	
LNKT080508PPTN-M06	0,8 *0.031*	1,1 *0.043*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °			■	■	■			■	■				■			■	
LNKT080516PPTN-M06	1,6 *0.063*	1,3 *0.051*	7,2 *0.283*	10,0 *0.394*	5,0 *0.197*	15,0 °									■							■	
LNKT080520PPTN-M06	2,0 *0.079*	0,7 *0.028*	6,7 *0.264*	10,0 *0.394*	5,0 *0.197*	15,0 °								■	■							■	
LNKT080524PPTN-M06	2,4 *0.094*	0,5 *0.020*	6,7 *0.264*	10,0 *0.394*	5,0 *0.197*	15,0 °								■	■							■	
LNKT080531PPTN-M06	3,1 *0.122*	0,6 *0.024*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °								■	■							■	
LNKT080540PPTL-M06	4,0 *0.157*	0,8 *0.031*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °																■	
LNKT080540PPTR-M06	4,0 *0.157*	0,8 *0.031*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	15,0 °																■	
LNKW080508PPN-MD08	0,8 *0.031*	1,1 *0.043*	7,5 *0.295*	10,0 *0.394*	5,0 *0.197*	0,0 °			■					■									

Note: When using LNK insert with corner radius RE= 2,4, 3,1 and 4,0 mm
please modify the external profile of the cutter or cassette by adding a corner radius or chamfer = 2,5 mm

LPH.05/06/09



E05/E08/ME04/ME05/ME08/M05/M06/M13

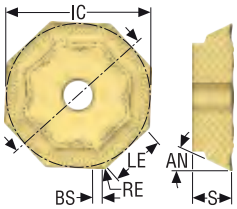


MD05/MD07/MD15/D06/D12/D15



Designation	RE	W1	CCER	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
LPHT05T210TR-ME04	1,0 *0.039*	5,07 *0.200*	6,4 *0.252*	2,54 *0.100*	16,0 °					■					■			■			■		
LPHT060310ER-E05	1,0 *0.039*	6,35 *0.250*	8,0 *0.315*	3,18 *0.125*	16,0 °							■									■		■
LPHT060310TR-ME05	1,0 *0.039*	6,35 *0.250*	8,0 *0.315*	3,18 *0.125*	16,0 °				■			■			■						■		
LPHT060310TR-M06	1,0 *0.039*	6,35 *0.250*	8,0 *0.315*	3,18 *0.125*	11,0 °		■	■	■	■					■	■		■			■		
LPHT09T420R-E08	2,0 *0.079*	9,5 *0.374*	9,75 *0.384*	4,76 *0.187*	20,0 °																		■
LPHW05T210TR-MD05	1,0 *0.039*	5,07 *0.200*	6,4 *0.252*	2,54 *0.100*	0,0 °						■												
LPHW060310TR-MD07	1,0 *0.039*	6,35 *0.250*	8,0 *0.315*	3,18 *0.125*	0,0 °			■								■							
LPHW060310TR-D06	1,0 *0.039*	6,35 *0.250*	8,0 *0.315*	3,18 *0.125*	0,0 °				■		■												
LPHW09T420TR-D12	2,0 *0.079*	9,5 *0.374*	9,75 *0.384*	4,76 *0.187*	0,0 °						■												
LPKT05T210TR-M05	1,0 *0.039*	5,07 *0.200*	6,4 *0.252*	2,54 *0.100*	11,0 °		■	■	■						■	■					■		
LPKT09T420TR-ME08	2,0 *0.079*	9,5 *0.374*	9,75 *0.384*	4,76 *0.187*	15,0 °							■			■						■		
LPKT09T420TR-M13	2,0 *0.079*	9,5 *0.374*	9,75 *0.384*	4,76 *0.187*	10,0 °	■	■	■	■	■					■	■		■			■		
LPKW05T210TR-MD05	1,0 *0.039*	5,07 *0.200*	6,4 *0.252*	2,54 *0.100*	0,0 °			■	■														
LPKW09T420TR-MD15	2,0 *0.079*	9,5 *0.374*	9,75 *0.384*	4,76 *0.187*	0,0 °	■	■	■															
LPKW09T420TR-D15	2,0 *0.079*	9,5 *0.374*	9,75 *0.384*	4,76 *0.187*	0,0 °				■					■									

OFER/OFEN/OFMR07



E07/M10/D18/M16



ME10/ME13/ME15/M15

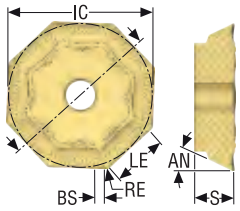


ZZ..M10/M16



Designation	IC	BS	RE	LE	S	AN°	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
OFER070405N-E07	17,941 *0.706*	1,4 *0.055*	0,5 *0.020*	7,0 *0.276*	4,56 *0.180*	26,0	20,0 °														■			■	
OFER070405TN-ME10	17,941 *0.706*	1,4 *0.055*	0,5 *0.020*	7,1 *0.280*	4,56 *0.180*	26,0	18,0 °			■													■		
OFER070405TN-ME15	17,941 *0.706*	1,4 *0.055*	0,5 *0.020*	7,1 *0.280*	4,56 *0.180*	26,0	16,0 °			■		■								■			■		
OFER070405N-M10	17,941 *0.706*	1,4 *0.055*	0,5 *0.020*	7,0 *0.276*	4,56 *0.180*	26,0	0,0 °															■			
OFER070405TN-M16	17,941 *0.706*	1,4 *0.055*	0,5 *0.020*	7,1 *0.280*	4,56 *0.180*	26,0	0,0 °	■		■		■			■	■				■			■		
OFMR070405TR-ME13	17,972 *0.708*	1,0 *0.039*	0,5 *0.020*	5,2 *0.205*	4,86 *0.191*	26,0	15,0 °			■															
OFMR070405TR-M15	17,972 *0.708*	1,2 *0.047*	0,5 *0.020*	5,2 *0.205*	4,86 *0.191*	26,0	0,0 °			■					■								■		
OFEN070405TN-D18	17,96 *0.707*	2,0 *0.079*	0,5 *0.020*	7,0 *0.276*	4,76 *0.187*	26,0	0,0 °	■		■	■				■										
OFEN0704ZZR-M10	18,081 *0.712*	6,6 *0.260*	0,5 *0.020*	7,5 *0.295*	4,76 *0.187*	26,0	0,0 °															■			
OFEN0704ZZTR-M16	18,115 *0.713*	6,6 *0.260*	0,5 *0.020*	7,4 *0.291*	4,74 *0.187*	26,0	0,0 °					■			■					■					

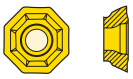
OF..05/07



E04/M05



M08/M14



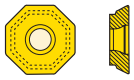
ME07ME12//D09



ME10/ME15/M16

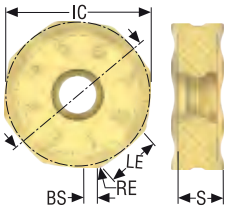


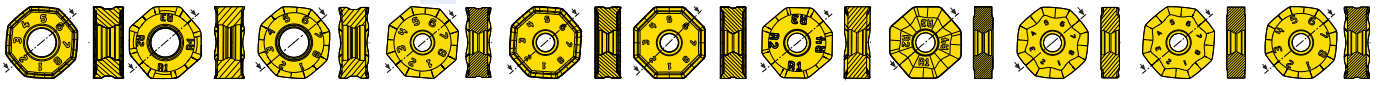
ME13/ME09/M13/M15/D18



Designation	IC	BS	RE	LE	S	AN°	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
OFEX05T305N-E04	12,7 *0.500*	1,5 *0.059*	0,5 *0.020*	4,9 *0.193*	3,77 *0.148*	26,0	20,0 °														■			■	
OFEX05T305TN-ME07	12,7 *0.500*	1,5 *0.059*	0,5 *0.020*	4,9 *0.193*	3,77 *0.148*	26,0	18,0 °			■													■		
OFEX05T305N-M05	12,7 *0.500*	1,5 *0.059*	0,5 *0.020*	4,9 *0.193*	3,77 *0.148*	26,0	0,0 °															■			
OFEX05T305TN-M08	12,7 *0.500*	1,5 *0.059*	0,5 *0.020*	4,9 *0.193*	3,77 *0.148*	26,0	0,0 °			■		■			■					■			■		
OFEX05T305TN-D09	12,806 *0.504*	1,5 *0.059*	0,5 *0.020*	4,9 *0.193*	3,97 *0.156*	26,0	0,0 °	■																	
OFMT050405TR-ME12	13,18 *0.519*	1,5 *0.059*	0,5 *0.020*	2,6 *0.102*	4,76 *0.187*	26,0	18,0 °																■		
OFMT070405TN-ME13	17,972 *0.708*	1,1 *0.043*	0,5 *0.020*	7,1 *0.280*	4,86 *0.191*	26,0	18,0 °			■															
OFMT070405TN-M15	17,972 *0.708*	1,1 *0.043*	0,5 *0.020*	7,1 *0.280*	4,86 *0.191*	26,0	0,0 °			■													■		
OFMT070405TR-M15	17,972 *0.708*	1,0 *0.039*	0,5 *0.020*	5,2 *0.205*	4,86 *0.191*	26,0	0,0 °																■		
OFET070405TN-ME10	17,941 *0.706*	1,4 *0.055*	0,5 *0.020*	7,1 *0.280*	4,56 *0.180*	26,0	18,0 °																■		
OFET070405TN-ME15	17,941 *0.706*	1,4 *0.055*	0,5 *0.020*	7,1 *0.280*	4,56 *0.180*	26,0	18,0 °																■		

ON.U05/09

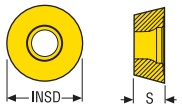




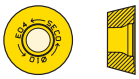
Designation	*	IC	BS	RE	LE	S	GAN	Grades Coated															Uncoated	
		mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
ONMU050410ANTN-ME10	*	12,0 *0.472*	0,3 *0.012*	1,0 *0.039*	3,9 *0.154*	4,5 *0.177*	20,0 °							■			■						■		
ONMU050410ANTN-ME11		12,0 *0.472*	1,0 *0.039*	1,0 *0.039*	3,4 *0.134*	4,5 *0.177*	20,0 °			■	■						■						■		
ONMU050406ANTN-ME14		12,0 *0.472*	1,3 *0.051*	0,6 *0.024*	3,2 *0.126*	4,5 *0.177*	25,0 °	■		■	■	■				■	■			■			■		
ONMU050410ANTN-M10	*	12,0 *0.472*	0,3 *0.012*	1,0 *0.039*	4,1 *0.161*	4,5 *0.177*	20,0 °	■	■	■	■	■				■				■			■		
ONMU050410ANTN-M11		12,0 *0.472*	1,0 *0.039*	1,0 *0.039*	3,4 *0.134*	4,5 *0.177*	20,0 °	■	■	■	■	■			■	■				■					
ONEU050410ZZTN4-M10		12,0 *0.472*	3,2 *0.126*	1,0 *0.039*	3,4 *0.134*	4,25 *0.167*	20,0 °									■									
ONMU090510ANTN-ME16		22,0 *0.866*	1,5 *0.059*	1,0 *0.039*	6,8 *0.268*	6,8 *0.268*	25,0 °	■		■	■	■				■	■			■			■		
ONMU090512TN-ME16		22,0 *0.866*	0,0 –	1,2 *0.047*	8,1 *0.319*	6,8 *0.268*	25,0 °	■	■	■		■				■	■	■		■					
ONMU090520ANTN-ME12	**	22,0 *0.866*	0,45 *0.018*	2,0 *0.079*	7,3 *0.287*	6,8 *0.268*	20,0 °	■		■				■			■	■					■		
ONMU090520ANTN-ME13		22,0 *0.866*	2,11 *0.083*	2,0 *0.079*	7,7 *0.303*	6,8 *0.268*	20,0 °	■		■	■	■				■	■	■		■			■		
ONMU090510ANTN-M12		22,0 *0.866*	0,0 –	1,0 *0.039*	8,3 *0.327*	6,8 *0.268*	20,0 °		■							■	■	■							
ONMU090520ANTN-M12	**	22,0 *0.866*	0,45 *0.018*	2,0 *0.079*	7,3 *0.287*	6,8 *0.268*	20,0 °	■	■	■		■		■		■		■		■			■		
ONMU090520ANTN-M13	***	22,0 *0.866*	2,11 *0.083*	2,0 *0.079*	7,7 *0.303*	6,8 *0.268*	20,0 °	■		■	■	■		■	■	■				■			■		
ONMU090520ANTN-M14	***	22,0 *0.866*	0,45 *0.018*	2,0 *0.079*	7,3 *0.287*	5,56 *0.219*	15,0 °	■		■	■	■			■	■				■			■		
ONMU090520ANTN-M15		22,0 *0.866*	2,11 *0.083*	2,0 *0.079*	7,7 *0.303*	5,56 *0.219*	15,0 °	■		■	■	■			■	■									
ONMU090520ANTN-MD16	***	22,0 *0.866*	0,45 *0.018*	2,0 *0.079*	7,3 *0.287*	5,56 *0.219*	0,0 °	■		■		■			■					■					
ONMU090520ANTN-MD17		22,0 *0.866*	2,11 *0.083*	2,0 *0.079*	7,4 *0.291*	5,56 *0.219*	0,0 °	■		■					■										
ONEU090520ZZTN4-M12		21,41 *0.843*	6,3 *0.248*	2,0 *0.079*	6,3 *0.248*	6,8 *0.268*	20,0 °	■		■						■									
ONEU090520ZZTN4-M14		21,41 *0.843*	6,3 *0.248*	2,0 *0.079*	6,3 *0.248*	5,56 *0.219*	15,0 °	■		■		■			■	■				■			■		

The marked inserts are compatible with these dedicated wiper inserts:
*ONEU050410ZZTN4-M10
**ONEU090520ZZTN4-M12
***ONEU090520ZZTN4-M14

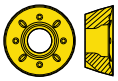
RD..05/06/07/08/10



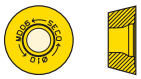
RDHT-Exx



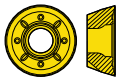
RDHT-Mxx



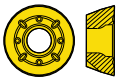
RDHW-MDxx



RDKT-Mxx

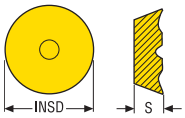


RDKW-MDxx



Designation	INSD	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
RDHT06T1M0-E02	6,0 *0.236*	2,18 *0.086*	15,0 *0.591*	18,0 °															■		■
RDHT0803M0-E03	8,0 *0.315*	3,18 *0.125*	15,0 *0.591*	20,0 °					■								■		■		■
RDHW0501M0-MD01	5,0 *0.197*	1,51 *0.059*	15,0 *0.591*	0,0 °				■											■		
RDHW06T1M0-MD02	6,0 *0.236*	2,18 *0.086*	15,0 *0.591*	0,0 °				■					■					■	■	■	
RDHW0702M0-MD03	7,0 *0.276*	2,38 *0.094*	15,0 *0.591*	0,0 °				■												■	
RDHW0702M0T-MD04	7,0 *0.276*	2,38 *0.094*	15,0 *0.591*	0,0 °														■			
RDHW0803M0-MD03	8,0 *0.315*	3,18 *0.125*	15,0 *0.591*	0,0 °				■						■					■	■	
RDKW0803M0T-MD05	8,0 *0.315*	3,18 *0.125*	15,0 *0.591*	0,0 °			■						■		■			■		■	
RDHT10T3M0-8-E04	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	20,0 °																■	■
RDHT10T3M0T-8-M11	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	16,0 °		■								■						■	
RDHW10T3M0-8-MD04	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	0,0 °				■												■	
RDHW10T3M0T-8-MD06	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	0,0 °						■											
RDKT10T3M0T-6-M05	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	16,0 °			■							■	■					■	
RDKT10T3M0T-8-M05	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	16,0 °		■			■		■			■	■		■			■	
RDKT10T3M0T-8-M07	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	11,0 °			■		■		■		■		■		■			■	
RDKW10T3M0T-6-MD06	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	0,0 °											■			■		■	
RDKW10T3M0T-8-MD06	10,0 *0.394*	3,97 *0.156*	15,0 *0.591*	0,0 °	■		■	■					■		■			■		■	

REHR16

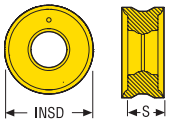


M14/MD15

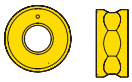


Designation	INSD	S	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
REHR1605M0T-MD15	16,0 *0.630*	5,56 *0.219*	■																	

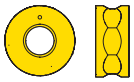
RNMU12



M10

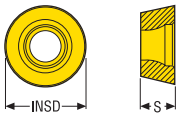


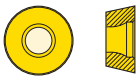
ME10



Designation	INSD	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
RNMU1204M0-ME10	12,0 *0.472*	4,8 *0.189*	27,0 °		■			■					■	■		■			■		
RNMU1204M0T-M10	12,0 *0.472*	4,8 *0.189*	20,0 °		■	■		■				■	■	■		■			■		

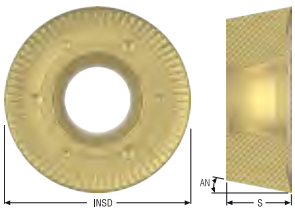
ROHT10/12

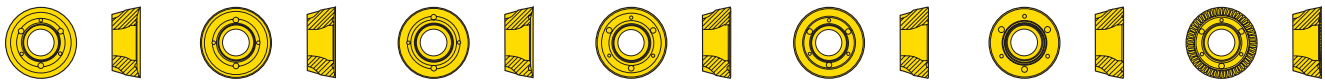




Designation	INSD	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
ROHT1204M0-M12	12,0 *0.472*	4,76 *0.187*	10,0 °											■		■					
ROHT1204M0-M14	12,0 *0.472*	4,76 *0.187*	16,0 °											■							

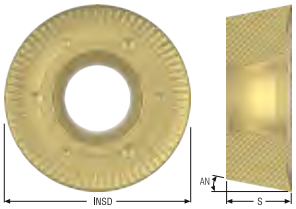
RP..12





Designation	INSD	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
RPHT1204M0T-4-M08	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °					■						■		■			■		
RPKT1204M0T-4-M10	12,0 *0.472*	4,76 *0.187*	11,0	11,0 °		■																
RPHT1204M0T-4-M13	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °		■								■	■		■					
RPHT1204M0-6-E05	12,0 *0.472*	4,76 *0.187*	11,0	20,0 °										■						■		■
RPHT1204M0T-6-ME07	12,0 *0.472*	4,76 *0.187*	11,0	20,0 °					■		■			■			■			■		
RPHT1204M0T-6-M08	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °			■		■		■			■	■		■			■		
RPHT1204M0T-6-M13	12,0 *0.472*	4,76 *0.187*	11,0	16,0 °			■		■					■	■		■			■		
RPKT1204M0T-6-M15	12,0 *0.472*	4,76 *0.187*	11,0	15,0 °	■		■		■				■		■		■			■		
RPKW1204M0T-6-MD10	12,0 *0.472*	4,76 *0.187*	11,0	0,0 °	■		■	■					■									
RPHW1204M0T-6-MD12	12,0 *0.472*	4,76 *0.187*	11,0	0,0 °						■												

RP..16/19/20



M15/M20



MD10/MD22

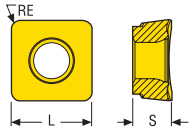


ME12

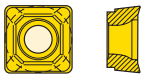


Designation	INSD	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
RPHT1605M0T-6-ME11	16,0 *0.630*	5,56 *0.219*	11,0	21,0 °										■						■		
RPHT1605M0T-6-M12	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °																■		
RPKT1605M0T-6-M18	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °			■								■							
RPKW1605M0T-6-MD20	16,0 *0.630*	5,56 *0.219*	11,0	0,0 °	■		■						■		■							
RPHT1605M0T-8-ME11	16,0 *0.630*	5,56 *0.219*	11,0	21,0 °		■			■		■			■	■		■			■		
RPHT1605M0T-8-M12	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °		■					■			■						■		
RPKT1605M0T-8-M12	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °			■		■						■		■					
RPKT1605M0T-8-M18	16,0 *0.630*	5,56 *0.219*	11,0	15,0 °	■		■	■	■				■		■		■			■		
RPKW1605M0T-8-MD20	16,0 *0.630*	5,56 *0.219*	11,0	0,0 °	■		■											■				
RPHT190600T-6-M13	19,05 *0.750*	6,39 *0.252*	11,0	16,0 °										■	■		■			■		
RPHT2006M0T-ME12	20,0 *0.787*	6,35 *0.250*	11,0	20,0 °		■	■				■			■	■		■			■		
RPKT2006M0T-M15	20,0 *0.787*	6,35 *0.250*	11,0	15,0 °			■								■		■			■		
RPKT2006M0T-M20	20,0 *0.787*	6,35 *0.250*	11,0	15,0 °	■		■						■		■		■			■		
RPKW2006M0-MD10	20,0 *0.787*	6,35 *0.250*	11,0	0,0 °															■	■		
RPKW2006M0T-MD22	20,0 *0.787*	6,35 *0.250*	11,0	0,0 °	■								■		■			■				

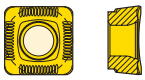
SC..12



M10/M11/M14/MD15/MD16

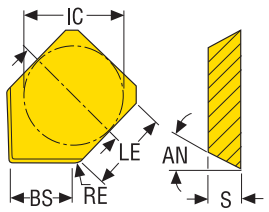


ME10

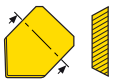


Designation	RE	L	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SCET120612R-M10	1,2 *0.047*	12,673 *0.499*	6,35 *0.250*	20,0 °										■								
SCET120612T-ME10	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	22,0 °										■						■		
SCET120612T-M11	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	14,0 °	■		■					■					■			■		
SCET120612T-M14	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	15,0 °			■					■		■			■			■		
SCET120612T-MD15	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	15,0 °	■			■									■					
SCET120630T-M14	3,0 *0.118*	12,7 *0.500*	6,35 *0.250*	15,0 °			■	■	■				■	■	■		■			■		
SCET120630T-MD16	3,0 *0.118*	12,7 *0.500*	6,35 *0.250*	15,0 °	■		■		■						■		■			■		
SCEX120660T-M14	6,0 *0.236*	12,7 *0.500*	6,35 *0.250*	15,0 °													■					
SCMT120612T-M14	1,2 *0.047*	12,7 *0.500*	6,35 *0.250*	15,0 °													■			■		

SEAN12-ZZ

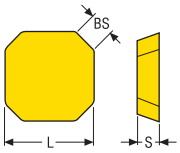


M15-18/MD15

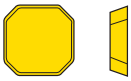


Designation	IC	BS	RE	LE	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SEAN1203ZZTN-M15	12,7 *0.500*	7,3 *0.287*	1,0 *0.039*	9,3 *0.366*	3,18 *0.125*	20,0	0,0 °								■										
SEAN1203ZZTN-MD15	12,7 *0.500*	7,3 *0.287*	1,0 *0.039*	9,3 *0.366*	3,18 *0.125*	20,0	0,0 °	■																	

