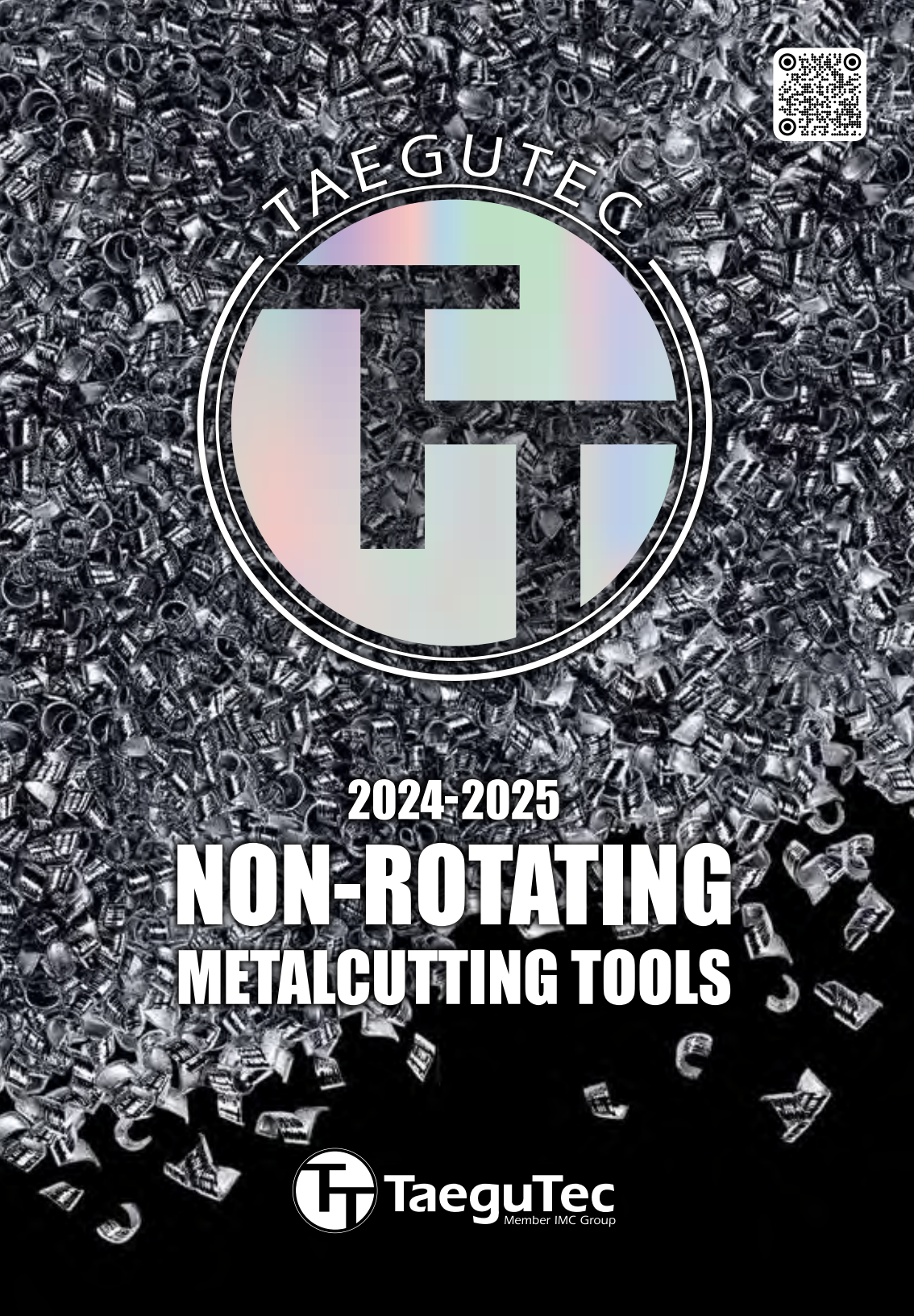



2024-2025

# NON-ROTATING METALCUTTING TOOLS

TaeguTec
Member IMC Group

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**Turning**



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A Turning

**Parting & Grooving**



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B Parting & Grooving

**Thread Making**



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C Thread Making

**Holemaking**



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D Holemaking

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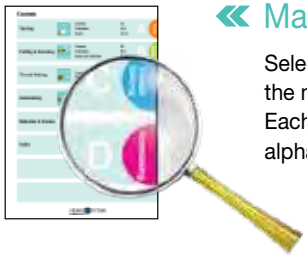
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| Chip Braker Comparison Table | I 10 |
| Hardness Conversion Table | I 14 |
| Material Conversion Table | I 16 |

I Materials & Grades

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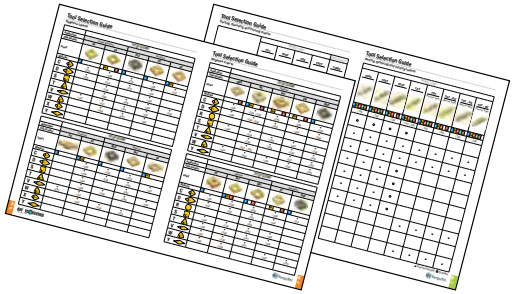
## « Main Contents

Select an application line from the main Table of Contents. Each line is color coded in alphabetical order.