SEAN12

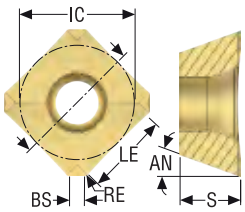


E12-E15/M14-M19

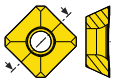


Designation	RE	BS	L	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SEAN1203AFN-E12	1,0 *0.039*	1,5 *0.059*	12,7 *0.500*	3,18 *0.125*	0,0 °														■				
SEAN1203AFTN-M14	1,0 *0.039*	1,5 *0.059*	12,7 *0.500*	3,18 *0.125*	0,0 °												■						
SEAN1303AFTN-M14	0,8 *0.031*	3,5 *0.138*	13,44 *0.529*	3,36 *0.132*	0,0 °					■								■					
SEAN1303AFTN-M15	0,8 *0.031*	3,5 *0.138*	13,44 *0.529*	3,36 *0.132*	0,0 °								■										
SEAN1604AFTN-M19	1,0 *0.039*	4,1 *0.161*	16,8 *0.661*	4,79 *0.189*	0,0 °								■										

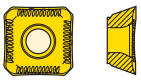
SE.X09



E04/M05/M08/D09

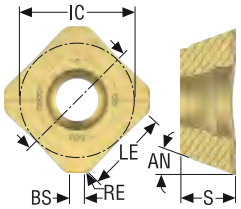


ME06-07

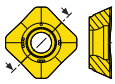


Designation	IC	BS	RE	LE	S	AN°	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SEEX09T3AFN-E04	9,525 *0.375*	1,5 *0.059*	0,3 *0.012*	7,1 *0.280*	3,97 *0.156*	20,0	25,0 °														■			■	
SEEX09T3AFN-M05	9,525 *0.375*	1,5 *0.059*	0,3 *0.012*	7,1 *0.280*	3,97 *0.156*	20,0	0,0 °				■						■						■		
SEEX09T3AFTN-M08	9,525 *0.375*	1,5 *0.059*	0,3 *0.012*	7,1 *0.280*	3,97 *0.156*	20,0	0,0 °					■			■	■				■			■		
SEEX09T3AFTN-ME07	9,525 *0.375*	1,5 *0.059*	0,3 *0.012*	7,1 *0.280*	3,97 *0.156*	20,0	22,0 °			■		■							■	■			■		
SEEX09T3AFTN-D09	9,525 *0.375*	1,5 *0.059*	0,3 *0.012*	7,1 *0.280*	3,97 *0.156*	20,0	0,0 °	■																	
SEMX09T3AFTN-M08	9,525 *0.375*	1,5 *0.059*	0,3 *0.012*	7,1 *0.280*	3,97 *0.156*	20,0	0,0 °			■													■		
SEMX09T3AFTN-ME06	9,525 *0.375*	1,5 *0.059*	0,3 *0.012*	7,1 *0.280*	3,97 *0.156*	20,0	22,0 °			■															

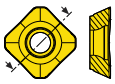
SE.X12/15



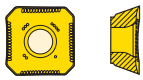
E08/M10/M14/M15/MD18/MD19



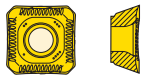
E10/M12/M17/M18/MD20



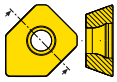
ME11-12



ME15

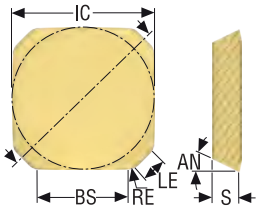


ZZTN-M14-17

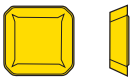


Designation	IC	BS	RE	LE	S	AN°	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SEEX1204AFN-E08	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	25,0 °																	■
SEEX1204AFTN-ME11	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	21,0 °			■		■								■			■	
SEEX1204AFN-M10	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	5,0 °				■	■		■			■			■			■		
SEEX1204AFTN-M14	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	5,0 °	■		■		■			■	■				■			■		
SEEX1204ZZTN-M14	12,7 *0.500*	7,4 *0.291*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	5,0 °	■		■		■			■					■		■	■		
SEEX1204AFTN-MD18	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	0,0 °	■				■													
SEMX1204AFTN-ME12	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	21,0 °			■		■								■			■		
SEMX1204AFTN-M15	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	4,0 °	■		■		■		■	■	■				■			■		
SEMX1204AFTN-MD19	12,7 *0.500*	1,5 *0.059*	1,12 *0.044*	8,7 *0.343*	4,76 *0.187*	20,0	0,0 °	■			■	■								■					
SEEX1505AFN-E10	15,875 *0.625*	1,8 *0.071*	1,5 *0.059*	10,3 *0.406*	5,56 *0.219*	20,0	25,0 °																	■
SEEX1505AFN-M12	15,875 *0.625*	1,8 *0.071*	1,5 *0.059*	10,3 *0.406*	5,56 *0.219*	20,0	5,0 °		■			■					■						■		
SEEX1505AFTN-M17	15,875 *0.625*	1,8 *0.071*	1,5 *0.059*	10,3 *0.406*	5,56 *0.219*	20,0	5,0 °			■		■													
SEEX1505ZZTN-M17	15,875 *0.625*	9,4 *0.370*	1,5 *0.059*	10,3 *0.406*	5,56 *0.219*	20,0	5,0 °			■		■								■					
SEMX1505AFTN-ME15	15,875 *0.625*	1,8 *0.071*	1,5 *0.059*	10,3 *0.406*	5,56 *0.219*	20,0	21,0 °					■								■					
SEMX1505AFTN-M18	15,875 *0.625*	1,8 *0.071*	1,5 *0.059*	10,3 *0.406*	5,56 *0.219*	20,0	5,0 °	■		■		■			■	■				■			■		
SEMX1505AFTN-MD20	15,875 *0.625*	1,8 *0.071*	1,5 *0.059*	10,3 *0.406*	5,56 *0.219*	20,0	0,0 °	■		■	■	■								■					

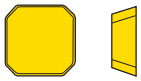
SE..12/15



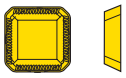
E07



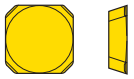
E10-15/M13-18/MD14-20/D16



ME10/ME12/ME13/ME16

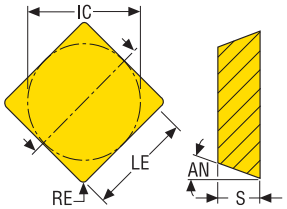


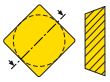
SEEX1203AFTN-M13/MD14



Designation	IC	BS	RE	LE	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SEKR1203AFN-E07	12,7 *0.500*	1,5 *0.059*	1,0 *0.039*	8,8 *0.346*	3,18 *0.125*	20,0	18,0 °												■						
SEKR1203AFTN-ME10	12,7 *0.500*	1,5 *0.059*	1,0 *0.039*	8,8 *0.346*	3,18 *0.125*	20,0	20,0 °					■							■				■		
SEKR1203AFTN-ME13	12,7 *0.500*	1,5 *0.059*	1,0 *0.039*	8,8 *0.346*	3,18 *0.125*	20,0	25,5 °			■		■							■	■			■		
SEKR1303AFTN-ME13	13,44 *0.529*	3,46 *0.136*	0,8 *0.031*	7,0 *0.276*	3,36 *0.132*	20,0	24,0 °																■		
SEKR1504AFTN-ME16	15,875 *0.625*	1,5 *0.059*	1,0 *0.039*	11,6 *0.457*	4,76 *0.187*	20,0	20,0 °												■						
SEKR1604AFTN-ME16	16,8 *0.661*	4,1 *0.161*	1,0 *0.039*	– –	4,79 *0.189*	20,0	20,0 °												■						
SEEX1203AFTN-M13	12,77 *0.503*	8,0 *0.315*	1,0 *0.039*	2,2 *0.087*	3,18 *0.125*	20,0	0,0 °					■								■					
SEEX1203AFTN-MD14	12,77 *0.503*	8,0 *0.315*	1,0 *0.039*	2,2 *0.087*	3,18 *0.125*	20,0	0,0 °						■		■						■			■	
SEKN1203AFTN-E10	12,7 *0.500*	2,3 *0.091*	0,0 –	8,8 *0.346*	3,18 *0.125*	20,0	0,0 °															■			
SEKN1203AFN-E12	12,7 *0.500*	1,6 *0.063*	2,0 *0.079*	8,8 *0.346*	3,18 *0.125*	20,0	0,0 °																■		
SEKN1203AFTN-M14	12,7 *0.500*	1,5 *0.059*	1,0 *0.039*	8,8 *0.346*	3,18 *0.125*	20,0	0,0 °	■		■		■			■	■			■	■			■		
SEKN1203AFTN-D16	12,7 *0.500*	1,6 *0.063*	2,0 *0.079*	8,8 *0.346*	3,18 *0.125*	20,0	0,0 °	■																	
SEKN1204AFTN-M18	12,7 *0.500*	1,5 *0.059*	1,0 *0.039*	8,8 *0.346*	4,76 *0.187*	20,0	0,0 °					■								■					
SEKN1504AFTN-M18	15,87 *0.625*	1,5 *0.059*	1,0 *0.039*	11,6 *0.457*	4,76 *0.187*	20,0	0,0 °			■					■				■				■		
SEKN1504AFTN-MD20	15,87 *0.625*	1,9 *0.075*	2,0 *0.079*	11,6 *0.457*	4,76 *0.187*	20,0	0,0 °	■																	

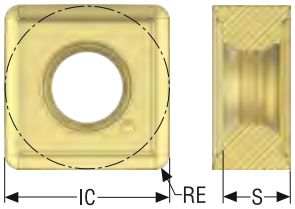
SENN

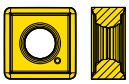


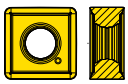


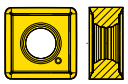
Designation	IC	RE	LE	S	AN°	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SENN120308T-M12	12,7 *0.500*	0,8 *0.031*	11,1 *0.437*	3,18 *0.125*	20,0	0,0 °																■		

SN.U13



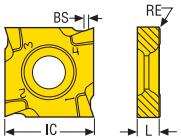




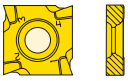


Designation	IC	RE	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNGU130612EN-ME10	13,587 *0.535*	1,2 *0.047*	5,56 *0.219*	26,0 °		■								■	■					■		
SNGU130612TN-M14	13,6 *0.535*	1,2 *0.047*	5,56 *0.219*	23,0 °	■		■						■									
SNXU130612TN-M12	13,587 *0.535*	1,2 *0.047*	5,56 *0.219*	21,0 °			■		■				■	■	■		■			■		

SNHQ11



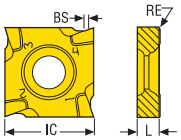
E05/M07



Designation	RE	BS	L	IC	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHQ110202EL4-E05	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*	20,0 °																		■
SNHQ110202ER4-E05	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*	20,0 °																		■
SNHQ110202TL4-M07	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*	20,0 °																■		
SNHQ110202TR4-M07	0,2 *0.008*	0,5 *0.020*	2,3 *0.091*	11,0 *0.433*	20,0 °																■		
SNHQ110204TL4-M07	0,4 *0.016*	0,3 *0.012*	2,3 *0.091*	11,0 *0.433*	20,0 °			■												■	■		
SNHQ110204TR4-M07	0,4 *0.016*	0,3 *0.012*	2,3 *0.091*	11,0 *0.433*	20,0 °			■												■	■		
SNHQ110208TL4-M07	0,8 *0.031*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*	20,0 °							■			■						■		
SNHQ110208TR4-M07	0,8 *0.031*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*	20,0 °							■			■						■		
SNHQ110212TL4-M07	1,2 *0.047*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*	20,0 °																■		
SNHQ110212TR4-M07	1,2 *0.047*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*	20,0 °																■		
SNHQ110216TL4-M07	1,6 *0.063*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*	20,0 °																■		
SNHQ110216TR4-M07	1,6 *0.063*	0,2 *0.008*	2,3 *0.091*	11,0 *0.433*	20,0 °																■		
SNHQ110220TL4-M07	2,0 *0.079*	0,0 –	2,3 *0.091*	11,0 *0.433*	20,0 °															■			
SNHQ110220TR4-M07	2,0 *0.079*	0,0 –	2,3 *0.091*	11,0 *0.433*	20,0 °															■			
SNHQ110302EL4-E05	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*	20,0 °																		■
SNHQ110302ER4-E05	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*	20,0 °																		■
SNHQ110302TL4-M07	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		
SNHQ110302TR4-M07	0,2 *0.008*	0,5 *0.020*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		
SNHQ110304TL4-M07	0,4 *0.016*	0,3 *0.012*	2,7 *0.106*	11,0 *0.433*	20,0 °			■												■	■		
SNHQ110304TR4-M07	0,4 *0.016*	0,3 *0.012*	2,7 *0.106*	11,0 *0.433*	20,0 °			■												■	■		
SNHQ110308TL4-M07	0,8 *0.031*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		
SNHQ110308TR4-M07	0,8 *0.031*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		
SNHQ110312TL4-M07	1,2 *0.047*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		

Designation	RE	BS	L	IC	GAN	Grades Coated														Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHQ110312TR4-M07	1,2 *0.047*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		
SNHQ110316TL4-M07	1,6 *0.063*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		
SNHQ110316TR4-M07	1,6 *0.063*	0,2 *0.008*	2,7 *0.106*	11,0 *0.433*	20,0 °																■		
SNHQ110320TL4-M07	2,0 *0.079*	0,0 –	2,7 *0.106*	11,0 *0.433*	20,0 °															■			
SNHQ110320TR4-M07	2,0 *0.079*	0,0 –	2,7 *0.106*	11,0 *0.433*	20,0 °															■			

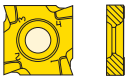
SNHQ1203/1204



EL/ER2-E05/M07



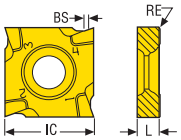
xL/xR4-E05/M07



Designation	RE	BS	L	IC	GAN	Grades Coated																Uncoated		
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F25M	F30M	F40M	HX	H15	H25
SNHQ120302EL4-E05	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °																			■
SNHQ120302ER4-E05	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °																			■
SNHQ120302TL4-M07	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120302TR4-M07	0,2 *0.008*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120304TL4-M07	0,4 *0.016*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °			■													■	■		
SNHQ120304TR4-M07	0,4 *0.016*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °			■													■	■		
SNHQ120308TL4-M07	0,8 *0.031*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °			■														■		
SNHQ120308TR4-M07	0,8 *0.031*	0,75 *0.030*	3,2 *0.126*	12,7 *0.500*	20,0 °			■														■		
SNHQ120310TL4-M07	1,0 *0.039*	0,6 *0.024*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120310TR4-M07	1,0 *0.039*	0,6 *0.024*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120312TL4-M07	1,2 *0.047*	0,4 *0.016*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120312TR4-M07	1,2 *0.047*	0,4 *0.016*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120316TL4-M07	1,6 *0.063*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120316TR4-M07	1,6 *0.063*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120320TL4-M07	2,0 *0.079*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120320TR4-M07	2,0 *0.079*	0,2 *0.008*	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120324EL2-M07	2,4 *0.094*	0,0 –	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120324ER2-M07	2,4 *0.094*	0,0 –	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120330EL2-M07	3,0 *0.118*	0,0 –	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120330ER2-M07	3,0 *0.118*	0,0 –	3,2 *0.126*	12,7 *0.500*	20,0 °																	■		
SNHQ120404EL4-E05	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °																			■
SNHQ120404ER4-E05	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °																			■
SNHQ120402TL4-M07	0,2 *0.008*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °																	■		

Designation	RE	BS	L	IC	GAN	Grades Coated																Uncoated		
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F25M	F30M	F40M	HX	H15	H25
SNHQ120402TR4-M07	0,2 *0.008*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120404TL4-M07	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °															■	■			
SNHQ120404TR4-M07	0,4 *0.016*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °															■	■			
SNHQ120408TL4-M07	0,8 *0.031*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °			■												■	■			
SNHQ120408TR4-M07	0,8 *0.031*	0,75 *0.030*	4,0 *0.157*	12,7 *0.500*	20,0 °			■												■	■			
SNHQ120412TL4-M07	1,2 *0.047*	0,4 *0.016*	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120412TR4-M07	1,2 *0.047*	0,4 *0.016*	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120416TL4-M07	1,6 *0.063*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120416TR4-M07	1,6 *0.063*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120420TL4-M07	2,0 *0.079*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120420TR4-M07	2,0 *0.079*	0,2 *0.008*	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120424EL2-M07	2,4 *0.094*	0,0 –	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120424ER2-M07	2,4 *0.094*	0,0 –	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120431EL2-M07	3,1 *0.122*	0,0 –	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120431ER2-M07	3,1 *0.122*	0,0 –	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120435EL2-M07	3,5 *0.138*	0,0 –	4,0 *0.157*	12,7 *0.500*	20,0 °																■			
SNHQ120435ER2-M07	3,5 *0.138*	0,0 –	4,0 *0.157*	12,7 *0.500*	20,0 °																■			

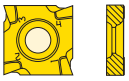
SNHQ12045



EL/ER2-M07

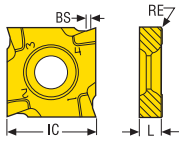


xL/xR4-E05/M07



Designation	RE	BS	L	IC	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHQ1204504EL4-E05	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °																	■
SNHQ1204504ER4-E05	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °																	■
SNHQ1204502TL4-M07	0,2 *0.008*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204502TR4-M07	0,2 *0.008*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204504TL4-M07	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °			■												■	■	
SNHQ1204504TR4-M07	0,4 *0.016*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °			■												■	■	
SNHQ1204508TL4-M07	0,8 *0.031*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °			■													■	
SNHQ1204508TR4-M07	0,8 *0.031*	0,75 *0.030*	4,5 *0.177*	12,7 *0.500*	20,0 °			■													■	
SNHQ1204512TL4-M07	1,2 *0.047*	0,4 *0.016*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204512TR4-M07	1,2 *0.047*	0,4 *0.016*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204516TL4-M07	1,6 *0.063*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204516TR4-M07	1,6 *0.063*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204520TL4-M07	2,0 *0.079*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204520TR4-M07	2,0 *0.079*	0,2 *0.008*	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204524EL2-M07	2,4 *0.094*	0,0 –	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204524ER2-M07	2,4 *0.094*	0,0 –	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204531EL2-M07	3,1 *0.122*	0,0 –	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204531ER2-M07	3,1 *0.122*	0,0 –	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204540EL2-M07	4,0 *0.157*	0,0 –	4,5 *0.177*	12,7 *0.500*	20,0 °																■	
SNHQ1204540ER2-M07	4,0 *0.157*	0,0 –	4,5 *0.177*	12,7 *0.500*	20,0 °																■	

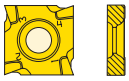
SNHQ1205



ER/EL2-M07



xL/xR4-E05/M07

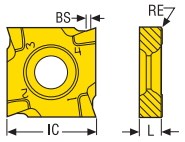


Designation	RE	BS	L	IC	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHQ120504EL4-E05	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °																	■
SNHQ120504ER4-E05	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °																	■
SNHQ120502TL4-M07	0,2 *0.008*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120502TR4-M07	0,2 *0.008*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120504TL4-M07	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °			■				■								■	■	
SNHQ120504TR4-M07	0,4 *0.016*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °			■				■								■	■	
SNHQ120508TL4-M07	0,8 *0.031*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °			■												■	■	
SNHQ120508TR4-M07	0,8 *0.031*	0,75 *0.030*	5,4 *0.213*	12,7 *0.500*	20,0 °			■												■	■	
SNHQ120510TL4-M07	1,0 *0.039*	0,6 *0.024*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120510TR4-M07	1,0 *0.039*	0,6 *0.024*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120512TL4-M07	1,2 *0.047*	0,4 *0.016*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120512TR4-M07	1,2 *0.047*	0,4 *0.016*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120516TL4-M07	1,6 *0.063*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120516TR4-M07	1,6 *0.063*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120520TL4-M07	2,0 *0.079*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120520TR4-M07	2,0 *0.079*	0,2 *0.008*	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120524EL2-M07	2,4 *0.094*	0,0 –	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120524ER2-M07	2,4 *0.094*	0,0 –	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120531EL2-M07	3,1 *0.122*	0,0 –	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120531ER2-M07	3,1 *0.122*	0,0 –	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120540EL2-M07	4,0 *0.157*	0,0 –	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120540ER2-M07	4,0 *0.157*	0,0 –	5,4 *0.213*	12,7 *0.500*	20,0 °																■	
SNHQ120550FEL2-M07	5,0 *0.197*	0,0 –	5,54 *0.218*	12,7 *0.500*	20,0 °																■	

Designation	RE	BS	L	IC	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHQ120550FER2-M07	5,0 *0.197*	0,0 –	5,54 *0.218*	12,7 *0.500*	20,0 °																■	

Note: When using SNHQ insert with corner radius = 5 mm,
please modify the external profile of the cutter by adding a corner radius or chamfer = 4 mm

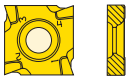
SNHQ1207



EL/ER2-M07



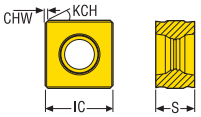
xL/xR4-E05/M07



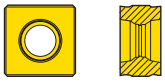
Designation	RE	BS	L	IC	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHQ120704EL4-E05	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*	20,0 °																	■
SNHQ120704ER4-E05	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*	20,0 °																	■
SNHQ120704TL4-M07	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120704TR4-M07	0,4 *0.016*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120708TL4-M07	0,8 *0.031*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*	20,0 °			■												■	■	
SNHQ120708TR4-M07	0,8 *0.031*	0,75 *0.030*	7,0 *0.276*	12,7 *0.500*	20,0 °			■												■	■	
SNHQ120712TL4-M07	1,2 *0.047*	0,4 *0.016*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120712TR4-M07	1,2 *0.047*	0,4 *0.016*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120716TL4-M07	1,6 *0.063*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120716TR4-M07	1,6 *0.063*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120720TL4-M07	2,0 *0.079*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120720TR4-M07	2,0 *0.079*	0,2 *0.008*	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120724EL2-M07	2,4 *0.094*	0,0 –	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120724ER2-M07	2,4 *0.094*	0,0 –	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120731EL2-M07	3,1 *0.122*	0,0 –	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120731ER2-M07	3,1 *0.122*	0,0 –	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120740EL2-M07	4,0 *0.157*	0,0 –	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120740ER2-M07	4,0 *0.157*	0,0 –	7,0 *0.276*	12,7 *0.500*	20,0 °																■	
SNHQ120750FEL2-M07	5,0 *0.197*	0,0 –	7,14 *0.281*	12,7 *0.500*	20,0 °																■	
SNHQ120750FER2-M07	5,0 *0.197*	0,0 –	7,14 *0.281*	12,7 *0.500*	20,0 °																■	
SNHQ120760FEL2-M07	6,0 *0.236*	0,0 –	7,15 *0.281*	12,7 *0.500*	20,0 °																■	
SNHQ120760FER2-M07	6,0 *0.236*	0,0 –	7,15 *0.281*	12,7 *0.500*	20,0 °																■	

Note: When using SNHQ insert with corner radius = 5 and 6 mm,
please modify the external profile of the cutter by adding a corner radius or chamfer = 4 mm

SNHX11/14

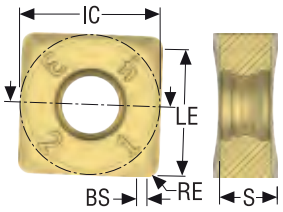


M11/M12

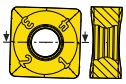


Designation	CHW	S	IC	KCH°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHX1106TN8-M11	0,5 *0.020*	6,35 *0.250*	11,0 *0.433*	45,0	10,0 °			■		■								■			■		
SNHX1406TN8-M12	0,8 *0.031*	6,35 *0.250*	14,5 *0.571*	45,0	10,0 °			■										■			■		

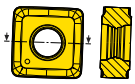
SNMU12/16



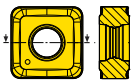
M10



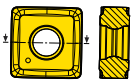
M16



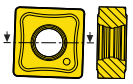
M16-1.6



M18

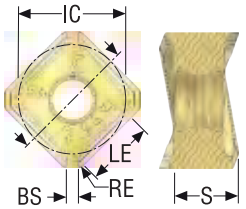


MD13-16

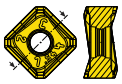


Designation	IC	RE	BS	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNMU120408TN-M10	12,0 *0.472*	0,8 *0.031*	0,0 –	4,8 *0.189*	20,0 °	■		■						■									
SNMU120410TN-M10	12,0 *0.472*	1,0 *0.039*	1,0 *0.039*	4,8 *0.189*	20,0 °	■		■	■	■				■	■	■		■			■		
SNMU120412TN-M16	12,0 *0.472*	1,2 *0.047*	1,4 *0.055*	4,78 *0.188*	15,0 °	■		■	■	■			■	■				■			■		
SNMU120416TN-M16	12,0 *0.472*	1,6 *0.063*	0,0 –	4,78 *0.188*	15,0 °	■		■						■							■		
SNMU120408TN-MD13	12,0 *0.472*	0,8 *0.031*	0,0 –	4,8 *0.189*	0,0 °								■	■									
SNMU120410TN-MD13	12,0 *0.472*	1,0 *0.039*	1,0 *0.039*	4,8 *0.189*	0,0 °	■		■					■	■									
SNMU160612TN-M10	16,0 *0.630*	1,2 *0.047*	1,2 *0.047*	6,4 *0.252*	20,0 °	■		■	■					■									
SNMU160612TN-M18	16,0 *0.630*	1,2 *0.047*	1,6 *0.063*	6,38 *0.251*	15,0 °	■		■	■	■			■	■				■			■		
SNMU160610TN-MD16	16,0 *0.630*	1,0 *0.039*	0,0 –	6,4 *0.252*	0,0 °	■							■										
SNMU160612TN-MD16	16,0 *0.630*	1,2 *0.047*	1,2 *0.047*	6,4 *0.252*	0,0 °	■							■	■									

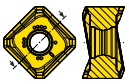
SN.X14/22



1407ANR-ME10



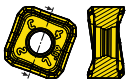
1407ANTR-M10/M16



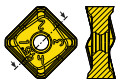
1407ZN.R-ME10/M10/M16



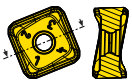
1407ZNR-ME10



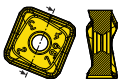
2209ANTR-M12-M18/2209ANR-ME12



2209ZNTL-M18

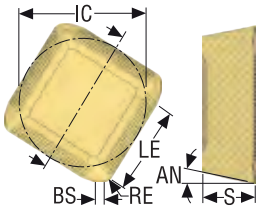


2209ZNTR-M12-M18/2209ZNR-ME12



Designation	IC	BS	RE	LE	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SNHX1407ANR-ME10	14,0 *0.551*	1,5 *0.059*	1,0 *0.039*	8,4 *0.331*	6,59 *0.259*	20,0 °										■						■		■
SNMX1407ANTR-M10	14,0 *0.551*	1,5 *0.059*	1,0 *0.039*	8,4 *0.331*	6,59 *0.259*	17,0 °	■	■	■	■	■				■	■	■		■			■		
SNMX1407ANTR-M16	14,0 *0.551*	1,5 *0.059*	1,0 *0.039*	8,4 *0.331*	6,59 *0.259*	17,0 °	■		■	■	■			■	■		■		■					
SNHX1407ZNR-ME10	14,0 *0.551*	1,5 *0.059*	1,0 *0.039*	9,5 *0.374*	6,59 *0.259*	20,0 °										■								
SNMX1407ZNTR-M10	14,0 *0.551*	1,5 *0.059*	1,0 *0.039*	9,5 *0.374*	6,59 *0.259*	20,0 °	■	■	■	■					■	■	■		■			■		
SNMX1407ZNTR-M16	14,0 *0.551*	1,5 *0.059*	1,0 *0.039*	9,5 *0.374*	6,59 *0.259*	15,0 °	■		■					■	■							■		
SNMX2209ANR-ME12	22,0 *0.866*	1,5 *0.059*	2,0 *0.079*	14,8 *0.583*	8,81 *0.347*	20,0 °																■		
SNMX2209ANTR-M12	22,0 *0.866*	1,5 *0.059*	2,0 *0.079*	14,8 *0.583*	8,81 *0.347*	20,0 °		■	■							■			■					
SNMX2209ANTR-M18	22,0 *0.866*	1,5 *0.059*	2,0 *0.079*	14,8 *0.583*	8,81 *0.347*	25,0 °	■		■		■			■	■				■					
SNMX2209ZNTR-M12	22,0 *0.866*	1,5 *0.059*	2,0 *0.079*	14,3 *0.563*	8,79 *0.346*	20,0 °			■							■						■		
SNMX2209ZNTR-M18	22,0 *0.866*	1,5 *0.059*	2,0 *0.079*	14,3 *0.563*	8,79 *0.346*	25,0 °	■		■		■			■	■				■					
SNMX2209ZNTL-M18	22,0 *0.866*	1,5 *0.059*	2,0 *0.079*	14,3 *0.563*	8,79 *0.346*	25,0 °	■		■															

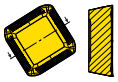
SP..19/28



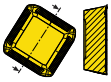
D35



ZETL-M17-MD20

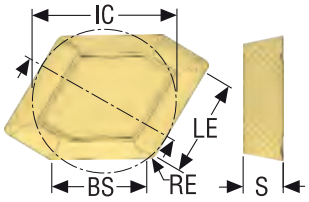


ZETR-M17-MD20-D25

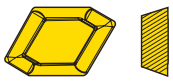


Designation	IC	BS	RE	LE	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SPER1906ZETL-M17	19,05 *0.750*	1,8 *0.071*	3,0 *0.118*	12,7 *0.500*	6,35 *0.250*	11,0	17,0 °		■																
SPER1906ZETR-M17	19,05 *0.750*	1,8 *0.071*	1,6 *0.063*	12,7 *0.500*	6,35 *0.250*	11,0	17,0 °					■								■					
SPEN1906ZETL-MD20	19,05 *0.750*	1,8 *0.071*	1,6 *0.063*	13,3 *0.524*	6,35 *0.250*	11,0	0,0 °			■															
SPEN1906ZETR-MD20	19,05 *0.750*	1,8 *0.071*	1,6 *0.063*	13,3 *0.524*	6,35 *0.250*	11,0	0,0 °			■		■							■	■					
SPEN1906ZETR-D25	19,05 *0.750*	1,8 *0.071*	1,6 *0.063*	13,3 *0.524*	6,35 *0.250*	11,0	0,0 °	■																	
SPEN2807ZETR-D35	28,58 *1.125*	1,8 *0.071*	2,0 *0.079*	13,3 *0.524*	7,938 *0.313*	11,0	0,0 °	■																	
SPMR1906ZETR-M17	19,05 *0.750*	1,0 *0.039*	1,6 *0.063*	12,9 *0.508*	6,35 *0.250*	11,0	17,0 °		■																

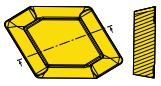
SPE.ZZ



M17/D25/MD20

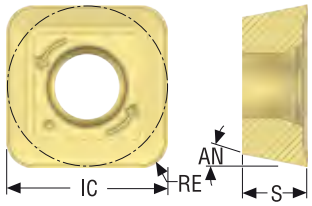


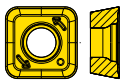
ZZTL-M17

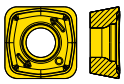


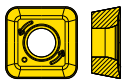
Designation	RE	BS	L	S	GAN	Grades Coated																		Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SPER1906ZZTL-M17	3,0 *0.118*	12,0 *0.472*	19,05 *0.750*	6,35 *0.250*	17,0 °		■																
SPER1906ZZTR-M17	3,0 *0.118*	12,0 *0.472*	19,05 *0.750*	6,35 *0.250*	17,0 °		■																
SPEN1906ZZTR-D25	3,0 *0.118*	12,0 *0.472*	20,0 *0.787*	6,35 *0.250*	0,0 °	■		■															
SPEN1906ZZTR-MD20	3,0 *0.118*	12,0 *0.472*	20,0 *0.787*	6,35 *0.250*	0,0 °			■															

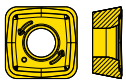
SPKT10/14/18

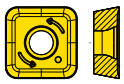


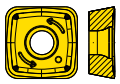
SP10-M10 

SP10-MD12 

SP14-M14 

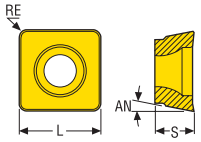
SP14-MD16 

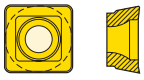
SP18-M14 

SP18-MD16 

Designation	IC	RE	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*			MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SPKT10T317TN-M10	10,0 *0.394*	1,7 *0.067*	3,97 *0.156*	11,0	13,0 °	■	■	■		■		■		■	■	■		■			■		
SPKT10T317TN-MD12	10,0 *0.394*	1,7 *0.067*	3,97 *0.156*	11,0	5,0 °	■		■	■					■							■		
SPKT140523TN-M14	14,0 *0.551*	2,3 *0.091*	5,56 *0.219*	11,0	13,0 °		■	■		■		■		■	■	■		■			■		
SPKT140523TN-MD16	14,0 *0.551*	2,3 *0.091*	5,56 *0.219*	11,0	5,0 °	■	■	■	■	■				■		■		■			■		
SPKT180630TN-M14	18,0 *0.709*	3,0 *0.118*	6,35 *0.250*	11,0	12,0 °	■	■	■		■				■	■	■		■			■		
SPKT180630TN-MD16	18,0 *0.709*	3,0 *0.118*	6,35 *0.250*	11,0	5,0 °	■		■	■					■							■		

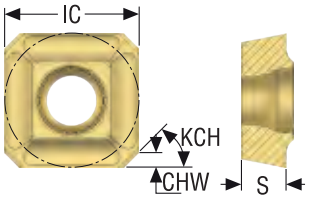
SPMT



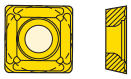
M08 

Designation	RE	L	S	AN°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SPMT100408T-M08	0,8 *0.031*	10,0 *0.394*	4,76 *0.187*	11,0 *0.433*	10,0 °																■		

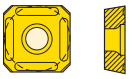
SPMX



-75

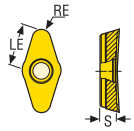


AP-75



Designation	CHW	IC	S	KCH°	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
SPMX0602AP-75	0,69 *0.027*	6,35 *0.250*	2,38 *0.094*	45,0	0,0 °																■	
SPMX0703AP-75	0,87 *0.034*	7,94 *0.313*	3,18 *0.125*	45,0	0,0 °																■	
SPMX0903AP-75	1,05 *0.041*	9,525 *0.375*	3,18 *0.125*	45,0	0,0 °					■								■			■	
SPMX12T3AP-75	1,39 *0.055*	12,7 *0.500*	3,97 *0.156*	45,0	0,0 °					■								■			■	
SPMX060204-75	– –	6,35 *0.250*	2,38 *0.094*	–	20,0 °												■				■	
SPMX070304-75	– –	7,94 *0.313*	3,18 *0.125*	–	16,0 °												■				■	
SPMX090304-75	– –	9,525 *0.375*	3,18 *0.125*	–	16,0 °												■				■	
SPMX12T308-75	– –	12,7 *0.500*	3,97 *0.156*	–	14,0 °																■	

VPGX



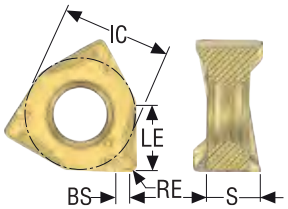
E06/E10



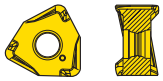
Designation	RE	LE	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
VPGX220605FR-E06	0,5 *0.020*	14,2 *0.559*	6,35 *0.250*	25,0 °																■	
VPGX220605ER-E10	0,5 *0.020*	14,2 *0.559*	6,35 *0.250*	25,0 °																	■
VPGX220608PDER-E10	0,8 *0.031*	14,2 *0.559*	6,35 *0.250*	25,0 °																	■
VPGX220616ER-E10	1,6 *0.063*	13,7 *0.539*	6,35 *0.250*	25,0 °																	■
VPGX220620ER-E10	2,0 *0.079*	14,2 *0.559*	6,35 *0.250*	25,0 °																	■
VPGX220624ER-E10	2,4 *0.094*	14,2 *0.559*	6,35 *0.250*	25,0 °																	■
VPGX220631EN-E10	3,1 *0.122*	14,2 *0.559*	6,35 *0.250*	25,0 °																	■
VPGX220631FN-E06	3,1 *0.122*	14,2 *0.559*	6,35 *0.250*	25,0 °																■	
VPGX220640ER-E10	4,0 *0.157*	14,2 *0.559*	6,35 *0.250*	25,0 °																	■
VPGX220663ER-E10	6,3 *0.248*	11,8 *0.465*	6,35 *0.250*	25,0 °																	■

*Insert with wiper flat 1,5mm

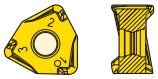
XNEX04/08



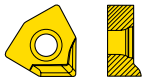
XNEX04..



XNEX08..

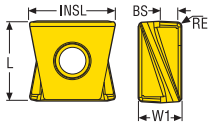


ZZR-M11



Designation	RE	BS	LE	S	IC	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XNEX040304R-M06	0,4 *0.016*	0,8 *0.031*	4,0 *0.157*	3,31 *0.130*	6,7 *0.264*	32,6 °				■						■						■		
XNEX040308R-M06	0,8 *0.031*	0,4 *0.016*	4,0 *0.157*	3,31 *0.130*	6,7 *0.264*	32,6 °			■	■			■			■						■		
XNEX040304TR-M08	0,4 *0.016*	0,8 *0.031*	4,0 *0.157*	3,29 *0.130*	6,7 *0.264*	27,0 °	■		■	■				■	■							■		
XNEX040308TR-M08	0,8 *0.031*	0,4 *0.016*	4,0 *0.157*	3,29 *0.130*	6,7 *0.264*	27,0 °	■		■	■				■	■							■		
XNEX080604TR-M13	0,4 *0.016*	1,8 *0.071*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	22,0 °				■	■								■			■		
XNEX080604TR-ME09	0,4 *0.016*	1,8 *0.071*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	27,0 °			■	■												■		
XNEX080608TR-ME09	0,8 *0.031*	1,4 *0.055*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	27,0 °	■		■	■	■		■	■	■				■			■		
XNEX080608R-M08	0,8 *0.031*	1,4 *0.055*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	24,0 °		■		■	■		■			■	■		■			■		■
XNEX080608TR-M13	0,8 *0.031*	1,3 *0.051*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	22,0 °	■		■	■	■			■	■				■			■		
XNEX080608TR-MD15	0,8 *0.031*	1,4 *0.055*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	17,0 °	■		■	■	■			■	■				■			■		
XNEX080612TR-ME09	1,2 *0.047*	1,0 *0.039*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	27,0 °			■				■		■							■		
XNEX080612TR-M13	1,2 *0.047*	0,9 *0.035*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	22,0 °			■					■	■							■		
XNEX080612TR-MD15	1,2 *0.047*	1,0 *0.039*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	17,0 °	■		■					■										
XNEX080616TR-ME09	1,6 *0.063*	0,6 *0.024*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	27,0 °			■	■			■									■		
XNEX080616TR-M13	1,6 *0.063*	0,5 *0.020*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	22,0 °	■		■	■	■			■	■				■			■		
XNEX080616TR-MD15	1,6 *0.063*	0,7 *0.028*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	17,0 °	■		■	■	■			■	■				■			■		
XNEX080608TL-M13	0,8 *0.031*	1,3 *0.051*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	22,0 °			■		■					■			■			■		
XNEX080616TL-M13	1,6 *0.063*	0,5 *0.020*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	22,0 °			■															
XNEX080608ZZR-M11	0,8 *0.031*	6,0 *0.236*	7,5 *0.295*	6,45 *0.254*	12,48 *0.491*	19,0 °				■				■								■		

XNHQ09/12/14/17



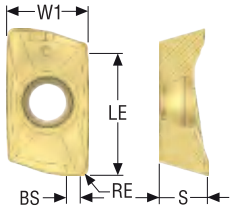
E07/E09/E10/E12/M08/M10/M11/M13



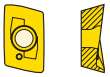
Designation	RE	BS	L	INSL	W1	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XNHQ090504TN4-M08	0,4 *0.016*	2,2 *0.087*	9,3 *0.366*	11,81 *0.465*	5,5 *0.217*	16,0 °																■		
XNHQ090508TN4-M08	0,8 *0.031*	1,8 *0.071*	9,3 *0.366*	11,7 *0.461*	5,5 *0.217*	16,0 °			■						■							■		
XNHQ090512TN4-M08	1,2 *0.047*	1,4 *0.055*	9,3 *0.366*	11,58 *0.456*	5,5 *0.217*	16,0 °																■		
XNHQ090516TN4-M08	1,6 *0.063*	1,0 *0.039*	9,3 *0.366*	11,46 *0.451*	5,5 *0.217*	16,0 °			■													■		
XNHQ090520TN4-M08	2,0 *0.079*	0,6 *0.024*	9,3 *0.366*	11,4 *0.449*	5,5 *0.217*	16,0 °																■		
XNHQ090524TN4-M08	2,4 *0.094*	0,2 *0.008*	9,3 *0.366*	11,2 *0.441*	5,5 *0.217*	16,0 °																■		
XNHQ090531TN4-M08	3,1 *0.122*	0,0 –	9,3 *0.366*	11,0 *0.433*	5,5 *0.217*	16,0 °																■		
XNHQ090540TN4-M08	4,0 *0.157*	0,0 –	9,3 *0.366*	10,7 *0.421*	5,5 *0.217*	16,0 °																■		
XNHQ120608EN4-E09	0,8 *0.031*	2,3 *0.091*	11,7 *0.461*	13,34 *0.525*	6,5 *0.256*	21,0 °																■		
XNHQ120608TN4-M10	0,8 *0.031*	2,3 *0.091*	11,7 *0.461*	13,16 *0.518*	6,5 *0.256*	16,0 °			■						■							■		
XNHQ120612TN4-M10	1,2 *0.047*	1,9 *0.075*	11,7 *0.461*	13,05 *0.514*	6,5 *0.256*	16,0 °																■		
XNHQ120616TN4-M10	1,6 *0.063*	1,58 *0.062*	11,7 *0.461*	12,94 *0.509*	6,5 *0.256*	16,0 °			■													■		
XNHQ120620TN4-M10	2,0 *0.079*	1,1 *0.043*	11,7 *0.461*	12,81 *0.504*	6,5 *0.256*	16,0 °																■		
XNHQ120624TN4-M10	2,4 *0.094*	0,7 *0.028*	11,7 *0.461*	12,72 *0.501*	6,5 *0.256*	16,0 °																■		
XNHQ120631TN4-M10	3,1 *0.122*	0,15 *0.006*	11,7 *0.461*	12,53 *0.493*	6,5 *0.256*	16,0 °																■		
XNHQ120640TN4-M10	4,0 *0.157*	0,0 –	11,7 *0.461*	12,25 *0.482*	6,5 *0.256*	16,0 °																■		
XNHQ120650TN4-M10	5,0 *0.197*	0,0 –	11,7 *0.461*	11,87 *0.467*	6,5 *0.256*	16,0 °																■		
XNHQ140708EN4-E10	0,8 *0.031*	3,0 *0.118*	14,0 *0.551*	15,1 *0.594*	7,5 *0.295*	22,0 °																■		■
XNHQ140708TN4-M11	0,8 *0.031*	3,0 *0.118*	14,0 *0.551*	15,1 *0.594*	7,5 *0.295*	16,0 °			■						■							■		
XNHQ140716TN4-M11	1,6 *0.063*	2,2 *0.087*	14,0 *0.551*	14,8 *0.583*	7,5 *0.295*	16,0 °			■													■		
XNHQ140720TN4-M11	2,0 *0.079*	1,8 *0.071*	14,0 *0.551*	14,7 *0.579*	7,5 *0.295*	16,0 °																■		
XNHQ140724TN4-M11	2,4 *0.094*	1,4 *0.055*	14,0 *0.551*	14,6 *0.575*	7,5 *0.295*	16,0 °																■		
XNHQ140731TN4-M11	3,1 *0.122*	0,7 *0.028*	14,0 *0.551*	14,4 *0.567*	7,5 *0.295*	16,0 °			■													■		

Designation	RE	BS	L	INSL	W1	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XNHQ140740TN4-M11	4,0 *0.157*	0,0 –	14,0 *0.551*	14,2 *0.559*	7,5 *0.295*	16,0 °															■		
XNHQ140750TN4-M11	5,0 *0.197*	0,0 –	14,0 *0.551*	13,9 *0.547*	7,5 *0.295*	16,0 °															■		
XNHQ140760TN4-M11	6,0 *0.236*	0,0 –	14,0 *0.551*	13,6 *0.535*	7,5 *0.295*	16,0 °															■		
XNHQ170708EN4-E12	0,8 *0.031*	3,0 *0.118*	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °															■		
XNHQ170708TN4-M13	0,8 *0.031*	3,0 *0.118*	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °			■						■						■		
XNHQ170716TN4-M13	1,6 *0.063*	2,2 *0.087*	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °			■												■		
XNHQ170720TN4-M13	2,0 *0.079*	1,8 *0.071*	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °															■		
XNHQ170724TN4-M13	2,4 *0.094*	1,4 *0.055*	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °															■		
XNHQ170731TN4-M13	3,1 *0.122*	0,7 *0.028*	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °															■		
XNHQ170740TN4-M13	4,0 *0.157*	0,0 –	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °															■		
XNHQ170750TN4-M13	5,0 *0.197*	0,0 –	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °															■		
XNHQ170760TN4-M13	6,0 *0.236*	0,0 –	17,0 *0.669*	0,0 –	7,5 *0.295*	16,0 °															■		