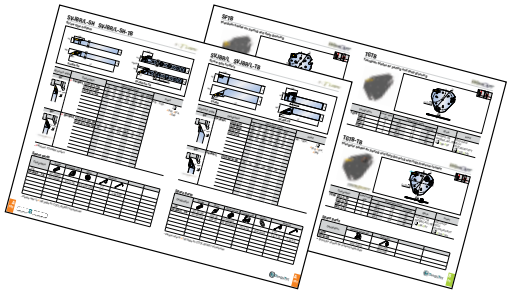
## Tool Selection Guide »

Choose the required machining solutions and tools from tool selection guide.



## Products Page »

Obtain detailed information of products such as dimensions, grades and related parts etc. Holder and insert pages are organized separately.



## Alphabetical Index »

All tools are listed in the alphabetical index at the end of the catalogue.

Should you require more information and data from TaeguTec, please contact the nearest TaeguTec Global Service Center or visit our website. www.taegutec.com

# TURNING



# TURNING

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## Guide to Icons



› Toolholder Page



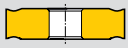
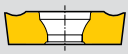
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| | |
|---|---|
| **Boring Bars** | |
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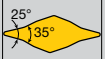
# Tool Selection Guide

## Holders

| Insert type | | | General turning (For red color, refer to Rhino catalog) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | C | D | R | S | T | V | W | E |
| | | |  |  |  |  |  |  |  |  |
| Negative insert |  | | 07, 09, 12-25 | 08, 13, 11, 15 | 09-25 | 09, 12-31 | 13, 16-33 | 13,16 | 04, 06, 08 | 13 |
| Positive insert |  | | 03-12 | 07, 11 | 06-32 | 09-19 | 06 - 27 | 08-22 | 06 | |
|  Lever lock | Ext. | A7 | ● | ● | ● | ● | ● | | ● | |
| | Int. | A18, A19 | ● | ● | | ● | ● | | | |
|  Screw clamp | Ext. | A8, A10, A11, A15 | ● | ● | ● | ● | ● | ● | | |
| | Int. | A16, A18, A19 | ● | ● | | ● | ● | ● | ● | |
|  Hook lever | Ext. | A12 | | | | ● | | | | |
| | Int. | A17 | | | | | | | | |
|  Multi lock | Ext. | A12 | | ● | | | ● | ● | ● | |
| | Int. | A17 | | | | | | | ● | |
|  T-holder | Ext. | A6, A14, A15 | ● | ● | ● | ● | ● | ● | ● | ● |
| | Int. | A18, A19 | ● | ● | | ● | | ● | ● | |
|  Top clamp | Ext. | A13 | | | ● | ● | ● | | | |
| | Int. | A17 | | | | ● | ● | | | |
|  Wedge clamp | Ext. | A12 | | | | | ● | | | |
| | Int. | A18 | | | | | ● | | | |
|  Dimple holder | Ext. | A13 | ● | ● | | ● | | | | |
| | Int. | A18 | ● | | | | | | | |

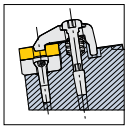
# Tool Selection Guide

## Holders

| General turning (For red color, refer to Rhino catalog) | | | | | High feed turning | | | | |
|---|---|---|---|---|---|---|---|---|---|
| H | K | XNMG | Y | BTVC | FCMX | TNMV | XNMV | ZNMV | ZNMV Y-BF |
|  |  |  |  |  |  |  |  |  |  |
| 05, 10 | 16 | 09, 11 | 13 | | | 21 | 11 | 14 | 14 |
| | | | | 11 | 10 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | ● | ● | | | | |
| | | | | | | | ● | | |
| | | | | | | | | | |
| | | | | | | | ● | | |
| | | | | | | | | | |
| | | | | | | | | | |
| ● | | | | | | ● | ● | ● | ● |
| ● | | | | | | | ● | | |
| | ● | | | | | | | | |
| | ● | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