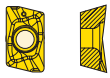
XO.X06



E03

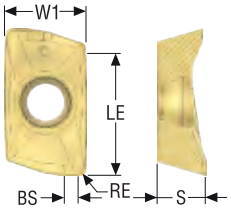


M05

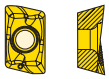


Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOEX060202FR-E03	0,2 *0.008*	1,1 *0.043*	6,0 *0.236*	4,1 *0.161*	2,45 *0.096*	30,6 °																■	
XOEX060204FR-E03	0,4 *0.016*	0,9 *0.035*	6,0 *0.236*	4,1 *0.161*	2,45 *0.096*	29,2 °															■	■	
XOMX060202R-M05	0,2 *0.008*	1,1 *0.043*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °				■											■	■	
XOMX060204R-M05	0,4 *0.016*	0,91 *0.036*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °				■			■			■					■	■	
XOMX060208R-M05	0,8 *0.031*	0,51 *0.020*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °				■			■			■				■	■	■	
XOMX060216R-M05	1,6 *0.063*	0,64 *0.025*	5,5 *0.217*	4,1 *0.161*	2,45 *0.096*	20,2 °				■			■			■					■	■	

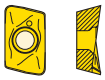
XO.X10



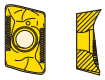
E05/M06



M09



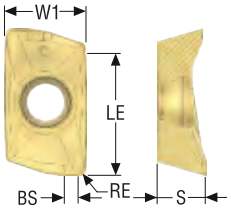
ME07



Designation	RE	BS	LE	W1	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOEX10T304FR-E05	0,4 *0.016*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °																■	■	
XOEX10T308FR-E05	0,8 *0.031*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °																■	■	
XOEX10T312FR-E05	1,2 *0.047*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °																	■	
XOEX10T320FR-E05	2,0 *0.079*	0,6 *0.024*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	21,6 °																	■	
XOEX10T331FR-E05	3,1 *0.122*	0,39 *0.015*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	24,1 °																	■	
XOEX10T302R-M06	0,2 *0.008*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °																■		
XOEX10T304R-M06	0,4 *0.016*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °			■							■						■		
XOEX10T308R-M06	0,8 *0.031*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °		■	■		■					■	■		■			■		
XOEX10T312R-M06	1,2 *0.047*	1,3 *0.051*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °										■						■		
XOEX10T316R-M06	1,6 *0.063*	1,0 *0.039*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	15,1 °										■						■		
XOEX10T320R-M06	2,0 *0.079*	0,6 *0.024*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	18,8 °					■					■			■					
XOEX10T324R-M06	2,4 *0.094*	0,2 *0.008*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	18,3 °										■								
XOEX10T331R-M06	3,1 *0.122*	0,4 *0.016*	9,7 *0.382*	6,9 *0.272*	3,8 *0.150*	17,3 °		■								■	■					■		
XOMX10T304TR-ME07	0,4 *0.016*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °	■		■	■	■			■		■	■		■			■		
XOMX10T308TR-ME07	0,8 *0.031*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °	■	■	■	■	■		■	■		■	■		■			■		
XOMX10T312TR-ME07	1,2 *0.047*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °			■	■	■					■			■			■		
XOMX10T316TR-ME07	1,6 *0.063*	1,0 *0.039*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °		■	■	■	■					■			■			■		
XOMX10T320TR-ME07	2,0 *0.079*	0,6 *0.024*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °			■	■	■					■			■			■		
XOMX10T324TR-ME07	2,4 *0.094*	0,2 *0.008*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °			■							■						■		
XOMX10T331TR-ME07	3,1 *0.122*	0,4 *0.016*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	20,4 °		■	■							■						■		
XOMX10T304TR-M09	0,4 *0.016*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °	■		■	■	■			■	■				■			■		
XOMX10T308TR-M09	0,8 *0.031*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °	■		■	■	■		■	■	■		■		■			■		
XOMX10T312TR-M09	1,2 *0.047*	1,3 *0.051*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °					■				■				■			■		

Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOMX10T316TR-M09	1,6 *0.063*	1,0 *0.039*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °					■								■			■		
XOMX10T320TR-M09	2,0 *0.079*	0,6 *0.024*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °					■								■			■		
XOMX10T324TR-M09	2,4 *0.094*	0,2 *0.008*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °																■		
XOMX10T331TR-M09	3,1 *0.122*	0,4 *0.016*	9,3 *0.366*	6,9 *0.272*	3,83 *0.151*	10,6 °					■								■			■		

XO.X12



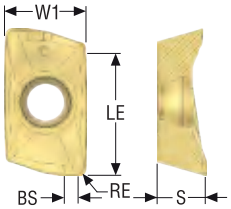
D14 E06 M07 M12 MD13 ME08



Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOEX120404FR-E06	0,4 *0.016*	2,0 *0.079*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	27,4 °														■		■	■	
XOEX120408FR-E06	0,8 *0.031*	1,6 *0.063*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	27,2 °														■		■	■	
XOEX120420FR-E06	2,0 *0.079*	0,6 *0.024*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	21,2 °														■		■		
XOEX120416FR-E06	1,6 *0.063*	1,2 *0.047*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	26,3 °														■		■		
XOEX120431FR-E06	3,1 *0.122*	– –	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	24,8 °																■		
XOEX120402R-M07	0,2 *0.008*	2,0 *0.079*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	20,5 °																■		
XOEX120404R-M07	0,4 *0.016*	2,0 *0.079*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	20,5 °			■							■					■	■		
XOEX120408R-M07	0,8 *0.031*	1,6 *0.063*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	20,3 °		■	■	■	■		■			■	■		■		■	■		
XOEX120416R-M07	1,6 *0.063*	1,2 *0.047*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	19,1 °				■						■	■					■		
XOEX120420R-M07	2,0 *0.079*	0,95 *0.037*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	18,6 °										■								
XOEX120424R-M07	2,4 *0.094*	0,6 *0.024*	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	18,6 °										■					■	■		
XOEX120431R-M07	3,1 *0.122*	– –	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	15,0 °		■			■					■	■		■			■		
XOEX120440R-M07	4,0 *0.157*	– –	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	23,7 °										■						■		
XOEX120463R-M07	6,3 *0.248*	– –	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	15,3 °										■						■		
XOEX120450R-M07	5,0 *0.197*	– –	12,0 *0.472*	8,2 *0.323*	5,03 *0.198*	16,8 °										■						■		
XOEX120408ZZR-M07	0,8 *0.031*	6,6 *0.260*	11,1 *0.437*	8,2 *0.323*	5,03 *0.198*	20,3 °				■											■	■		
XOMX120404TR-ME08	0,4 *0.016*	2,0 *0.079*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °			■					■		■						■		
XOMX120408TR-ME08	0,8 *0.031*	1,6 *0.063*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °		■	■		■		■	■	■	■	■		■			■		
XOMX120412TR-ME08	1,2 *0.047*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °			■		■					■			■			■		
XOMX120416TR-ME08	1,6 *0.063*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °		■	■		■						■		■			■		
XOMX120420TR-ME08	2,0 *0.079*	1,0 *0.039*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °			■		■					■			■			■		
XOMX120424TR-ME08	2,4 *0.094*	0,92 *0.036*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °			■		■					■			■			■		
XOMX120431TR-ME08	3,1 *0.122*	0,6 *0.024*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °		■	■		■					■	■		■			■		

Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOMX120440TR-ME08	4,0 *0.157*	0,8 *0.031*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	20,1 °			■							■						■		
XOMX120408TR-M12	0,8 *0.031*	1,6 *0.063*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	10,4 °	■		■	■	■			■	■				■			■		
XOMX120416TR-M12	1,6 *0.063*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	10,4 °				■	■								■			■		
XOMX120431TR-M12	3,1 *0.122*	0,6 *0.024*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	10,4 °				■	■								■			■		
XOMX120408TR-MD13	0,8 *0.031*	1,6 *0.063*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,6 °	■		■	■	■			■	■				■			■		
XOMX120404TR-MD13	0,4 *0.016*	2,0 *0.079*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,6 °	■							■								■		
XOMX120412TR-MD13	1,2 *0.047*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,7 °	■			■				■								■		
XOMX120416TR-MD13	1,6 *0.063*	1,2 *0.047*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	14,7 °	■			■				■								■		
XOMX120408TR-D14	0,8 *0.031*	1,6 *0.063*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	1,0 °	■		■	■				■							■			
XOMX120431TR-D14	3,1 *0.122*	0,6 *0.024*	11,6 *0.457*	8,2 *0.323*	5,07 *0.200*	1,0 °				■											■			

XO.X16



E07/M09



M13



MD14



ME11



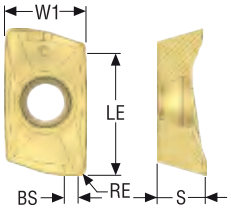
XOMX-M09



Designation	RE	BS	LE	W1	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOEX160504FR-E07	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	23,0 °																		■
XOEX160508FR-E07	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	23,0 °																		■
XOEX160504R-M09	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °			■	■												■		
XOEX160508R-M09	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °		■	■	■						■	■		■			■		
XOEX160516R-M09	1,6 *0.063*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °										■	■					■		
XOEX160520R-M09	2,0 *0.079*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °										■						■		
XOEX160524R-M09	2,4 *0.094*	1,8 *0.071*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °		■								■						■		
XOEX160531R-M09	3,1 *0.122*	1,6 *0.063*	15,3 *0.602*	10,2 *0.402*	5,9 *0.232*	14,0 °		■								■	■					■		
XOEX160540R-M09	4,0 *0.157*	1,2 *0.047*	15,2 *0.598*	10,2 *0.402*	5,9 *0.232*	14,0 °										■						■		
XOEX160550R-M09	5,0 *0.197*	0,3 *0.012*	15,0 *0.591*	10,2 *0.402*	5,59 *0.220*	14,0 °										■						■		
XOEX160563R-M09	6,3 *0.248*	0,2 *0.008*	14,7 *0.579*	10,2 *0.402*	5,34 *0.210*	14,0 °										■						■		
XOMX160504TR-ME11	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	19,0 °			■													■		
XOMX160508TR-ME11	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	19,0 °		■	■		■				■	■			■			■		
XOMX160512TR-ME11	1,2 *0.047*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	19,0 °			■													■		
XOMX160516TR-ME11	1,6 *0.063*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	18,0 °			■													■		
XOMX160520TR-ME11	2,0 *0.079*	1,9 *0.075*	15,4 *0.606*	10,2 *0.402*	5,94 *0.234*	18,0 °			■							■						■		
XOMX160531TR-ME11	3,1 *0.122*	1,6 *0.063*	15,4 *0.606*	10,2 *0.402*	5,93 *0.233*	19,0 °		■								■						■		
XOMX160540TR-ME11	4,0 *0.157*	1,2 *0.047*	15,2 *0.598*	10,2 *0.402*	5,93 *0.233*	19,0 °										■						■		
XOMX160550TR-ME11	5,0 *0.197*	0,3 *0.012*	15,0 *0.591*	10,2 *0.402*	5,56 *0.219*	18,0 °										■						■		
XOMX160563TR-ME11	6,3 *0.248*	0,2 *0.008*	14,6 *0.575*	10,2 *0.402*	5,3 *0.209*	18,0 °										■						■		
XOMX160508R-M09	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,9 *0.232*	14,0 °										■						■		
XOMX160508TR-M13	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,98 *0.235*	9,0 °	■		■	■	■			■	■				■			■		
XOMX160516TR-M13	1,6 *0.063*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	5,98 *0.235*	9,0 °																■		

Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOMX160531TR-M13	3,1 *0.122*	1,6 *0.063*	15,4 *0.606*	10,2 *0.402*	5,98 *0.235*	9,0 °															■		
XOMX160504TR-MD14	0,4 *0.016*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	6,01 *0.237*	4,0 °									■								
XOMX160508TR-MD14	0,8 *0.031*	2,0 *0.079*	15,4 *0.606*	10,2 *0.402*	6,01 *0.237*	4,0 °	■			■	■				■				■				

XO.X18



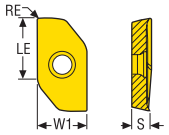
D16 E10/M10 M10 M14 MD15 ME13



Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOEX180604FR-E10	0,4 *0.016*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	29,0 °																■		■
XOEX180608FR-E10	0,8 *0.031*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	29,0 °																■		■
XOEX180616FR-E10	1,6 *0.063*	2,3 *0.091*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	30,0 °																		■
XOEX180620FR-E10	2,0 *0.079*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	30,0 °																		■
XOEX180631FR-E10	3,1 *0.122*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	29,0 °																		■
XOEX180608ZZR-M10	0,8 *0.031*	9,0 *0.354*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	22,4 °																■		
XOMX180604TR-ME13	0,4 *0.016*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	25,0 °			■													■		
XOMX180608TR-ME13	0,8 *0.031*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	25,3 °			■		■		■	■					■			■		
XOMX180616TR-ME13	1,6 *0.063*	2,3 *0.091*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	24,7 °			■															
XOMX180620TR-ME13	2,0 *0.079*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	24,7 °			■													■		
XOMX180631TR-ME13	3,1 *0.122*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,38 *0.251*	23,6 °			■													■		
XOMX180640TR-ME13	4,0 *0.157*	0,8 *0.031*	17,0 *0.669*	11,2 *0.441*	6,38 *0.251*	24,0 °			■															
XOMX180604R-M10	0,4 *0.016*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	22,0 °										■						■		
XOMX180608R-M10	0,8 *0.031*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	22,4 °		■	■		■		■			■			■		■	■		
XOMX180616R-M10	1,6 *0.063*	2,3 *0.091*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	21,7 °					■		■			■			■			■		
XOMX180620R-M10	2,0 *0.079*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	21,8 °					■					■			■			■		
XOMX180624R-M10	2,4 *0.094*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,35 *0.250*	21,1 °										■						■		
XOMX180631R-M10	3,1 *0.122*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,35 *0.250*	21,0 °					■		■			■			■			■		
XOMX180640R-M10	4,0 *0.157*	0,8 *0.031*	17,0 *0.669*	11,2 *0.441*	6,35 *0.250*	21,0 °					■					■			■			■		
XOMX180650R-M10	5,0 *0.197*	0,3 *0.012*	17,0 *0.669*	11,2 *0.441*	6,35 *0.250*	19,4 °		■			■					■			■			■		
XOMX180663R-M10	6,3 *0.248*	0,3 *0.012*	17,0 *0.669*	11,2 *0.441*	6,35 *0.250*	19,0 °					■					■			■			■		
XOMX180608TR-M14	0,8 *0.031*	2,38 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,5 °	■		■	■	■			■	■				■		■	■		
XOMX180612TR-M14	1,2 *0.047*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,5 °	■		■	■	■			■	■				■			■		

Designation	RE	BS	LE	W1	S	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XOMX180616TR-M14	1,6 *0.063*	2,3 *0.091*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,0 °			■	■	■			■					■			■		
XOMX180620TR-M14	2,0 *0.079*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,0 °			■		■								■			■		
XOMX180624TR-M14	2,4 *0.094*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,37 *0.251*	14,0 °			■		■								■			■		
XOMX180631TR-M14	3,1 *0.122*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,37 *0.251*	14,0 °			■	■	■								■			■		
XOMX180608TR-MD15	0,8 *0.031*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,9 °	■		■	■	■			■	■				■		■	■		
XOMX180612TR-MD15	1,2 *0.047*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,0 °	■			■												■		
XOMX180616TR-MD15	1,6 *0.063*	2,3 *0.091*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	15,3 °				■	■			■					■			■		
XOMX180608TR-D16	0,8 *0.031*	2,4 *0.094*	17,0 *0.669*	11,2 *0.441*	6,4 *0.252*	11,0 °	■		■		■			■					■		■			
XOMX180631TR-D16	3,1 *0.122*	2,2 *0.087*	17,0 *0.669*	11,2 *0.441*	6,39 *0.252*	9,0 °	■			■														

XPKX



E06

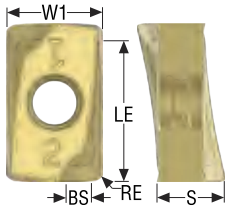


E08



Designation	RE	LE	W1	S	GAN	Grades Coated																Uncoated
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
XPKX080304PDER-E06	0,4 *0.016*	8,0 *0.315*	7,0 *0.276*	3,4 *0.134*	25,0 °																	■
XPKX080308PDER-E06	0,8 *0.031*	8,0 *0.315*	7,0 *0.276*	3,4 *0.134*	25,0 °																	■
XPKX080316PDER-E06	1,6 *0.063*	8,0 *0.315*	7,0 *0.276*	3,4 *0.134*	25,0 °																	■
XPKX080320PDER-E06	2,0 *0.079*	8,0 *0.315*	7,0 *0.276*	3,4 *0.134*	25,0 °																	■
XPKX080324PDER-E06	2,4 *0.094*	8,0 *0.315*	7,0 *0.276*	3,4 *0.134*	25,0 °																	■
XPKX080331PDER-E06	3,1 *0.122*	8,0 *0.315*	7,0 *0.276*	3,4 *0.134*	25,0 °																	■
XPKX12T304PDER-E08	0,4 *0.016*	12,1 *0.476*	10,0 *0.394*	3,97 *0.156*	23,1 °																	■
XPKX12T308PDER-E08	0,8 *0.031*	12,1 *0.476*	10,0 *0.394*	3,97 *0.156*	23,0 °																	■
XPKX12T320PDER-E08	2,0 *0.079*	12,1 *0.476*	10,0 *0.394*	3,97 *0.156*	25,0 °																	■
XPKX12T324PDER-E08	2,4 *0.094*	12,1 *0.476*	10,0 *0.394*	3,97 *0.156*	25,0 °																	■
XPKX12T331PDER-E08	3,1 *0.122*	12,1 *0.476*	10,0 *0.394*	3,97 *0.156*	25,0 °																	■
XPKX12T340PDER-E08	4,0 *0.157*	12,1 *0.476*	10,0 *0.394*	3,97 *0.156*	25,0 °																	■

ZOMX16



ME10

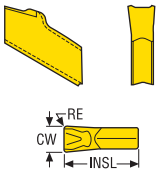


M12



Designation	RE	BS	LE	W1	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
ZOMX160708TR-ME10	0,8 *0.031*	2,0 *0.079*	15,5 *0.610*	10,76 *0.424*	7,38 *0.291*	39,1 °			■		■					■						■		
ZOMX160708TR-M12	0,8 *0.031*	2,0 *0.079*	15,5 *0.610*	10,76 *0.424*	7,38 *0.291*	29,0 °	■		■	■	■				■		■					■		
ZOMX160716TR-ME10	1,6 *0.063*	1,2 *0.047*	15,5 *0.610*	10,76 *0.424*	7,26 *0.286*	39,1 °			■							■						■		
ZOMX160716TR-M12	1,6 *0.063*	1,2 *0.047*	15,5 *0.610*	10,76 *0.424*	7,26 *0.286*	29,0 °	■		■	■					■							■		

150.10



150.10-12



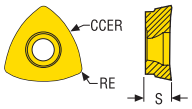
150.10-14



150.10-16



Designation	RE	CW	INSL	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
150.10-2.5N-12	0,17 *0.007*	2,5 *0.098*	9,0 *0.354*													■	■					
150.10-3N-12	0,19 *0.007*	3,1 *0.122*	9,0 *0.354*													■	■					
150.10-2.25N-14	0,15 *0.006*	2,25 *0.089*	9,0 *0.354*														■					
150.10-2.5N-14	0,17 *0.007*	2,5 *0.098*	9,0 *0.354*													■						
150.10-3N-14	0,19 *0.007*	3,1 *0.122*	9,0 *0.354*													■	■					
150.10-2.25N-16	0,15 *0.006*	2,25 *0.089*	9,0 *0.354*													■	■					
150.10-2.5N-16	0,17 *0.007*	2,5 *0.098*	9,0 *0.354*													■	■					
150.10-3N-16	0,19 *0.007*	3,1 *0.122*	9,0 *0.354*													■	■					
150.10-4N-12	0,23 *0.009*	4,1 *0.161*	9,0 *0.354*													■	■					
150.10-4N-14	0,23 *0.009*	4,1 *0.161*	9,0 *0.354*													■	■					
150.10-4N-16	0,23 *0.009*	4,1 *0.161*	9,0 *0.354*													■	■					



E04-E07



M04-M11



MD04-MD11

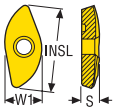


ME07-ME12



Designation	RE	S	CCER	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
218.19-160-04-E07	1,2 *0.047*	4,76 *0.187*	16,0 *0.630*	20,0 °																		■
218.19-125T-T3-ME07	0,8 *0.031*	3,97 *0.156*	12,5 *0.492*	20,0 °																■		
218.19-160T-04-ME08	1,2 *0.047*	4,76 *0.187*	16,0 *0.630*	20,0 °																■		
218.19-200T-05-ME10	0,6 *0.024*	5,5 *0.217*	20,0 *0.787*	20,0 °																■		
218.19-080T-M04	0,4 *0.016*	2,38 *0.094*	8,0 *0.315*	7,0 °			■												■	■		
218.19-100T-M06	0,8 *0.031*	2,78 *0.109*	10,0 *0.394*	7,0 °			■	■	■					■	■		■		■	■		
218.19-125T-T3-M07	0,8 *0.031*	3,97 *0.156*	12,5 *0.492*	10,0 °			■	■	■		■			■	■		■		■	■		
218.19-160T-04-M11	1,2 *0.047*	4,76 *0.187*	16,0 *0.630*	15,0 °	■		■								■							
218.19-160T-04-M08	1,2 *0.047*	4,76 *0.187*	16,0 *0.630*	10,0 °		■	■	■	■		■			■	■		■		■	■		
218.19-200T-05-M10	0,6 *0.024*	5,5 *0.217*	20,0 *0.787*	10,0 °																■		
218.19-080T-MD04	0,4 *0.016*	2,38 *0.094*	8,0 *0.315*	0,0 °											■			■				
218.19-100T-MD08	0,8 *0.031*	2,78 *0.109*	10,0 *0.394*	0,0 °			■			■					■			■				
218.19-125T-T3-MD10	0,8 *0.031*	3,97 *0.156*	12,5 *0.492*	0,0 °	■		■		■	■					■		■	■				
218.19-125T-T3-MD08	0,8 *0.031*	3,97 *0.156*	12,5 *0.492*	0,0 °				■											■			
218.19-160T-04-MD11	1,2 *0.047*	4,76 *0.187*	16,0 *0.630*	0,0 °	■		■		■	■			■		■		■	■				
218.19-160T-04-MD09	1,2 *0.047*	4,76 *0.187*	16,0 *0.630*	0,0 °				■											■			

218.20

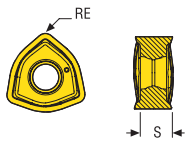


ME/M



Designation	INSL	W1	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
218.20-0.250ER-ME03	12,42 *0.489*	5,46 *0.215*	2,52 *0.099*	11,0 °																■		
218.20-0.250ER-M03	12,42 *0.489*	5,46 *0.215*	2,52 *0.099*	7,0 °																■		
218.20-0.375ER-M05	18,62 *0.733*	8,19 *0.322*	3,85 *0.152*	3,0 °																■		
218.20-0.375ER-ME05	18,62 *0.733*	8,19 *0.322*	3,85 *0.152*	11,0 °										■						■		
218.20-0.750ER-M10	36,44 *1.435*	15,12 *0.595*	7,625 *0.300*	-2,0 °							■											
218.20-0.750ER-ME10	36,44 *1.435*	15,12 *0.595*	7,625 *0.300*	6,0 °																■		
218.20-060ER-ME03	11,73 *0.462*	5,16 *0.203*	2,37 *0.093*	12,0 °										■						■		
218.20-080ER-ME04	15,64 *0.616*	6,88 *0.271*	3,21 *0.126*	5,0 °					■					■			■			■		
218.20-080ER-M04	15,64 *0.616*	6,88 *0.271*	3,21 *0.126*	1,0 °							■									■		
218.20-100ER-ME05	19,55 *0.770*	8,59 *0.338*	4,05 *0.159*	3,0 °							■			■						■		
218.20-100ER-M05	19,55 *0.770*	8,59 *0.338*	4,05 *0.159*	2,0 °							■									■		
218.20-125ER-ME07	24,48 *0.964*	10,74 *0.423*	5,05 *0.199*	11,0 °							■			■						■		
218.20-125ER-M07	24,48 *0.964*	10,74 *0.423*	5,05 *0.199*	1,0 °																■		
218.20-150ER-ME07	28,7 *1.130*	11,91 *0.469*	5,99 *0.236*	6,0 °										■						■		
218.20-150ER-M08	28,7 *1.130*	11,91 *0.469*	5,99 *0.236*	-2,0 °							■									■		
218.20-160ER-ME08	30,61 *1.205*	12,7 *0.500*	6,4 *0.252*	6,0 °							■			■						■		
218.20-160ER-M08	30,61 *1.205*	12,7 *0.500*	6,4 *0.252*	-2,0 °							■									■		
218.20-200ER-ME10	38,26 *1.506*	15,88 *0.625*	8,06 *0.317*	6,0 °							■			■						■		
218.20-200ER-M10	38,26 *1.506*	15,88 *0.625*	8,06 *0.317*	-2,0 °																■		
218.20-250ER-ME12	47,83 *1.883*	19,85 *0.781*	10,16 *0.400*	6,0 °							■			■						■		
218.20-250TR-M14	47,83 *1.883*	19,85 *0.781*	10,16 *0.400*	-2,0 °																■		

218.21



M15



MD17



ME13



Designation	RE	S	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
218.21-230TR-06-ME13	1,6 *0.063*	5,95 *0.234*	21,0 °		■			■		■			■	■		■			■		
218.21-230TR-06-M15	1,6 *0.063*	5,95 *0.234*	17,0 °		■	■	■	■					■	■		■			■		
218.21-230TR-06-MD17	1,6 *0.063*	6,02 *0.237*	7,0 °	■		■	■					■		■							

R235.15

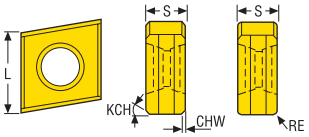


E05

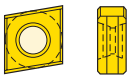


Designation	L	GAN	Grades Coated																	Uncoated	
	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
R235.15-032-E05	42,987 *1.692*	22,0 °															■			
R235.15-050-E05	54,64 *2.151*	22,0 °															■			
R235.15-080-E05	54,746 *2.155*	22,0 °															■			

335.18

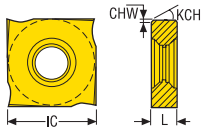


M10/M11/M12



Designation	CHW	L	S	KCH°	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
335.18-1005T-M10	0,5 *0.020*	10,0 *0.394*	5,4 *0.213*	45,0	10,0 °	■		■					■	■							■		
335.18-100508-M10	0,0 –	10,0 *0.394*	5,4 *0.213*	0,0	10,0 °					■								■					
335.18-1305T-M11	0,5 *0.020*	12,7 *0.500*	5,4 *0.213*	45,0	10,0 °	■		■					■	■							■		
335.18-130508-M11	0,0 –	12,7 *0.500*	5,4 *0.213*	0,0	10,0 °					■								■					
335.18-1606T-M12	0,5 *0.020*	16,0 *0.630*	6,4 *0.252*	45,0	10,0 °	■		■													■		
335.18-160608-M12	0,0 –	16,0 *0.630*	6,4 *0.252*	0,0	10,0 °													■					

335.19



M08

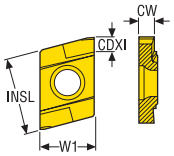


MD09



Designation	CHW	L	IC	KCH°	GAN	Grades Coated															Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
335.19-1102-M08	0,1 *0.004*	2,3 *0.091*	11,0 *0.433*	45,0	15,0 °																■	
335.19-1103-M08	0,1 *0.004*	2,7 *0.106*	11,0 *0.433*	45,0	15,0 °																■	
335.19-1203-M08	0,15 *0.006*	3,2 *0.126*	12,7 *0.500*	45,0	15,0 °																■	
335.19-1204-M08	0,15 *0.006*	4,0 *0.157*	12,7 *0.500*	45,0	15,0 °																■	
335.19-12045-M08	0,15 *0.006*	4,5 *0.177*	12,7 *0.500*	45,0	15,0 °																■	
335.19-1205-M08	0,15 *0.006*	5,4 *0.213*	12,7 *0.500*	45,0	15,0 °																■	
335.19-1207-M08	0,15 *0.006*	7,0 *0.276*	12,7 *0.500*	45,0	15,0 °																■	
335.19-1203T-MD09	0,1 *0.004*	3,2 *0.126*	12,7 *0.500*	20,0	15,0 °																■	
335.19-12045T-MD09	0,1 *0.004*	4,5 *0.177*	12,7 *0.500*	20,0	15,0 °																■	
335.19-1204T-MD09	0,1 *0.004*	4,0 *0.157*	12,7 *0.500*	20,0	15,0 °																■	
335.19-1205T-MD09	0,1 *0.004*	5,4 *0.213*	12,7 *0.500*	20,0	15,0 °			■									■				■	
335.19-1207T-MD09	0,1 *0.004*	7,0 *0.276*	12,7 *0.500*	20,0	15,0 °																■	

R335.15-13/18



E08



M12

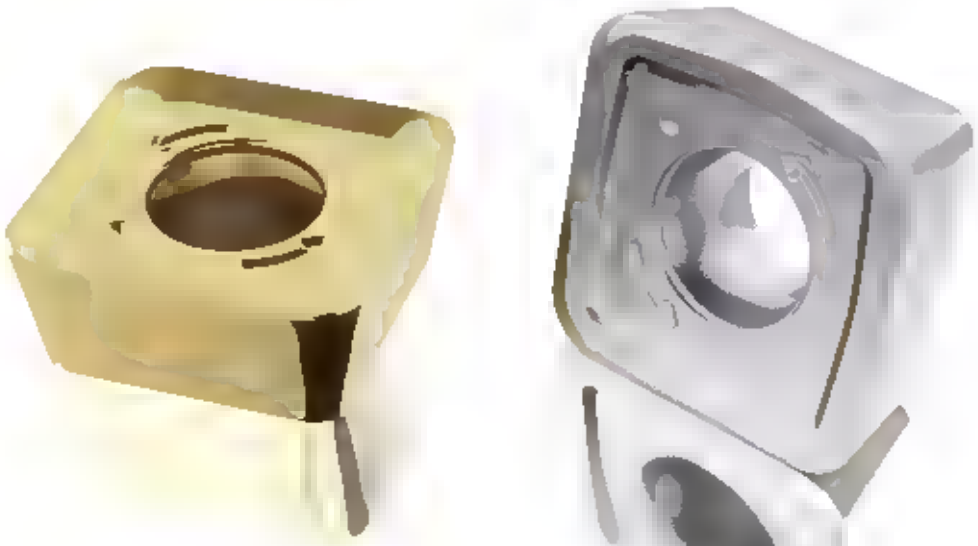


M8



Designation	INSL	W1	CW	CDX	GAN	Grades Coated																Uncoated	
	mm *Inch*	mm *Inch*	mm *Inch*	mm *Inch*		MP1501	MP2050	MP2501	MP3000	MP3501	MH1000	MM4500	MK1500	MK2050	MS2050	MS2500	T25M	T350M	F15M	F30M	F40M	H15	H25
R335.15-13110FG-E08	13,5 *0.531*	9,0 *0.354*	1,13 *0.044*	1,8 *0.071*	15,0 °																■		
R335.15-13130FG-E08	13,5 *0.531*	9,0 *0.354*	1,33 *0.052*	2,0 *0.079*	15,0 °																■		
R335.15-13160FG-E08	13,5 *0.531*	9,0 *0.354*	1,63 *0.064*	2,6 *0.102*	15,0 °																■		
R335.15-13185FG-E08	13,5 *0.531*	9,0 *0.354*	1,88 *0.074*	2,6 *0.102*	15,0 °																■		
R335.15-13215FG-E08	13,5 *0.531*	9,0 *0.354*	2,18 *0.086*	3,15 *0.124*	15,0 °																■		
R335.15-13265FG-E08	13,5 *0.531*	9,0 *0.354*	2,68 *0.106*	3,15 *0.124*	15,0 °																■		
R335.15-13215FG-M10	13,5 *0.531*	9,0 *0.354*	2,18 *0.086*	3,15 *0.124*	0,0 °																■		
R335.15-13265FG-M10	13,5 *0.531*	9,0 *0.354*	2,68 *0.106*	3,15 *0.124*	0,0 °																■		
R335.15-18315FG-M12	18,0 *0.709*	9,0 *0.354*	3,2 *0.126*	3,8 *0.150*	0,0 °																■		
R335.15-18350FG-M12	18,0 *0.709*	9,0 *0.354*	3,55 *0.140*	4,1 *0.161*	0,0 °																■		
R335.15-18400FG-M12	18,0 *0.709*	9,0 *0.354*	4,05 *0.159*	4,8 *0.189*	0,0 °																■		
R335.15-18415FG-M12	18,0 *0.709*	9,0 *0.354*	4,2 *0.165*	4,8 *0.189*	0,0 °																■		
R335.15-18500FG-M12	18,0 *0.709*	9,0 *0.354*	5,05 *0.199*	5,5 *0.217*	0,0 °																■		
R335.15-18515FG-M12	18,0 *0.709*	9,0 *0.354*	5,2 *0.205*	5,5 *0.217*	0,0 °																■		

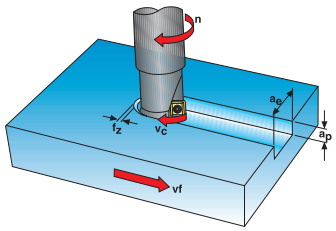
Tolerance (mm): CW: +0/+0.05 - CDX: +0/+0.15

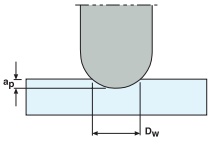


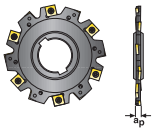
Cutting data calculation		
RPM	$n = \frac{v_c \cdot 1000}{\pi \cdot D_c}$	(rev/min) (inch/min)
Cutting speed	$v_c = \frac{n \cdot \pi \cdot D_c}{1000}$	(m/min) (ft/min)
Feed speed	$v_f = n \cdot ZEFP \cdot f_z$	(mm/min) (inch/min)
Feed per revolution	$f = ZEFP \cdot f_z$	(mm/rev) (inch/rev)
Material removal rate	$Q = \frac{a_e \cdot a_p \cdot v_f}{1000}$	(cm^3/min) ($inch^3$/min)
Cutting speed and RPM for copying	$v_c = \frac{n \cdot \pi \cdot D_w}{1000}$	(m/min) (ft/min)
	$D_w = 2 \cdot \sqrt{a_p (D_c - a_p)}$	(mm) (inch)
	$n = \frac{v_c \cdot 1000}{\pi \cdot D_w}$	(RPM)

Effective No. of teeth (ZEFP)
The effective No. of teeth (ZEFP) is used to calculate the feed speed (v_f) and the feed per revolution (f).
For most of the cutters the effective No. of teeth (ZEFP) is equal to the No. of teeth in the cutter (ZNP), but for some of the cutters ZEFP is less than ZNP.

Cutting data calculation





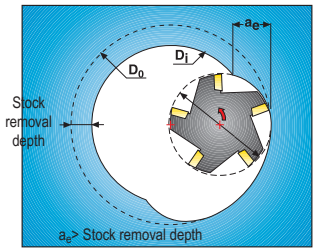


a_e	=	Width of cut mm/radial depth of cut	Example: Disc mill 335.19 Total No. of teeth (ZNP) = 12 Effective No. of teeth (ZEFP) = 6
a_p	=	Depth of cut mm/axial depth of cut	
DC	=	Cutter diameter	Explanation: 6 inserts on one side of the cutter and 6 overlapping inserts on the other side are used to get the full width (a_p) ,which means ZEFP = 6.
f	=	Feed per revolution	
f_z	=	Feed per tooth	
ZEFP	=	Effective No. of teeth for calculation of feed speed or feed per rev (see below)	
n	=	RPM	
Q	=	Material removal rate	
V_c	=	Cutting speed	
v_f	=	Feed speed	
v_f	=	Feed speed	

Cutting data calculation

Internal circular interpolation
When using circular interpolation or helical interpolation ramping to increase the diameter of a hole in a workpiece, the stock removal depth is not the same as the width of cut value. The real width of cut must be calculated from the formula below. The width of cut value is then used for calculation of feed/tooth and feed speed.

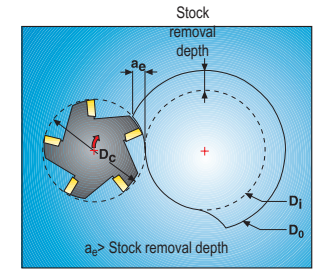
$$a_e = \frac{D_o^2 - D_i^2}{4\,(D_o - D_c)}$$



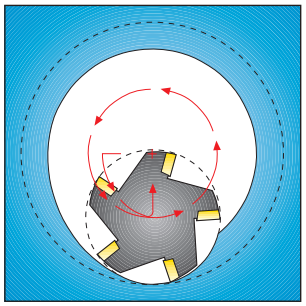
External circular interpolation
When using external circular interpolation or helical interpolation ramping to decrease the diameter of a round workpiece the stock removal depth is not the same as the width of cut value. The real width of cut must be calculated from the formula below.

The width of cut is then used for calculation of feed/tooth and feed speed.

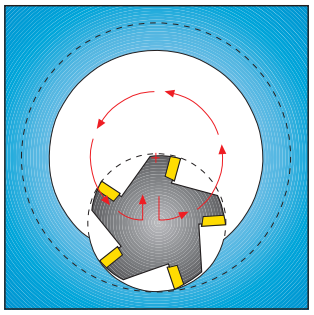
$$a_e = \frac{D_o^2 - D_i^2}{4\,(D_i + D_c)}$$



Increase the width of cut successively to full value
For circular interpolation operations it is recommended to successively increase the width of cut up to full value. When using radial infeed up to full width of cut, reduce the feed/tooth and feed speed to half.

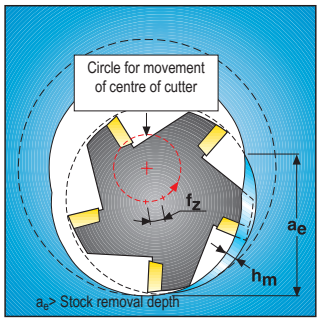


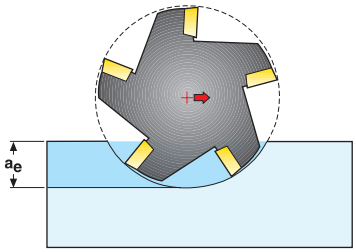
Successive increase of width of cut – recommended method.



Radial infeed – Reduce feed/tooth.

Feed speed related to the centre of the cutter
When calculating feed speed and feed/tooth from average chip thickness using circular interpolation or helical interpolation ramping in an operation, the feed speed and feed/tooth are always related to the centre and not to the periphery of the cutter.



Side milling	
	Relative engagement of the cutter diameter (a_e/DC=%) 30% 20% 10% 5% Multiply the feed per tooth by the following factor 1.25 1.5 2.0 3.0

This table can be used for cutters with cutting edge angle = 90º

a_e/DC %	Feed Per Tooth, mm/tooth (f_z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,02	0,03	0,04	0,04	0,06	0,07	0,08	0,11	0,14	1.8
3 (0.03)				0,02	0,03	0,03	0,04	0,05	0,07	0,09	0,10	0,14	0,17	1.7
5 (0.05)			0,02	0,02	0,03	0,04	0,06	0,07	0,09	0,11	0,13	0,18	0,22	1.6
10 (0.10)		0,02	0,02	0,03	0,05	0,06	0,08	0,09	0,12	0,16	0,19	0,25	0,31	1.5
15 (0.15)	0,011	0,02	0,03	0,04	0,06	0,08	0,09	0,11	0,15	0,19	0,23	0,30		1.4
20 (0.20)	0,013	0,03	0,03	0,04	0,06	0,09	0,11	0,13	0,17	0,22	0,26			1.35
30 (0.30)	0,016	0,03	0,04	0,05	0,08	0,10	0,13	0,16	0,21	0,26	0,31			1.3
40 (0.40)	0,018	0,04	0,05	0,06	0,09	0,12	0,15	0,18	0,23	0,29				1.25
50 (0.50)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.2
Slotting (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0
= Feed per tooth correction example: at 20% engagement also increase speed by 1.35														

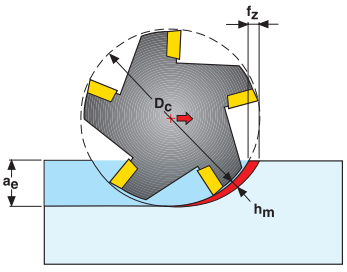
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

a_e/D_c %	Feed Per Tooth, in/tooth (fz)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	.039	
	Average Chip Thickness, in/tooth (hm)													
Width of cut up to and including Dc/2														
2 (0.02)					.0008	.0012	.0016	.0016	.0024	.0028	.0031	.0043	.0055	1.8
3 (0.03)				.0008	.0012	.0012	.0016	.0020	.0028	.0035	.0039	.0055	.0067	1.7
5 (0.05)			.0008	.0008	.0012	.0016	.0024	.0028	.0035	.0043	.0051	.0071	.0087	1.6
10 (0.10)		.0008	.0008	.0012	.0020	.0024	.0031	.0035	.0047	.0063	.0075	.0098	.0122	1.5
15 (0.15)	.0004	.0008	.0012	.0016	.0024	.0031	.0035	.0043	.0059	.0075	.0091	.0118		1.4
20 (0.20)	.0005	.0012	.0012	.0016	.0024	.0035	.0043	.0051	.0067	.0087	.0102			1.35
30 (0.30)	.0006	.0012	.0016	.0020	.0031	.0039	.0051	.0063	.0083	.0102	.0122			1.3
40 (0.40)	.0007	.0016	.0020	.0024	.0035	.0047	.0059	.0071	.0091	.0114				1.25
50 (0.50)	.0008	.0016	.0020	.0024	.0039	.0051	.0063	.0075	.0098	.0126				1.2
Slotting (Width of cut = Dc)														
100 (1.00)	.0008	.0016	.0020	.0024	.0039	.0051	.0063	.0075	.0098	.0126				1.0
= Feed per tooth correction example: at 20% engagement also increase speed by 1.35														

Instead of using the table above for calculating hm and fz, the following formula could be used if a_e/DC < 30%.

$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}}$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}}$$



This table can be used for cutters with cutting edge angle = 45º

a_e/DC %	Feed Per Tooth, mm/tooth (f_z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,10	1.8
3 (0.03)				0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,07	0,10	0,12	1.7
5 (0.05)			0,01	0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,09	0,13	0,16	1.6
10 (0.10)		0,01	0,02	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,13	0,18	0,22	1.5
15 (0.15)	0,008	0,02	0,02	0,03	0,04	0,05	0,07	0,08	0,11	0,13	0,16	0,21		1.4
20 (0.20)	0,009	0,02	0,02	0,03	0,05	0,06	0,08	0,09	0,12	0,15	0,18			1.35
30 (0.30)	0,011	0,02	0,03	0,04	0,05	0,07	0,09	0,11	0,15	0,18	0,22			1.3
40 (0.40)	0,012	0,02	0,03	0,04	0,06	0,08	0,10	0,12	0,17	0,21				1.25
50 (0.50)	0,01	0,03	0,04	0,05	0,07	0,09	0,11	0,14	0,18	0,23				1.2
Face milling full engagement (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0

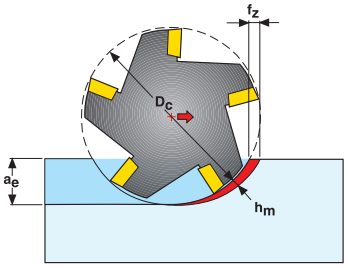
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

a_e/D_c %	Feed Per Tooth, in/tooth (f_z)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	.039	
	Average Chip Thickness, in/tooth (hm)													
Width of cut up to and including D_c/2														
2 (0.02)					.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0039	1.8
3 (0.03)				.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0028	.0039	.0047	1.7
5 (0.05)			.0004	.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0035	.0051	.0063	1.6
10 (0.10)		.0004	.0008	.0008	.0012	.0016	.0020	.0028	.0035	.0043	.0051	.0071	.0087	1.5
15 (0.15)	.0003	.0008	.0008	.0012	.0016	.0020	.0028	.0031	.0043	.0051	.0063	.0083		1.4
20 (0.20)	.0004	.0008	.0008	.0012	.0020	.0024	.0031	.0035	.0047	.0059	.0071			1.35
30 (0.30)	.0004	.0008	.0012	.0016	.0020	.0028	.0035	.0043	.0059	.0071	.0087			1.3
40 (0.40)	.0005	.0008	.0012	.0016	.0024	.0031	.0039	.0047	.0067	.0083				1.25
50 (0.50)	.0004	.0012	.0016	.0020	.0028	.0035	.0043	.0055	.0071	.0091				1.2
Face milling full engagement (Width of cut = D_c)														
100 (1.00)	.0004	.0012	.0016	.0020	.0028	.0035	.0043	.0055	.0071	.0091				1.0

Instead of using the table above for calculating hm and fz, the following formula could be used if a_e/DC < 30%.