# Tool Selection Guide

## External holders



**T** T-Holder





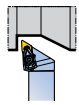
TCBNR/L A100

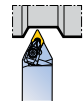

TCKNR/L A100


TCLNR/L A101

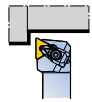

TXJNR/L A110
TXJNR/L-TB A111

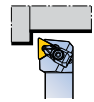




TDJNR/L A102


TDNNR/L A102

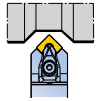


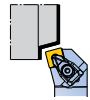


TTGNR/L A106

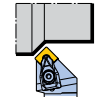

TTJNR/L A106

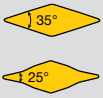

TTQNR/L(-TB) A107





TSDNN A104


TSKNR/L A105

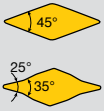

TSSNR/L A105





TVJNR/L A108


TVQNR/L A108





TZQNR/L A112


TZQNR/L-TB A112


TZXNN A113


TZXNN-TB A113





TWLNR/L A109

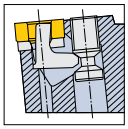




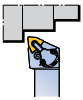
THSNR/L A103

# Tool Selection Guide

## External holders

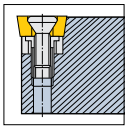


**P** Lever lock

| | | | | |
|---|---|---|---|---|
| 80° |  PCBNR/L A58 |  PCKNR/L A58 |  PCLNR/L A59 |  PCLNR/L-TB A59 |
| 55° |  PDJNR/L A60 |  PDJNR/L-TB A60 |  PDNNR/L A61 | |
| 60° |  PTFNR/L A67 |  PTGNR/L A68 |  PTTNR/L A68 | |
| 90° |  PSBNR/L A65 |  PSDNN A65 |  PSKNR/L A66 |  PSSNR/L A66 |
| 80° |  PWLNR/L-TB A69 | | | |
| |  PRDCN A62 |  PRGCR/L A63 |  PRGNR/L A64 | |
| | | | | |

# Tool Selection Guide

## External holders



**S** Screw clamp

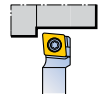
80°



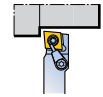
SCACR/L-SH A70



SCACR/L-SH-TB A70



SCLCR/L-SH A71

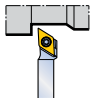


SCLCR/L-SH-TB A71

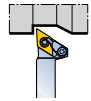


SCLCR/L A72

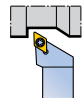
55°



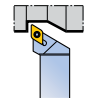
SDJCR/L-SH A73



SDJCR/L-SH-TB A73



SDJCR/L A74



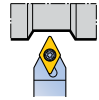
SDJNR/L A74



SDNCN-SH A75



SDNCN-SH-TB A75

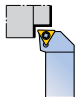


SDNCN A76

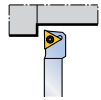


SDQNR/L A76

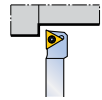
60°



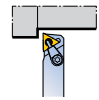
STFCR/L A81



STGCR/L-SH A82



STGPR-SH A82

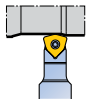


STGCR/L-SH-TB A82



STGCR/L A83

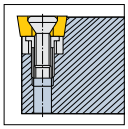
90°



SFXCN A77

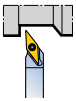
# Tool Selection Guide

## External holders



**S** Screw clamp

35°



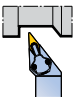
SVJBR/L-SH A84



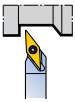
SVJBR/L-SH-TB A84



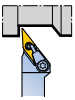
SVJBR/L A85



SVJBR/L-TB A85



SVJCR/L-SH A86



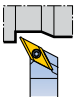
SVJCR/L-SH-TB A86



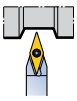
SVJCR/L A87



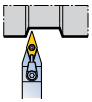
SVJNR/L A87



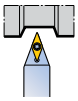
SVPBR/L A88



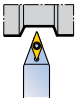
SVVBN-SH A89



SVVBN-SH-TB A89



SVVBN A90



SVVCN A90



LVJBR/L A92



LVJBR-SH A92

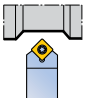


LVQBR/L A93

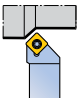


LVVBN A93

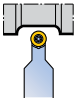
90°



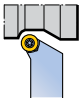
SSDCN A80



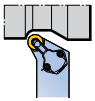
SSSCR/L A80



SRDCN A78



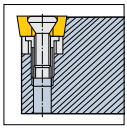
SRGCR/L A79



SRGCR/L-TB A79

# Tool Selection Guide

## External holders

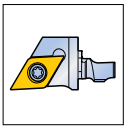


**TM...** Miniature tool holder (Screw clamp)

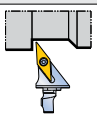
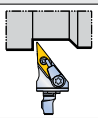
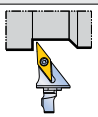
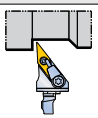
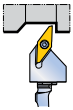
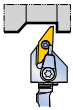
| | | | |
|---|---|---|---|
| **TMB** Back turning holders | 35° |  TMB-SVXCR A91 |  TMB-SVXCR-TB A91 |
| **TMS** Sleeve holders | 80° |  TMS-SCLCL A94 | |
| | 55° |  TMS-SDUCL A95 |  TMS-SDUCR/L-TB A95 |
| | 35° |  TMS-SVUBL A96<br>TMS-SVUCL A96 |  TMS-SVUBR/L-TB A96 |
| **TMY** Y-axis holders | 55° |  TMY-SDJCR A97 |  TMY-SDJCR-TB A97 |
| | 35° |  TMY-SVJBR A98 |  TMY-SVJBR-TB A98 |
| **TMZ** Shift holders | 55° |  TMZ-SDJCR A99 | 35°  TMZ-SVLBR A99 |