$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}}$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}}$$



This table can be used for cutters with cutting edge angle = 60º

a_e/DC %	Feed Per Tooth, mm/tooth (f_z)													Speed Factor
	0,03	0,06	0,08	0,10	0,15	0,20	0,25	0,30	0,40	0,50	0,60	0,80	1,00	
	Average Chip Thickness, mm/tooth (hm)													
Width of cut up to and including DC/2														
2 (0.02)					0,02	0,02	0,03	0,04	0,05	0,06	0,07	0,10	0,12	1.8
3 (0.03)				0,01	0,02	0,03	0,04	0,04	0,06	0,07	0,09	0,12	0,15	1.7
5 (0.05)			0,02	0,02	0,03	0,04	0,05	0,06	0,08	0,10	0,12	0,15	0,19	1.6
10 (0.10)		0,02	0,02	0,03	0,04	0,05	0,07	0,08	0,11	0,13	0,16	0,22	0,27	1.5
15 (0.15)	0,010	0,02	0,03	0,03	0,05	0,07	0,08	0,10	0,13	0,16	0,20	0,26		1.4
20 (0.20)	0,011	0,02	0,03	0,04	0,06	0,07	0,09	0,11	0,15	0,19	0,22			1.35
30 (0.30)	0,013	0,03	0,04	0,04	0,07	0,08	0,11	0,13	0,18	0,22	0,27			1.3
40 (0.40)	0,015	0,03	0,04	0,05	0,08	0,10	0,13	0,15	0,20	0,25				1.25
50 (0.50)	0,02	0,03	0,04	0,06	0,08	0,11	0,14	0,17	0,22	0,28				1.2
Face milling full engagement (Width of cut = DC)														
100 (1.00)	0,02	0,04	0,05	0,06	0,10	0,13	0,16	0,19	0,25	0,32				1.0

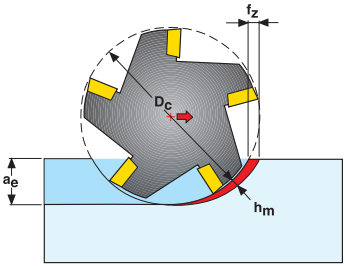
When using side milling it is necessary to increase the feed per tooth to keep the chip thickness at the same value.
It is also possible to increase the cutting speed and keep the same tool life. Use the tables below.

a_e/D_c %	Feed Per Tooth, in/tooth (f_z)													Speed Factor
	.0012	.0024	.0031	.004	.006	.008	.010	.012	.016	.020	.024	.031	1,00	
	Average Chip Thickness, in/tooth (hm)													
Width of cut up to and including D_c/2														
2 (0.02)					.0008	.0008	.0012	.0016	.0020	.0024	.0028	.0039	.0047	1.8
3 (0.03)				.0004	.0008	.0012	.0016	.0016	.0024	.0028	.0035	.0047	.0059	1.7
5 (0.05)			.0008	.0008	.0012	.0016	.0020	.0024	.0031	.0039	.0047	.0059	.0075	1.6
10 (0.10)		.0008	.0008	.0012	.0016	.0020	.0028	.0031	.0043	.0051	.0063	.0087	.0106	1.5
15 (0.15)	.0004	.0008	.0012	.0012	.0020	.0028	.0031	.0039	.0051	.0063	.0079	.0102		1.4
20 (0.20)	.0004	.0008	.0012	.0016	.0024	.0028	.0035	.0043	.0059	.0075	.0087			1.35
30 (0.30)	.0005	.0012	.0016	.0016	.0028	.0031	.0043	.0051	.0071	.0087	.0102			1.3
40 (0.40)	.0006	.0012	.0016	.0020	.0031	.0039	.0051	.0059	.0079	.0098				1.25
50 (0.50)	.0008	.0012	.0016	.0024	.0031	.0043	.0055	.0067	.0087	.0110				1.2
Face milling full engagement (Width of cut = D_c)														
100 (1.00)	.0008	.0012	.0016	.0024	.0031	.0043	.0055	.0067	.0087	.0110				1.0

Instead of using the table above for calculating hm and fz, the following formula could be used if $a_e/DC < 30\%$.

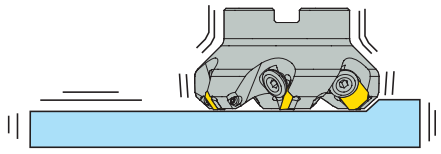
$$h_m = f_z \cdot \sqrt{\frac{a_e}{D_c}}$$

$$f_z = h_m \cdot \sqrt{\frac{D_c}{a_e}}$$

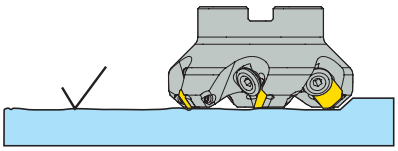


Trouble shooting carbide milling

Vibrations



- Improve the stability of cutter and workpiece.
- Change cutter positioning.
- Minimize tool overhang.
- Reduce the cutting speed.
- Increase the feed rate.
- Reduce the depth of cut.
- Select a different insert geometriy, see page Insert geometry
- Use Steadyline antivibration bar

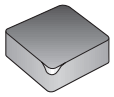
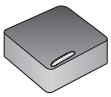
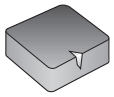
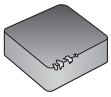
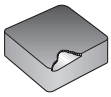
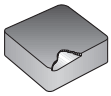
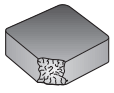


- Improve the stability of cutter and workpiece.
- Minimize tool overhang.
- Reduce the feed rate.
- Incease the cutting speed
- Use coolant.
- Use wiper inserts.
- Keep feed/rev value within wiper width
- Use Steadyline antivibration bar

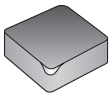
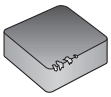
Tool life problems

Rapid flank wear 	• Reduce the cutting speed. • Increase the feed rate. • Climb milling.	**Comb cracks** 	• Reduce the cutting speed. • Reduce the feed rate. • No coolant • Change cutter positioning.
Rapid notch wear 	• Reduce the cutting speed. • Increase the feed rate. • Increase the depth of cut. • Climb milling. • Change cutter positioning	**Built-up edge (BUE)** 	• Increase the cutting speed. • Increase the feed rate • No coolant. • Climb milling. • Change cutter positioning
Chipping 	• Increase the cutting speed. • reduce the feed rate. • Conventional milling. • Improve chip evacuation. • Change cutter positioning. • Minimize tool overhang. • Improve stability.		

Troubleshooting – PCBN

Problem	Cause	Suggested action(s)
Flank wear 	Not correct edge temperature	• Increase cutting speed • Increase feed rate • Increase depth of cut • Check cutting tool centre height • Check the ferrite content
Crater wear 	Not correct edge temperature	• Decrease cutting speed • Decrease feed rate • Reduce chamfer angle • Use E edge preparation • Use coated insert • Use coolant (only in continuous cut)
Notch wear 	Not correct edge temperature Too high cutting forces	• Increase cutting speed • Decrease feed rate • Increase insert approach angle (preferably round inserts) • Vary the depth of cut • Use inserts with chamfered cutting edges
Edge chipping 	Too high cutting forces	• Use inserts with chamfered cutting edges • Increase system rigidity • For interrupted cuts, chamfer the tool entry/exit slots and holes • Vary the cutting speed to eliminate vibrations
Edge flaking (continuous cut) 	Too high cutting forces	• Increase cutting speed • Reduce feed rate • Use chamfered and honed cutting edges • Check cutting tool center height • Reduce insert approach angle
Edge flaking (interrupted cut) 	Too high cutting forces	• Do not use coolant • Use chamfered and honed cutting edges • Reduce feed rate • Increase cutting speed • Check cutting tool centre height • Reduce insert approach angle
Edge breakage 	Too high cutting forces	• Reduce depth of cut • Reduce cutting speed • Increase nose radius • Use chamfered and honed inserts • Check cutting tool center height
Insert breakage 	Too high cutting forces	• Check insert seating • Check insert shim and insert clamp • Check cutting tool centre height

Troubleshooting – PCD

Problem	Cause	Suggested action(s)
Flank wear 	Wrong grade Precense of Fe/Ni/Co	• Change to coarser PCD grade • Check material composition • Reduce cutting speed • Use coolant
Built-up edge 	Not correct edge temperature Wrong grade	• Decrease or increase cutting speed • Choose a sharper insert • Change to a finer grade
Edge chipping 	Poor rigidity Wrong grade Incorrect cutting data High run-out	• Minimize vibrations • Change to a tougher grade • Change cutting data • Check set-up
Poor surface finish	Wrong grade Too high cutting data Incrrect wiper position	• Change to a finer PCD grade • Reduce cutting speed and feed rate • Check wiper position
Flaking of workpiece	Too high depth of cut	• Decrease depth of cut • Add entry chamfer on component

Torque keys, insert keys and Combimaster tightening torque

The range of Torque keys with fixed torque values are available in combinations of key grip/torque value for insert locking for most of the Seco milling products. By using a Torque key you always ensure the correct tightening force when mounting the insert.
Torque keys are calibrated according to ISO 6789.

Code key: T00-15P35

T00 = Torque screw driver type for Torx Plus blade
T00T= Torque T-handle type for Torx Plus blade

15P= Torx Plus size
35 = Torque value 3,5 Nm

Please observe that blades are not interchangeable between screw driver type and T-handle type.
Torx Plus® is a registered trade mark belonging to
Camcar-Textron (USA)

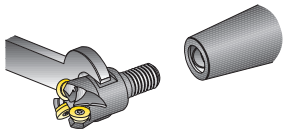
Torque key*	Replaceable blade	Torx Plus size	Torque value Nm/in.lbs
			
T00-06P05	T00-06P	T06P	0,5 / *4.4*
T00-07P05	T00-07P	T07P	0,5 / *4.4*
T00-07P09	T00-07P	T07P	0,9 / *8.0*
T00-08P12	T00-08P	T08P	1,2 / *10.6*
T00-08P20	T00-08P	T08P	2,0 / *17.7*
T00-09P09	T00-09P	T09P	0,9 / *8.0*
T00-09P12	T00-09P	T09P	1,2 / *10.6*
T00-09P20	T00-09P	T09P	2,0 / *17.7*
T00-10P20	T00-10P	T10P	2,0 / *17.7*
T00-10P30	T00-10P	T10P	3,0 / *26.6*
T00-10P35	T00-10P	T10P	3,5 / *31.0*
T00-15P20	T00-15P	T15P	2,0 / *17.7*
T00-15P30	T00-15P	T15P	3,0 / *26.6*
T00-15P35	T00-15P	T15P	3,5 / *31.0*
T00-15P40	T00-15P	T15P	4,0 / *35.4*
T00-15P50	T00-15P	T15P	5,0 / *44.3*
T00-20P35	T00-20P	T20P	3,5 / *31.0*
T00-20P50	T00-20P	T20P	5,0 / *44.3*
*Including blade			

Torque key*	Replaceable blade	Torx Plus size	Torque value Nm/in.lbs
			
T00T-15P50	T00T-15P	T15P	5,0 / *44.3*
T00T-20P50	T00T-20P	T20P	5,0 / *44.3*
T00T-20P60	T00T-20P	T20P	6,0 / *53.1*
T00T-20P80	T00T-20P	T20P	8,0 / *70.8*
T00T-25P50	T00T-25P	T25P	5,0 / *44.3*
T00T-25P60	T00T-25P	T25P	6,0 / *53.1*
T00T-25P80	T00T-25P	T25P	8,0 / *70.8*
T00T-30P80	T00T-30P	T30P	8,0 / *70.8*
*Including blade			

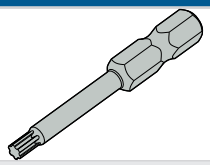
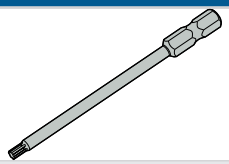
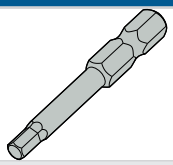
Torx Plus size	Torx Plus bit - short	Torx Plus bit - long	Key (T-handle)
			
T06P	H4B-T06P	-	DOUBLE-T
T07P	H4B-T07P	-	DOUBLE-T
T08P	H4B-T08P	-	DOUBLE-T
T09P	H4B-T09P	-	DOUBLE-T
T10P	H4B-T10P	-	DOUBLE-T
T15P	H4B-T15P	H4B-T15PL	DOUBLE-T
T20P	H6B-T20P	H6B-T20PL	DOUBLE-T
T25P	H6B-T25P	H6B-T25PL	DOUBLE-T
T30P	-	H6B-T30PL	DOUBLE-T

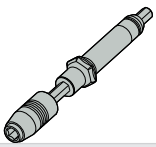
Hexagonal size	Hexagonal bit - short	Hexagonal bit - long	Key (T-handle)
			
3,0 mm	H6B-3.0	-	DOUBLE-T
5,0 mm	-	H6B-H5.0L	DOUBLE-T

Combimaster size M	Tightening torque
M6	10 Nm
M8	25 Nm
M10	40 Nm
M12	60 Nm
M16	80 Nm
M20	120 Nm



1/4” Hex Drive Bits and Adjustable Torque handles.

Size	Torx Plus bits (50 mm / 1.96 Inch)	Torx Plus bits (90 mm / 3.54 Inch)	Hexagonal bits (50 mm / 1.96 Inch)
			
Torx Plus - T05P	1/4HEX-T05Px50	-	
Torx Plus - T06P	1/4HEX-T06Px50	-	
Torx Plus - T07P	1/4HEX-T07Px50	-	
Torx Plus - T08P	1/4HEX-T08Px50	1/4HEX-T08Px90	
Torx Plus - T09P	1/4HEX-T09Px50	1/4HEX-T09Px90	
Torx Plus - T10P	1/4HEX-T10Px50	1/4HEX-T10Px90	
Torx Plus - T15P	1/4HEX-T15Px50	1/4HEX-T15Px90	
Torx Plus - T20P	1/4HEX-T20Px50	1/4HEX-T20Px90	
Torx Plus - T25P	1/4HEX-T25Px50	1/4HEX-T25Px90	
Torx Plus - T30P	1/4HEX-T30Px50	-	
Hexagonal - 2,5mm	-	-	1/4HEX-H2.5x50
Hexagonal - 4,0mm	-	-	1/4HEX-H4.0x50
Hexagonal - 5,0mm	-	-	1/4HEX-H5.0x50

Adjustable torque S-handle 0,8 - 5,0 Nm (7.1 - 44.0 in.lbs) *	Bit holder for S-HANDLE **	Adjustable torque T-handle 5,0 - 14,0 Nm (44.0 - 123.9 in.lbs) *	Bit holder for T-HANDLE ***
			
1/4HEX-S-HANDLE-0.8-5.0NM	1/4HEX-BITHOLDER-S	1/4HEX-T-HANDLE-5.0-14.0NM	1/4HEX-BITHOLDER-T

* Including Bit holder
**The bit holder is also compatible with the fixed Torque keys.
*** The bit holder is also compatible with the fixed T-handle Torque keys.

Steels, ferritic and martensitic stainless steels

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
P1	Free-cutting steels	360 < R_m < 880	11 SMn30 R_m = 385 N/mm^2	1500	0,14
P2	Low-alloy ferritic steels, C < 0.25%wt Low-alloy weldable general structural steels	320 < R_m < 600	S235JRG2 R_m = 420 N/mm^2	1600	0,23
P3	Ferritic & ferritic/pearlitic steels, C < 0.25%wt Weldable general structural steels Case-hardening steels	430 < R_m < 610	16 MnCr 5 R_m = 550 N/mm^2	1800	0,14
P4	Low-alloy general structural steels, 0.25% < C < 0.67%wt Low-alloy Quench & Temper steels	520 < R_m < 1200	C 45E R_m = 660 N/mm^2	2000	0,15
P5	Structural steels, 0.25% < C < 0.67%wt Quench & Temper steels	550 < R_m < 1200	42 CrMo 4 R_m = 700 N/mm^2	2020	0,18
P6	Low-alloy through-hardening steels, C > 0.67%wt Low-alloy spring and bearing steels	520 < R_m < 1200	C 100S R_m = 600 N/mm^2	2100	0,17
P7	Through-hardening steels, C > 0.67%wt Spring and bearing steels	600 < R_m < 1200	100 Cr 6 R_m = 650 N/mm^2	2160	0,17
P8	Tool steels High Speed Steels (HSS)	600 < R_m < 1200	X 40 CrMoV 5 1 R_m = 700 N/mm^2	2400	0,20
P11	Ferritic & martensitic stainless steels	415 < R_m < 1200	X 20 Cr 13 R_m = 675 N/mm^2	2000	0,15
P12	Maraging and precipitation-hardening stainless steels	500 < R_m < 1200	X 5 CrNiCuNb 16 4 R_m = 1100 N/mm^2	2100	0,17

Free-cutting, austenitic and duplex stainless steels

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
M1	Free-cutting austenitic stainless steels		X 10 CrNiS 18 9	1700	0,14
M2	Low-alloy austenitic stainless steels		X 5 CrNi 18 10	1920	0,18
M3	Medium-alloy austenitic stainless steels		X 2 CrNiMo 18 14 3	2070	0,17
M4	High-alloy austenitic and duplex stainless steels		X 2 CrNiMoN 22 5 3	2230	0,16
M5	Difficult high-alloy austenitic and duplex stainless steels		X 2 CrNiMoN 25 7 4	2510	0,13

Cast irons

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
K1	Grey cast irons (GCI)		EN-GJL-250	930	0,32
K2	Compacted graphite irons (CGI)		EN-GJV-400	1000	0,35
K3	Malleable cast irons (MCI)		EN-GJMB-550-4	1050	0,37
K4	Nodular cast irons (SGI)		EN-GJS-500-7	1160	0,37
K5	Austempered ductile irons (ADI)		EN-GJS-1000-5		
K6	Austenitic lamellar cast irons		EN-GJLA-XNiCuCr15-6-2		
K7	Austenitic nodular cast irons		EN-GJSA-XNiMn23-4		

Non-ferrous metals

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
N1	Aluminium alloys, Si < 9%		AW-7075		
N2	Aluminium alloys, 9% < Si < 16%		AC-44200 Si = 12%		
N3	Aluminium alloys, Si >16%		AlSi17Cu5		
N11	Copper alloys		CW614N	740	0,26

Superalloys and titanium

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
S1	Iron-based superalloys		Discalloy		
S2	Cobalt-based superalloys		Stellite 21		
S3	Nickel-based superalloys		Inconel 718	2530	0,21
S11	Titanium, low alloyed, (α)		Ti		
S12	Titanium, medium alloyed, (α+β)		TiAl6V4	1500	0,24
S13	Titanium, high alloyed, (near β and β)		Ti10V2Fe3Al		

Hard materials

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
H3	Case-hardened steels	58 < HRC < 62	16 MnCr 5 60 HRC	2070	0,14
H5	Quenched & Tempered steels	38 < HRC < 56	42 CrMo 4 50 HRC	2320	0,18
H7	Quenched & Tempered steels Bearing steels	56 < HRC < 64	100 Cr 6 60 HRC	2480	0,17
H8	Tool steels High Speed Steels (HSS)	38 < HRC < 64	X 40 CrMoV 5 1 50 HRC	2750	0,20
H11	Martensitic stainless steels	38 < HRC < 50	X 20 Cr 13 45 HRC	2300	0,15
H12	Maraged and precipitation-hardened stainless steels	1200 < R_m < 1650	X 5 CrNiCuNb 16 4 R_m = 1450 N/mm^2	2410	0,17
H21	Manganese steels	23 < HRC < 64	X 120 Mn 12 50 HRC		
H31	White cast irons	50 < HRC < 64	EN-GJN-HV600(XCr11) 55 HRC		

Other difficult materials

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
PM1	Low-alloy PM-materials		F-0008 Fe-0.7C		
PM2	Medium-alloy PM-materials		FLC-4608 Fe2Cu1.8Ni 0.5Mo0.2Mn0.8C		
PM3	High-alloy PM-materials Exhaust valve seat materials, etc.				
HF1	Hardfacing alloys Welded or plasma-deposited iron-based alloys				
HF2	Hardfacing alloys Welded or plasma-deposited cobalt- and nickel-based alloys				
CC1	Sintered tungsten carbide		G50		

Plastics and Composites

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
TS1	Thermosetting polymers		Urea formaldehyde (UF)		
TS2	Thermosetting carbon-fibre composites		T300 T700 T800 HTA-S IMA - Epoxy (M21)...		
TS3	Thermosetting glass-fibre composites		Epoxy - HX..(42..)/E glass (7781...)...		
TS4	Thermosetting aramide-fibre composites		Kevlar 49		
TP1	Thermoplastic polymers		Polycarbonate (PC)		
TP2	Thermoplastic carbon-fibre composites		PPS/PEEK - T300..		
TP3	Thermoplastic glass-fibre composites		PPS/PEEK - E-glass or A-glass...		
TP4	Thermoplastic aramide-fibre composites				

Graphite

SMG	Description	Properties	Reference	$k_{c1.1}$	m_c
GR1	Graphite		R 8500		

SMG

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
	11 SMn 30	1.0715	1.0715	9 SMn 28	S 250	230 M 07	CF 9 SMn 28	SUM 22	1912	G12130
	11 SMnPb 30	1.0718	1.0718	9 SMnPb 28	S 250 Pb		CF 9 SMnPb 28	SUM 22 L	1914	G12134
	10 S 20	1.0721	1.0721	10 S 20	10 F 1	210 M 15	CF 10 S 20			
			1.0722	10 SPb 20	10 PbF 2		CF 10 SPb 20			
P1	15 SMn 13	1.0725	1.0723	15 S 20		210 A 15		SUM 32	1922	
	35 S20	1.0726	1.0726	35 S 20	35 MF 4	212 M 36			1957	G11400
	46 S20	1.0727	1.0727	46 S 20	45 MF 4	212 M 44			1973	G11460
	11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150
	11 SMn 37	1.0736	1.0736	9 SMn 36	S 300	240 M 07	CF 9 SMn 36			G12150
	S235JR	1.0037	1.0037	St 37-2	E 24-2		Fe 360 B	STKM 12 C	1311	
	S235JRG2	1.0038	1.0116	St 37-3	E 24-3, E 24-4	4360-40 C	Fe 360 D FF		1312, 1313	
	S275J2G3	1.0144	1.0144	St 44-3 N	E 28-3, E 28-4	4360-43 C	Fe 430 D FF	SM 41 C	1412, 1414	
	C 10	1.0301	1.0301	C 10	34 C 10, XC 10	045 M 10	C 10	S 10 C		G10100
P2			1.0401	C 15	37 C 12, XC 18	080 M 15	C 15, C 16		1350	G10170
	C22	1.0402	1.0402	C 22	C 20	050 A 20	C 20, C 21		1450	G10200
	S355JR	1.0570	1.0570	St 52-3	E 36-3, E 36-4	4360-50 C	Fe 510 B	SM 50 YA	2172, 2132	
	C 15R	1.1141	1.1141	Ck 15	XC 15, XC 18	080 M 15	C 15, C 16	S 15 C, S 15 CK	1370	G10170
			1.1158	Ck 25	XC 25	060 A 25	C 25	S 25 C		G10250
			1.2162	21 MnCr 5	20 NC 5			SCR 420 H		
	16 Mo 3	1.5415	1.5415	15 Mo 3	15 D 3	1501-240	16 Mo 3		2912	
			1.5423	16 Mo 5		1503-245-420	16 Mo 5	SB 450 M		G45200
	14 NiCr 14	1.5752	1.5752	14 NiCr 14	12 NC 15	655 M 13		SNC 815 (H)		G33106
			1.5919	15 CrNi 6	16 NC 6	S 107	16 CrNi 4			
	18 NiCrMo 7 6	1.6587	1.6587	18 CrNiMo 7 6	18 NCD 6	820 A 16	18 NiCrMo 7			
P3	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170
	16 MnCrS 5	1.7139	1.7139	16 MnCrS 5						
	20 MnCr 5	1.7147	1.7147	20 MnCr 5	20 MC 5		20 MnCr 5	SMnC 420 (H)		G51200
	20 MnCrS 5	1.7149	1.7149	20 MnCrS 5	20 MnCrS 5			SMnC 21 H		
	13 CrMo 4 5	1.7335	1.7335	13 CrMo 4 4	15 CD 3.5	1501-620 Gr. 27	14 CrMo 4 5		2216	
			1.7337	16 CrMo 4 4	15 CD 4.5	1501-620 Gr. 27	14 CrMo 4 5		2216	
	10 CrMo 9 10	1.7380	1.7380	10 CrMo 9 10	10 CD 9.10	1501-622 Gr. 31	12 CrMo 9 10		2218	J21890
	C35		1.0501	C 35	55 C 35	060 A 35	C 35		1550	G10350
	E 335	1.0503	1.0503	C 45	65 C 45	80 M 46	C 45	S 45 C	1650	G10430
	C40		1.0511	C 40	60 C 40	080 M 40	C 40	S 40 C		
	E 360	1.0070	1.0535	St 70-2	A 70-2		Fe 690		1655	
	C60	1.0601	1.0601	C 60	CC 55	080 A 62	C 60			G10600
P4			1.1157	40 Mn 4	35 M 5	150 M 36				G10390
	G 28 Mn6	1.1165	1.1165	30 Mn 5		120 M 36		SMn 1 H, SCMn 2		G13300
	C 35E	1.1181	1.1181	Ck 35	XC 38 H1	080 M 36	C 35	S 35 C	1572	G10340
	C 45E	1.1191	1.1191	Ck 45	XC 42	080 M 46	C 45	S 45 C	1672	G10420
	C 60E	1.1221	1.1221	Ck 60	XC 60	080 A 62	C 60	S 58 C	1665, 1678	G10640
			1.1740	C 60 W	Y3 55			SK 7		
	55 SiCr7	1.7100	1.0904	55 Si 7	55 S 7	250 A 53	55 Si 8		2085, 2090	
			1.2330	35 CrMo 4	34 CD 4	708 A 37	35 CrMo 4		2234	T51620
			1.2542	45 WCrV 7		BS 1	45 WCrV 8 KU		2710	T41901
		1.2714	1.2714	56 NiCrMoV 7		BH 224-5	56 NiCrMoV7-KU	SKT 4		T61206
			1.5121	46 MnSi 4						
			1.5710	36 NiCr 6	35 NC 6	640 A 35		SNC 236		
			1.5736	36 NiCr 10	35 NC 11		35 NiCr 9	SNC 631 (H)		
	36 CrNiMo 4		1.6511	36 CrNiMo 4	40 NCD 3	816 M 40	38 NiCrMo 4 (KB)			G98400
P5	34 CrNiMo 6	1.6582	1.6582	34 CrNiMo 6	35 NCD 6	817 M 40	35 NiCrMo 6 (KW)	SNCM 447	2541	G43400
	34 Cr 4	1.7033	1.7033	34 Cr 4	32 C 4	530 A 32	34 Cr 4 (KB)	SCR 430 (H)		G51320
	41 Cr 4	1.7035	1.7035	41 Cr 4	42 C 4	530 M 40	41 Cr 4	SCR 440 (H)		G51400
	25 CrMo 4	1.7218	1.7218	25 CrMo 4	25 CD 4 S	708 M 25	25 CrMo 4 (KB)	SCM 425	2225	G41300
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
			1.7361	32 CrMo 12	30 CD 12	722 M 24	32 CrMo 12		2240	
	50 CrV 4	1.8159	1.8159	50 CrV 4	50 CV 4	735 A 50	51 CrV 4	SUP 10	2230	H61500
	41 CrAlMo 7 10	1.8509	1.8509	41 CrAlMo 7	40 CAD 6.12	905 M 39	41 CrAlMo 7	SACM 645	2940	K24065
	C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700
	C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950
P6	C 105U	1.1545	1.1545	C 105 W1	Y1 105		C 100 KU		1880	
			1.1645	C 105 W2	Y1 105		C 100 KU	SK 3		
			1.1663	C 125 W	Y2 120		C 120 KU	SK 2		

SMG

U.N.E./ I.H.A.	AISI / ASTM	GOST	ČSN	Misc. Brands	Condition	Structure
	1213				Annealed	
	12 L 13				Annealed	
	1108				Annealed	
	11 L 08				Annealed	
					Annealed	
	1140	40			Annealed	
	1146				Annealed	
	1215				Annealed	
	12 L 14				Annealed	
		16D			Annealed	
	A573 Grade 58	18kp	11 378		Annealed	
	A573 Grade 70	St14kP	11 448		Annealed	
	1010	10			Annealed	
F.1110	1015	15			Annealed	
	1020, 1023	20	12 024		Annealed	
		17G1S	11 523		Annealed	
F.1511	1015	15			Annealed	
F.1120	1025	25			Annealed	
					Annealed	
	A204 Grade A		15 020		Annealed	
	4520				Annealed	
	3310, 9314	20X2H4A	16 420		Annealed	
	4320		16 220		Annealed	
					Annealed	
F.1516	5115	12KHN2	14 220		Annealed	
		18HG			Annealed	
	5120	20KH	14 221		Annealed	
	5120 H	20KH			Annealed	
	A182-F11, A182-F12	12KHM	15 121		Annealed	
	A387 Grade 12 Cl. 2				Annealed	
F.155	A182-F22	12KH8	15 313		Annealed	
F.1130	1035	35	12 040		Annealed	
F.5110	1045	45	12 050		Annealed	
	1040	40	12 041		Annealed	
F.1150	1055	55			Annealed	
	1060	60	12 061		Annealed	
	1039	40G			Annealed	
	1330	30G2			Annealed	
F.1135	1035	35			Annealed	
F.1140	1045	45	12 050		Annealed	
F.1150	1064	60			Annealed	
	1060	60			Annealed	
F.144	9255	55S2			Annealed	
F.1250	4135	35KHM			Annealed	
F.5241	S1	5KHV2S			Annealed	
	L6	5KHNV			Annealed	
	5045				Annealed	
	3135				Quenched & Tempered	
	3435				Annealed	
	9840				Quenched & Tempered	
F.1280	4340	38H2N2MA	16 343		Annealed	
	5132	35KH			Quenched & Tempered	
	5140	40H	14 140		Quenched & Tempered	
F.1251	4130	20KHM	15 130		Quenched & Tempered	
F.1252	4142, 4140	38HM	15 142		Annealed	
F.1252	4142, 4140	38HM	15 142		Quenched & Tempered	
					Quenched & Tempered	
F.143	6150	50KHFA	15 260		Quenched & Tempered	
F.1740	A355 Cl. A				Annealed	
F.5103	1070	70			Annealed	
F.5117	1095				Annealed	
F.5118	W1	U10A			Annealed	
		U10			Annealed	
	W1	U13			Annealed	

SMG

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
P7	107 CrV 3	1.2210	1.2210	115 CrV 3	100 C 3		107 CrV 3 KU			T61202
			1.2510	100 MnCrW 4	90 MWCV 5	BO 1	95 MnWCr 5 KU	SKS 3	2140	T31501
	90 MnCrV 8	1.2842	1.2842	90 MnCrV 8	90 MV 8	BO 2	90 MnVCr 8 KU			T31502
	100 Cr 6	1.3505	1.3505	100 Cr 6	100 C 6	534 A 99	100 Cr 6	SUJ 2	2258	G51986
P8	X 210 Cr 12	1.2080	1.2080	X 210 Cr 12	Z 200 C 12	BD 3	X 210 Cr 13 KU	SKD 1		T30403
			1.2343	X 38 CrMoV 5 1	Z 38 CDV 5	BH 11	X 37 CrMoV 5 1 KU	SKD 6		T20811
	X 40 CrMoV 5 1	1.2344	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	BH 13	X 40 CrMo 5 1 1 KU	SKD 61	2242	T20813
	X 100 CrMoV 5	1.2363	1.2363	X 100 CrMoV 5 1	Z 100 CDV 5	BA 2	X 100 CrMoV 5 1 KU	SKD 12	2260	T30102
			1.2365	X 32 CrMoV 3 3	32 DCV 28	BH 10	30 CrMoV 12 27 KU	SKD 7		T20810
			1.2436	X 210 CrW 12			X 215 CrW 12 1 KU	SKD 2	2312	
			1.2601	X 165 CrMoV 12			X 165 CrMoW 12 KU		2310	
			1.2713	55 NiCrMoV 6	55 NCDV 7			SKT 4		T61206
	HS 6-5-2-5	1.3243	1.3243	S 6-5-2-5	Z 85 WDKCV 06-05-05-04-02		HS 6-5-2-5	SKH 55	2723	
	HS 2-10-1-8	1.3247	1.3247	S 2-10-1-8	Z 110 DKCWV 09-08-04	BM 42	HS 2-9-1-8	SKH 51		T11342
	HS 18-1-2-5	1.3255	1.3255	S 18-1-2-5	Z 80 WKCV 18-05-04-01	BT 4	HS 18-1-1-5	SKH 3		T12004
	HS 6-5-2	1.3343	1.3343	S 6-5-2	Z 85 WDCV 06-05-04-02	BM 2	HS 6-5-2	SKH 9, SKH 51	2722	T11302
	HS 2-9-2	1.3348	1.3348	S 2-9-2	Z 100 DCWV 09-04-02-02		HS 2-9-2	SKH 58	2782	T11307
	HS 18-0-1	1.3355	1.3355	S 18-0-1	Z 80 WCV 18-04-01	BT 1	HS 18-0-1	SKH 2		T12001
P11	X 6 Cr 13	1.4000	1.4000	X 6 Cr 13	Z 6 C 12	403 S 17	X 6 Cr 13	SUS 403	2301	S41008
	X 12 Cr 13	1.4006	1.4006	X 10 Cr 13	Z 10 C 13	410 S 21	X 12 Cr 13	SUS 410	2302	S41000
	X 6 Cr 17	1.4016	1.4016	X 6 Cr 17	Z 8 C 17	430 S 15	X 8 Cr 17	SUS 430	2320	S43000
	X 20 Cr 13	1.4021	1.4021	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	SUS 420 J 1	2303	S42000
	X 39 Cr 13	1.4031	1.4031	X 40 Cr 13	Z 40 C 14	420 S 45	X 40 Cr 14	SUS 420	2304	S40280
	X 70 CrMo 15	1.4109	1.4109	X 65 CrMo 14	Z 70 D 14			SUS 440 A		S44002
	X 90 CrMoV 18	1.4112	1.4112	X 90 CrMoV 18	Z 2 CND 18 05	409 S 19	X CrTi 12	SUS 440 B	2327	S44003
	X 105 CrMo 17	1.4125	1.4125	X 105 CrMo 17	Z 100 CD 17		X 105 CrMo 17	SUS 440 C		S44004
	X 3 CrNIMo 13 3	1.4313	1.4313	X 5 CrNi 13 4	Z 5 CN 13.4	425 C 11	X 6 CrNi 13 04	SCS 5	2385	S41500
	X 18 CrN 28	1.4749	1.4749	X 18 CrN 28	Z 18 C 25				2322	S44600
P12	X 6 NiCrTiMoV 25 15	1.4534	1.4534	X 3 CrNiMoAl 13 8 2						S13800
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
		1.4540	1.4540	X 4 CrNiCuNb 16 4	Z 4 CNUNb 16.4 M					S15500
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 5 CrNiCuNb 17 4	1.4548	1.4542	X 5 CrNiCuNb 17 4	Z 6 CNU 17.4			SCS 24, SUS 630		S17400
	X 7 CrNiAl 17 7	1.4564	1.4564	X 7 CrNiAl 17 7	Z 9 CAN 17.7	301 S 81	X 7 CrNiAl 17 7	SUS 631	2388	S17700
	X 2 NiCoMoTi 18 12 4	1.6356	1.6356	X 2 NiCoMoTi 18 12 4						K93160
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMo 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
M1	X 10 CrNiS 18 9	1.4305	1.4305	X 10 CrNiS 18 9	Z 10 CNF 18.09	303 S 31	X 10 CrNi 18 09	SUS 303	2346	S30300
M2	X 2 CrNi 19 11	1.4306	1.4306	X 2 CrNi 19 11	Z 2 CN 18.10	304 S 12	X 3 Cr Ni 18 11	SUS 304 L	2352	S30403
	X 5 CrNi 18 10	1.4301	1.4301	X 5 CrNi 18 10	Z 6 CN 18.09	304 S 31	X 5 CrNi 18 11	SUS 304	2333	S30400
	X 5 CrNiMo 17 12 2	1.4401	1.4401	X 5 CrNiMo 17 12 2	Z 3 CND 17.11.1	316 S 31	X 5 CrNiMo 17 12	SUS 316	2347	S31600
	X 6 CrNiNb 18 10	1.4550	1.4550	X 6 CrNiNb 18 10	Z 6 CNNb 18.10	347 S 31	X 6 CrNiNb 18 11	SUS 347	2338	S34700
	X 9 CrNi 18 8	1.4310	1.4310	X 12 CrNi 17 7	Z 12 CN 17.07	301 S 21	X 12 CrNi 17 07	SUS 301	(2331)	S30100
	X 12 CrNi 18 8	1.4300	1.4300	X 12 CrNi 18 8	Z 12 CN 18	302 S 25		SUS 302	2331	S30200
M3	X 2 CrNiMo 18 14 3	1.4435	1.4435	X 2 CrNiMo 18 14 3	Z 2 CND 17.13	316 S 12	X 2 CrNiMo 17 13 2	SCS 16, SUS 316 L	2353	S31603
	X 2 CrNiMoN 17 13 3	1.4429	1.4429	X 2 CrNiMoN 17 13 3	Z 2 CND 17.13 Az	316 S 62	X 2 CrNiMoN 17 13 3	SUS 316 LN	2375	S31653
	X 2 CrNiN 18 10	1.4311	1.4311	X 2 CrNiN 19 11	Z 2 CN 18 .10 Az	304 S 62	X 2 CrNiN 18 11	SUS 304 LN	2371	S30453
	X 3 CrNiMo 18 12 3	1.4466	1.4466	X 5 CrNi 18 15		317 S 16	X 5 CrNi 18 15	SUS 317	2366	S31700
	X 9 CrNiSiNCe 21 11 2	1.4835	1.4893	X 9 CrNiSiNCe 21 11 2		310 S 31			2368	S30815
	X 12 CrNi 25 21	1.4335	1.4335	X 12 CrNi 25 21	Z 12 CN 25.20	310 S 24	X 6 CrNi 26 20	SUH 310, SUS 310 S	2361	S31008
M4	X 2 CrNiMoN 22 5 3	1.4462	1.4462	X 2 CrNiMoN 22 5	Z 2 CND 22.05 Az	332 S 15	X 2 CrNiMoN 22 5		2377	S31803
	X 2 CrNiMoSi 19 5	1.4424	1.4417	X 2 CrNiMoSi 19 5	Z 2 CND 18.05.03				2376	S31500
	X 2 NiCrMoCu 25 20 5	1.4539	1.4539	X 2 NiCrMoCu 25 20 5	Z 2 NCDU 25 20	904 S 13			2562	N08904
	X 3 CrNiMo 27 5 2	1.4460	1.4460	X 4 CrNiMo 27 5 2	Z 3 CND 25.7 Az		X 3 CrNiMo 27 5 2	SUS 329 J 1	2324	S32900
	X 5 CrNiCuNb 16 4	1.4980	1.4943	X 4 NiCrTi 25 15	Z 6 NCTDV 25.15	HR 51		SUH 660	2570	S66286
M5	X 1 CrNiMoN 20 18 7	1.4547	1.4529	X 1 CrNiMoN 20 18 7	Z 1 CNDU 20.18.05 Az		X 1 CrNiMoN 20 18 7		2778	S31254
	X 1 CrNiMoN 25 22 8	1.4652	1.4652	X 2 CrNiMoN 25 22 7						S32654
	X 10 NiCrAlTi 32 20	1.4876	1.4876	X 10 NiCrAlTi 32 20	Z 10 NC 32.21			NCF 800		N08800
	X 2 CrNiMoN 25 7 4	1.4410	1.4410	X 2 CrNiMoN 25 7 4	Z 3 CND 25.07 Az		X 2 CrNiMoN 25 7 4		2328	S32750

SMG

U.N.E./ I.H.A.	AISI / ASTM	GOST	ČSN	Misc. Brands	Condition	Structure
F.520L	L2	11KHF			Annealed	
F.5220	O1	9KHVG			Annealed	
	O2	9G2F			Annealed	
F.5230	52100	SHKH15	14 109		Annealed	
F.5212	D3	KH12			Annealed	
	H11	4KH5MFS			Annealed	
F.5318	H13	4KH5MF1S			Annealed	
F.5227	A2	9KH5VF			Annealed	
	H10	3KH3M3F			Annealed	
F.5213		KH12			Annealed	
		KH12MF			Annealed	
F.520.S	L6	5KHNM			Annealed	
F.5613	M35	R6M5K5			Annealed	
	M42	R2AM9K5			Annealed	
	T4	R18K5F2			Annealed	
F.5603	M2	R6M5			Annealed	
	M7				Annealed	
	T1	R18			Annealed	
	403	08KH13			Annealed	Ferritic
F.3401	410, CA-15	12KH13, 08KH13			Annealed	Martensitic
F.3113	430	12KH17			Annealed	Ferritic
F.5261	420	20KH13	17 022		Annealed	Martensitic
F.3404	420	40KH13			Annealed	Martensitic
	440 A				Annealed	Martensitic
	440 B	95KH18			Annealed	Martensitic
	440 C	95KH18			Annealed	Martensitic
	A182 F6NM			F6NM	Annealed	Martensitic
	446	15KH28			Annealed	Ferritic
	XM-13			PH 13-8 Mo	Solution annealed	Austenitic
	XM-12			15-5 PH	H1150	Martensitic
	XM-12			15-5 PH	Solution annealed	Martensitic
	XM-12			15-5 PH	H1025	Martensitic
	SAE 630			17-4 PH	H1150	Martensitic
	630			17-4 PH	Solution annealed	Martensitic
	631	09KH17N7YU1		17-7 PH	Solution annealed	Austenitic/Ferritic
	AMS 6515			Marage 350	Solution annealed	Martensitic
	AMS 6521			Marage 300	Solution annealed	Martensitic
	AMS 6514			Marage 300, Vascomax C300	Solution annealed	Martensitic
	AMS 6512			Marage 250	Solution annealed	Martensitic
	AMS 6512			Marage 250, Vascomax C250	Solution annealed	Martensitic
F.3508	303	12KH19N9			Annealed	Austenitic
F.3504	304 L	03KH18N11			Annealed	Austenitic
F.3504	304	08KH18N10	17 240		Annealed	Austenitic
F.3534	316	08KH17H13M2T	17 346		Annealed	Austenitic
F.3524	347	08KH18N12B			Annealed	Austenitic
F.3517	301	07KH16N6			Annealed	Austenitic
	302	12KH18N9			Annealed	Austenitic
F.3533	(316 L)	03KH17N14M3	17 349		Annealed	Austenitic
	316 LN	03KH16N15M3			Annealed	Austenitic
F.3541	304 LN	03KH18N11			Annealed	Austenitic
	317	08KH17H15M3T			Annealed	Austenitic
				253 MA	Annealed	Austenitic
	310 S	12KH25N20			Annealed	Austenitic
	329 LN			SAF 2205	Annealed	Duplex
				3RE60	Annealed	Duplex
	904L				Annealed	Super austenitic
	329				Annealed	Duplex
	660			A286	Solution annealed	Austenitic
				254 SMO	Annealed	Super austenitic
				654 SMO	Annealed	Super austenitic
				Alloy 800	Annealed	Austenitic
	F 53			SAF 2507	Annealed	Super duplex

SMG

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
	EN-GJL-150	0.6150	0.6150	GG-15	Ft 15 D	Grade 150	G15	FC 150	01 15-00	F11601
	EN-GJL-200	0.6200	0.6200	GG-20	Ft 20 D	Grade 220	G20	FC 200	01 20-00	F12101
K1	EN-GJL-250	0.6250	0.6250	GG-25	Ft 25 D	Grade 260	G25	FC 250	01 25-00	F12401
	EN-GJL-350	0.6350	0.6350	GG-35	Ft 35 D	Grade 350	G35	FC 350	01 35-00	F13502
	EN-GJL-215			GG-220 HB					02 19	
	EN-GJV-300			GJV-300						
	EN-GJV-350			GJV-350						
K2	EN-GJV-400			GJV-400						
	EN-GJV-450			GJV-450						
	EN-GJV-500			GJV-500						
K3	EN-GJMB-550-4	0.8155		GTS-55-04	P 540/5	P 540/5	P 55-04	PCMP55-04	08 54-00	F24130
	EN-GJS-350-22	0.7033	0.7033	GGG-35.3	FGS 370-17	Grade 350/22		FCD 350-22L	07 17-15	
	EN-GJS-400-15	0.7040	0.7040	GGG-40	FGS 400-12	Grade 420/12	GS 400-12	FCD 400-18L	07 17-02	F32800
K4	EN-GJS-400-18	0.7043	0.7043	GGG-40.3	FGS 370-17	Grade 370/17	GSO 42/17		07 17-12	F32800
	EN-GJS-500-7	0.7050	0.7050	GGG-50	FGS 500-7	Grade 500/7	GS 500-7	FCD 500-7	07 27-02	F33800
	EN-GJS-600-3	0.7060	0.7060	GGG-60	FGS 600-3	Grade 600/3	GS 600-3	FCD 600-3	07 32-03	F34100
	EN-GJS-700-2	0.7070	0.7070	GGG-70	FGS 700-2	Grade 700/2	GS 700-2	FCD 700-2	07 37-01	F34800
										ADI grade 5
	EN-GJS-1000-5			GJS-1000-5						ADI grade 2
K5	EN-GJS-1200-2			GJS-1200-2						ADI grade 3
	EN-GJS-1400-1			GJS-1400-1						ADI grade 4
	EN-GJS-800-8			GJS-800-8						ADI grade 1
	EN-GJLA-XNiCr 20-2	0.6660	0.6660	GGL-NiCr 20 2	FGL Ni20 Cr2	Grade F2			05 23-00	F41002
K6	EN-GJLA-XNiCr 30-3	0.6676	0.6676	GGL-NiCr 30 3	FGL Ni30 Cr3	Grade F3				F41004
	EN-GJLA-XNiCuCr 15-6-2	0.6655	0.6655	GGL-NiCuCr 15 6 2	FGL Ni15 Cu6 Cr2	Grade F1				F41000
	EN-GJSA-XNiMn 13-7	0.7652	0.7652	GGG-NiMn 13 7	FGS Ni13 Mn7	Grade S6			07 72-00	
	EN-GJSA-XNiCr 20-2	0.7660	0.7660	GGG-NiCr 20 2	FGS Ni20 Cr2	Grade S2				F43000
K7	EN-GJSA-XNiMn 23-4	0.7673	0.7673	GGG-NiMn 23 4	FGS Ni23 Mn4	Grade S2M				F43010
	EN-GJSA-XNiCr 30-3	0.7676	0.7676	GGG-NiCr 30 3	FGS Ni30 Cr3	Grade S3				F43003
	EN-GJSA-XNi 35	0.7683	0.7683	GGG-Ni 35	FGS Ni35					F43006
	AW-1050A	Al99.5	3.0255	Al99.5	A-5/1050A	1B		(A1050)	4007	AA1050A
	AW-2011	AlCuBiPb	3.1655	AlCuBiPb	A-U5PbBi/2011	FC1		A2011	4355	AA2011
	AW-2014	AlCuSiMn	3.1255	AlCuSiMn	A-U4SG/2014	H15			4338	AA2014
	AW-5005	AlMg1	3.3315	AlMg1	A-G0.6	N41			4106	AA5005
	AW-6060	AlMgSi0.5	3.3206	AlMgSi0.5	A-GS/6060	(H9)			4103	AA6060
	AW-6063	AlMgSi0.7	3.3210	AlMgSi0.7	A-GSUC/6061	(H10)		(A6063)	4104, 4107	AA6005
	AW-3103	AlMn1	3.0515	AlMn1		N3			4054	AA3103
N1	AW-3003	AlMn1Cu	3.0517	AlMn1Cu	A-M1/3003			A3003		AA3003
	AW-7020	AlZn4.5Mg1	3.4335	AlZn4.5Mg1	A-Z5G/7020	H17			4425	AA7020
	AW-7075		3.4365	AlZnMgCu1.5	A-Z5GU/7075	2L95/2L96		A7075		AA7075
	AC-42000		3.2341	G-AlSi5Mg	A-S7G	LM25	3599	AC 4C	4244	
	AC-46200	AlSi8Cu3(Si)	3.2161	G-AlSi8Cu3					4251	A13800
	MG-P-63	MgAl6Zn	3.5612	G-MgAl6Zn	G-A6-Z1	MAG-E-121				M11600
	MG-P-61	MgAl8Zn	3.5812	G-MgAl8Zn	(G-A7-Z1)					
	MN65120	MgSe3Zn2Zr1	3.5103	G-MgSe3Zn2Zr1	ZRE1	MAG6-TE				M12330
	AC-43400	AlSi10Mg(Fe)	3.2381	G-AlSi10Mg	A-S10G	LM9			4253	A13600
N2	AC-44200	AlSi12	3.2382	GD-AlSi12						
	AW-6082	AlMgSi1	3.2315	AlMgSi1	A-SGM0.7/6082	H30			4212	AA6082
N3		AlSi17Cu5						ADC14		
	CC331G		2.0940.01	CuAl10Fe	CuAl10Fe	AB1			5710	C95200
	CC333G		2.0975.01	CuAl10Ni	CuAl10Ni5Fe5	AB2			5716	C95500
		CuNi10Fe1Mn	2.0872	CuNi10Fe1Mn	CuNi10Fe1Mn	CN102			5667	C70600
				CuNi10Zn45						
		CW408J	2.0790	CuNi18Zn19Pb	CuNi18Zn19Pb1					C76300
	CW352H		2.1176	CuPb10Sn	CuSn10Pb10	LB2			5640	C93700
	CC480K		2.1050.01	CuSn10	CuSn10	CT1			5443	C90700
N11			2.1087	CuSn10Zn					5458	C90500
	CW452K	CuSn6	2.1020	CuSn6	CuSn6	PB103		C5191	5428	C51900
	CW502L	CuZn15	2.0240	CuZn15	CuZn15	CZ102		C2300	5112	C23000
	CW706R	CuZn28Sn1	2.0470	CuZn28Sn1	CuZn29Sn1				5220	C44300
	CW508L	CuZn37	2.0321	CuZn37	CuZn37	CZ108			5150	C27200
	CW717R	CuZn38Sn1	2.0530	CuZn38Sn1						C46400
	CW614N	CuZn39Pb3	2.0401	CuZn39Pb3	CuZn39Pb3	CZ121			5170	C38500
	CW612N	CuZn40Pb2	2.0402	CuZn40Pb2	CuZn39Pb2	CZ120			5168	C37800
	CW622N	CuZn44Pb2	2.0410	CuZn44Pb2		CZ104			5272	C68700

SMG

U.N.E./ I.H.A.	AISI / ASTM	GOST	ČSN	Misc. Brands	Condition	Structure
	A48 25 B	Sc 15	422 415			Grey cast iron (GCI)
	A48 30 B	Sc 20	422 420			Grey cast iron (GCI)
	A48 35 B	Sc 25	422 425			Grey cast iron (GCI)
	A48 50 B	Sc 35				Grey cast iron (GCI)
	G 3500					Grey cast iron (GCI)
	Grade 350					Compacted graphite iron (CGI)
	Grade 400					Compacted graphite iron (CGI)
	Grade 400-15					Compacted graphite iron (CGI)
	Grade 450					Compacted graphite iron (CGI)
	Grade 500					Compacted graphite iron (CGI)
	A220 60004				Tempered	Malleable cast iron (MCI)
						Nodular cast iron (SGI)
FGE 38-17	60-40-18	Vc 42-12	422 304			Nodular cast iron (SGI)
	60-40-18	Vc 42-12				Nodular cast iron (SGI)
FGE 50-7	A536, 80-55-06	Vc 50-2	422 305			Nodular cast iron (SGI)
FGE 60-2	A476, 80-60-03	Vc 60-2	422 306			Nodular cast iron (SGI)
FGE 70-2	A536, 100-70-03	Vc 70-2				Nodular cast iron (SGI)
	1600/1300/-					Austempered ductile iron (ADI)
	1050/700/7					Austempered ductile iron (ADI)
	1200/850/4					Austempered ductile iron (ADI)
	1400/1100/1					Austempered ductile iron (ADI)
	850/550/10					Austempered ductile iron (ADI)
	A436 Type 2			Ni-Resist 2		Austenitic lamellar cast iron
	A436 Type 3			Ni-Resist 3		Austenitic lamellar cast iron
	A436 Type 1			Ni-Resist 1		Austenitic lamellar cast iron
				Nodumag		Austenitic nodular cast iron
	A436 Type D-2			Ni-Resist D-2		Austenitic nodular cast iron
	A439 Type D-2M			Ni-Resist D-2M		Austenitic nodular cast iron
	A436 Type D-3			Ni-Resist D-3		Austenitic nodular cast iron
	A439 Type D-5			Ni-Resist D-5		Austenitic nodular cast iron
	B26					
	A380					
	AZ61A					
	AZ80A					
	AMS 4442					
	B85					
	A413.2					
	B390.0					
	CA952	BrA9ZH3L				
	CA955	BrA10ZH4N4L				
	CA937					
		BrOF6.5-0.15				
		L90				
		LOMsh70-1-0.05				
		LO60-1				
		LAMsh77-2-0.05				

SMG

SMG	EN	EN-Nr	W.-Nr	DIN	AFNOR	BS	UNI	JIS	SS	UNS
S1										
S2										
	NiMo30		2.4810							N10002
	NiMo16Cr15W		2.4819							N10276
	NiCr19Fe19Nb5Mo3		2.4668							N07718
S3			2.4669							N07750
	NiCr20TiAl		2.4631							N07080
	NiCr19Co18Mo4Ti3Al3									N07500
	NiCr20Co13Mo4Ti3Al		2.4654							N07001
S11			3.7024							
										R54620
S12										R56320
	TiAl6V4		3.7164							R56400
S13				TiV10Fe2Al3						
H3	16 MnCr 5	1.7131	1.7131	16 MnCr 5	16 MC 5	527 M 17	16 MnCr 5	SCR 415	2511	G51170
	C 67S	1.1231	1.1231	Ck 67	XC 68	060 A 67	C 70		1770	G10700
	C 75S	1.1248	1.1248	Ck 75	XC 75	060 A 78	C 75		1774, 1778	G10780
	C 100S	1.1274	1.1274	Ck 101		060 A 96		SUP 4	1870	G10950
H5	C 105U	1.1545	1.1545	C 105 W1	Y1 105		C 100 KU		1880	
			1.2550	60 WCrV 7	55 WC 20		55 WCrV 8 KU			
	55 Cr 3	1.7176	1.7176	55 Cr 3	55 C 3	527 A 60	55 Cr 3	SUP 9 (A)	2253	G51550
	42 CrMo 4	1.7225	1.7225	42 CrMo 4	42 CD 4	708 M 40	42 CrMo 4	SCM 440 (H)	2244	G41400
	107 CrV 3	1.2210	1.2210	115 CrV 3	100 C 3		107 CrV 3 KU			T61202
H7			1.2510	100 MnCrW 4	90 MWCV 5	BO 1	95 MnWCr 5 KU	SKS 3	2140	T31501
	90 MnCrV 8	1.2842	1.2842	90 MnCrV 8	90 MV 8	BO 2	90 MnVCr 8 KU			T31502
	100 Cr 6	1.3505	1.3505	100 Cr 6	100 C 6	534 A 99	100 Cr 6	SUJ 2	2258	G51986
	X 40 CrMoV 5 1	1.2344	1.2344	X 40 CrMoV 5 1	Z 40 CDV 5	BH 13	X 40 CrMo 5 1 1 KU	SKD 61	2242	T20813
	X 100 CrMoV 5	1.2363	1.2363	X 100 CrMoV 5 1	Z 100 CDV 5	BA 2	X 100 CrMoV 5 1 KU	SKD 12	2260	T30102
	X 155 CrVMo 12 1		1.2379	X 155 CrVMo 12 1	Z 160 CDV 12	BD 2	X 155 CrVMo 12 1 KU	SKD 11		T30402
			1.2436	X 210 CrW 12			X 215 CrW 12 1 KU	SKD 2	2312	
H8			1.2601	X 165 CrMoV 12			X 165 CrMoW 12 KU		2310	
			1.2713	55 NiCrMoV 6	55 NCDV 7			SKT 4		T61206
	HS 6-5-2-5	1.3243	1.3243	S 6-5-2-5	Z 85 WDKCV 06-05-05-04-02		HS 6-5-2-5	SKH 55	2723	
	HS 2-10-1-8	1.3247	1.3247	S 2-10-1-8	Z 110 DKCWV 09-08-	BM 42	HS 2-9-1-8	SKH 51		T11342
	HS 18-0-1	1.3355	1.3355	S 18-0-1	Z 80 WCV 18-04-01	BT 1	HS 18-0-1	SKH 2		T12001
	X 20 Cr 13	1.4021	1.4021	X 20 Cr 13	Z 20 C 13	420 S 37	X 20 Cr 13	SUS 420 J 1	2303	S42000
H11	X 70 CrMo 15	1.4109	1.4109	X 65 CrMo 14	Z 70 D 14			SUS 440 A		S44002
	X 90 CrMoV 18	1.4112	1.4112	X 90 CrMoV 18	Z 2 CND 18 05	409 S 19	X CrTi 12	SUS 440 B	2327	S44003
	X 105 CrMo 17	1.4125	1.4125	X 105 CrMo 17	Z 100 CD 17		X 105 CrMo 17	SUS 440 C		S44004
	X 4 CrNiCuNb 16 4	1.4540	1.4540	X 4 CrNiCuNb 16 4						S15500
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 5 CrNiCuNb 16 4	1.4542	1.4542	X 5 CrNiCuNb 16 4				SUS 630		S17400
	X 7 CrNiAl 17 7	1.4568	1.4568	X 7 CrNiAl 17 7	Z 9 CAN 17.7	301 S 81	X 7 CrNiAl 17 7	SUS 631	2388	S17700
H12	X 8 CrNiMoAl 15 7 5	1.4574	1.4574	X 8 CrNiMoAl 15 7 5						S15700
	X 6 NiCrTiMoV 25 15	1.4980	1.4943	X 4 NiCrTi 25 15	Z 6 NCTDV 25.15	HR 51		SUH 660	2570	S66286
	X 2 NiCoMo 18 8 5	1.6359	1.6359	X 2 NiCoMo 18 8 5		S 162				K92890
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMoTi 18 9 5	1.6358	1.6358	X 2 NiCoMoTi 18 9 5	Z 2 NKD 19-09					K93120
	X 2 NiCoMoTi 18 12 4	1.6356	1.6356	X 2 NiCoMoTi 18 12 4						K93160
H21	X 120 Mn 12	1.3401	1.3401	X 120 Mn 12	Z 120 M 12	BW 10		SC MnH 1	2183	
	EN-GJN-HV520	0.9620	0.9620	G-X330 NiCr 4 2	FB Ni4 Cr2 BC	Grade 2 A			05 12-00	F45001
H31	EN-GJN-HV550	0.9625	0.9625	G-X260 NiCr 4 2	FB Ni4 Cr2 HC	Grade 2 B			05 13-00	F45000
	EN-GJN-HV600(XCr11)	0.9630	0.9630	G-X300 CrNiSi 9 5 2	FB Cr9 Ni5	Grade 2 C, D, E			04 57-00	F45003

SMG

U.N.E./ I.H.A.	AISI / ASTM	GOST	ČSN	Misc. Brands	Condition	Structure
				Discalloy	Precipitation hardened	
				Haynes 25		
				Stellite 21		
				Hastelloy C		
		KHN65MV		Hastelloy C-276		
				IN 100		
				Inconel 718		
				Inconel X-750	Solution annealed	
				Nimonic 80A		
				René 41		
				Udimet 500		
				Waspalloy		
				Ti	Commercially pure	Ti (α)
	AMS 4919			Ti 6-2-4-2	Annealed	Ti (α)
	AMS 4943			Ti 3Al-2.5V (grd 9)	Annealed	Ti (α+β)
	AMS 4920, Grade 5	VT6		Ti 6Al-4V	Annealed	Ti (α+β)
	AMS 4986			Ti 10V-2Fe-3Al	Annealed	Ti (β)
F.1516	5115	12KHN2	14 220		Case hardened	
F.5103	1070	70			Quenched & Tempered	
F.5107	1078, 1080	75			Quenched & Tempered	
F.5117	1095				Quenched & Tempered	
F.5118	W1	U10A			Quenched & Tempered	
	S1	5KHV2SF			Quenched & Tempered	
	5155				Quenched & Tempered	
F.1252	4142, 4140	38HM	15 142		Quenched & Tempered	
F.520L	L2	11KHF			Quenched & Tempered	
F.5220	O1	9KHVG			Quenched & Tempered	
	O2	9G2F			Quenched & Tempered	
F.5230	52100	SHKH15	14 109		Quenched & Tempered	
F.5318	H13	4KH5MF1S			Quenched & Tempered	
F.5227	A2	9KH5VF			Quenched & Tempered	
F.5211	D2	KH12MF			Quenched & Tempered	
F.5213		KH12			Quenched & Tempered	
		KH12MF			Quenched & Tempered	
F.520.S	L6	5KHNM			Quenched & Tempered	
F.5613	M35	R6M5K5			Quenched & Tempered	
	M42	R2AM9K5			Quenched & Tempered	
	T1	R18			Quenched & Tempered	
F.5261	420	20KH13	17 022		Quenched & Tempered	Martensitic
	440 A				Quenched & Tempered	Martensitic
	440 B	95KH18			Quenched & Tempered	Martensitic
	440 C	95KH18			Quenched & Tempered	Martensitic
	XM-12			15-5 PH	H900	Martensitic
	SAE 630			17-4 PH	H1025	Martensitic
	SAE 630			17-4 PH	H900	Martensitic
	AMS 5528	09KH17N7YU1		17-7 PH	TH1050	Martensitic
	632			PH 15-7 Mo	TH1050	Martensitic
	660			A286	Precipitation hardened	Austenitic
	AMS 6512			Marage 250	Precipitation hardened	Martensitic
	AMS 6521			Marage 300	Precipitation hardened	Martensitic
	AMS 6521			Marage 300	Precipitation hardened	Martensitic
	AMS 6515			Marage 350	Precipitation hardened	Martensitic
	A128 Grade A			Hadfield		
	A532 IB (NiCr-LC			Ni-Hard 2		White cast iron
	A532 IA (NiCr-HC)			Ni-Hard 1		White cast iron
	A532 ID (Ni-HiCr)			Ni-Hard 4		White cast iron

Cemented carbide inserts and insert carriers

Cemented carbide inserts and cemented carbide insert carriers from Seco Tools are not included in the product range intended for the following requirements.
Nevertheless Seco Tools can make the following declaration.
These products meet all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Regrinding:
Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:
Seco Tools will buy back used inserts and solid carbide tools for recycling. Inserts and solid carbide tools should be separated from other metal waste (steel, aluminium, copper etc).
All packing material is fully recyclable.

CBN and PCD inserts

Inserts from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Regrinding:
Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:
Seco Tools will buy back used CBN- or PCD-tipped inserts for recycling. Inserts should be separated from other metal waste (steel, aluminium, copper etc). Solid CBN-inserts may be discarded as landfill waste.
All packing material is fully recyclable.

Black oxide insert carriers

Insert carriers from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.

Disposal:
Used insert carriers may be sent for recycling together with ordinary steel waste (swarf and discarded steel scrap) for recycling.
All packing material is fully recyclable.

Cermet inserts

Inserts from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Cermet grade C15M inserts do contain nickel and will leach nickel when in contact with the skin. Amount of leaching is higher than specified in norm SS-EN 1811 Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin. These norms are intended for products that are in direct and prolonged contact with the skin and are therefore not directly applicable for cermet inserts. Persons with known allergic reactions to nickel are advised to wear protective gloves when handling cermet inserts.

Regrinding:
Wet or dry grinding can produce potentially hazardous dusts or mists that can irritate skin, eyes, nose, throat and result in lung damage or disease. To avoid injury use proper safety precautions and protective equipment.

Disposal:
Used inserts may be recycled. Inserts should be separated from other metal waste (steel, aluminium, copper, etc) including cemented carbide inserts.
All packing material is fully recyclable.

Nickel coated insert carriers

Insert carriers from Seco Tools are not included in the product range intended for the following requirements. Nevertheless Seco Tools can make the following declaration.
This product meets all requirements in RoHS (Restriction of the use of certain Hazardous Substances in electrical and electronic equipment), WEEE (Waste Electrical & Electronic Equipment) and ELV (End of Life Vehicles) requirements.
Products do not contain mercury, lead, hexavalent chromium, cadmium, CFC, HCFC, flame retardants or solvents in concentrations that exceed specifications in the regulations.
Insert carriers do contain nickel and will leach nickel when in contact with the skin. Amount of leaching is not higher then norm SS-EN 1811 Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin.
These norms are intended for products that are in direct and prolonged contact with the skin and are therefore not directly applicable for insert carriers.
Persons with known allergic reactions to nickel are advised to wear protective gloves when handling nickel coated insert carriers.

Disposal:
Used tools maybe sent for recycling together with ordinary steel waste (swarf and discarded steel scrap) for recycling.
All packing material is fully recyclable.

Intentionally added alloying elements

Grade	Cemented carbide											Coating						
	W	Ti	Ta	Nb	Co	Cr	Ni	Mo	C	N	Ru	Ti	Al	C	N	O	Si	Nb
CP20	■				■				■			■			■			
CP200	■				■	■			■			■	■		■			
CP300	■	■	■	■	■				■			■	■		■			
CP500	■				■	■			■			■	■		■			
CP600	■				■	■			■			■	■		■			
C15M	■	■	■	■	■		■	■	■	■								
CF	■		■		■		■	■	■									
CM	■		■		■		■	■	■									
DP2000	■		■	■	■				■			■	■	■	■	■		
DP3000	■	■	■	■	■				■	■		■	■	■	■	■		
DS2050	■				■	■			■			■	■		■			■
DS4050	■				■	■			■			■	■		■			■
F15M	■				■	■			■			■	■		■			
F25M	■	■	■	■	■				■			■	■		■			
F30M	■				■	■			■			■	■		■			
F40M	■				■	■			■			■	■		■			
HX	■		■		■				■									
H02	■		■		■	■			■									
H15	■				■	■			■									
H25	■				■	■			■									
KX	■				■	■			■									
MH1000	■				■	■			■			■	■		■			
MK1500	■		■		■				■			■	■	■	■	■		
MK2050	■		■		■	■			■			■	■		■		■	
MM4500	■				■	■			■			■	■	■	■	■		
MP1501	■		■	■	■				■			■	■	■	■	■		
MP2050	■				■						■	■	■		■		■	
MP2501	■		■	■	■				■			■	■	■	■	■		
MP3000	■				■	■			■			■	■		■			
MP3501	■		■	■	■				■			■	■	■	■	■		
MS2500	■		■	■	■				■			■	■	■	■	■		
MS2050	■				■	■			■			■	■		■			■
RX1500	■		■		■		■	■	■			■	■		■			
RX2000	■		■		■	■			■			■	■		■			
RM2020	■				■				■			■						
RM2090	■				■	■			■			■	■				■	
RN2010	■				■	■			■									
RS2090	■				■	■			■			■	■				■	
T350M	■		■	■	■				■			■	■	■	■	■		
T25M	■		■	■	■				■			■		■	■			
TGH1050	■				■	■			■			■	■		■		■	
TGK1500	■		■		■				■			■	■	■	■	■		
TGP25	■	■	■	■	■				■			■	■	■	■	■		
TGP35	■		■	■	■				■			■	■	■	■	■		
TGP45	■		■	■	■				■			■	■	■	■	■		
TGS2050	■				■	■			■			■	■		■		■	
TH1000	■				■	■			■			■	■		■		■	
TH1500	■				■	■			■			■	■	■	■	■		
TK0501	■				■	■			■			■	■	■	■	■		
TK1501	■		■		■	■			■			■	■	■	■	■		
TM1501	■	■	■	■	■	■			■	■		■	■	■	■	■		
TM2000	■	■	■	■	■				■	■		■	■	■	■	■		
TM2501	■	■	■	■	■				■	■		■	■	■	■	■		
TM3501	■				■				■			■	■	■	■	■		
TM4000	■	■	■	■	■				■	■		■	■	■	■	■		
TP0501	■	■	■	■	■	■			■			■	■	■	■	■		
TP1020	■	■	■	■	■				■	■								
TP1030	■	■	■	■	■				■	■		■	■		■		■	
TP1501	■	■	■	■	■				■	■		■	■	■	■	■		
TP25	■	■	■	■	■	■			■	■		■	■	■	■	■		
TP200	■	■	■	■	■				■	■		■	■	■	■	■		
TP2501	■	■	■	■	■	■			■	■		■	■	■	■	■		
TP3501	■	■	■	■	■				■	■		■	■	■	■	■		
TP40	■		■	■	■				■			■		■	■			
TS2000	■				■	■			■			■	■		■			
TS2050	■				■	■			■			■	■		■		■	
TS2500	■		■		■				■			■	■		■			
TTP2050	■				■	■			■			■	■		■		■	
T250D	■				■	■			■			■	■		■			
T400D	■				■	■			■			■	■		■			
T100R	■		■		■	■			■			■	■		■			
T60M	■	■	■	■	■				■			■	■		■			
883	■		■		■				■									
890	■				■	■			■									

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