# Tool Selection Guide

**External holders**

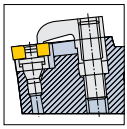


## QE Modular head (Screw clamp)

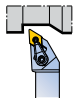
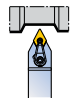
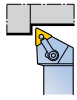
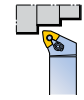
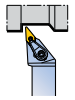
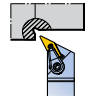
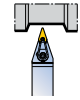
| | | |
|---|---|---|
| **QE1** External turning modular head | 55° |  QE1 SDJCR A137  QE1 SDJCR-TB A137 |
| | 35° |  QE1 SVJBR A138  QE1 SVJBR-TB A138  QE1 SVJCR A139  QE1 SVJCR-TB A139 |
| **QE1B** Back turning modular head | 35° |  QE1B SVXCR A140  QE1B SVXCR-TB A140 |
| **QE1Y** Y-axis modular head | 55° |  QE1Y SDJCR A141  QE1Y SDJCR-TB A141 |
| | | |
| | | |
| | | |

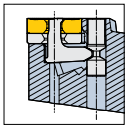
# Tool Selection Guide

## External holders

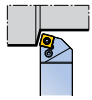
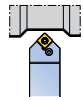


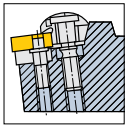
### M Multi lock

| | | | |
|---|---|---|---|
| 55° |  MDJNR/L A52 |  MDNNN A52 |  MDQNR/L A53 |
| 60° |  MTJNR/L A54 | 80° |  MWLNR/L A57 |
| 35° |  MVJNR/L A55 |  MVQNR/L A55 |  MVVNN A56 |

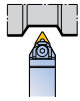
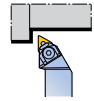
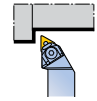


### H Hook lever holder

| | | |
|---|---|---|
| 90° |  HSBNR/L A51 |  HSDNN A51 |

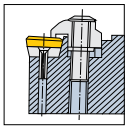


### W Wedge clamp

| | | | |
|---|---|---|---|
| 60° |  WTENN A114 |  WTGNR/L A114 |  WTJNR/L A115 |

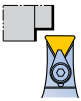
# Tool Selection Guide

## External holders

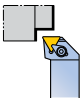


### C Top clamp

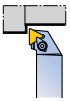
60°



CTCPN A49

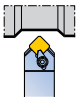


CTFPR/L A49



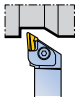
CTGPR/L A50

90°

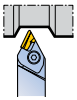


CSDPN A48

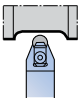
55°



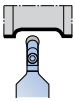
CKJNR/L A47



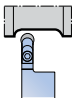
CKNNR/L A47



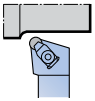
CRDCN-120 A116
CRDCN-140 A116



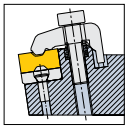
CRDCN-T A117



CRDCR/L-T A117

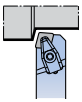


CRGCR/L-120 A118
CRGCR/L-140 A118

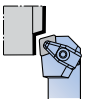


### T-CH CH dimple holder

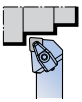
80°



TCBNR/L-CH A120

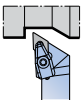


TCKNR/L-CH A120

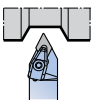


TCLNR/L-CH A121

55°

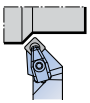


TDJNR/L-CH A122



TDNNN-CH A122

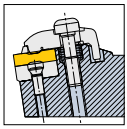
90°



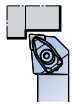
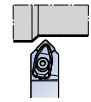
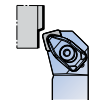
TSSNR/L-CH A123

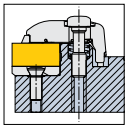
# Tool Selection Guide

## External holders

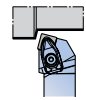
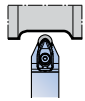
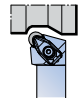


### T-DA DA dimple holder

| | | | | |
|---|---|---|---|---|
| 80° |  TCLNR/L-DA A124 | 90° |  TSDNN-DA A125 |  TSKNR/L-DA A125 |

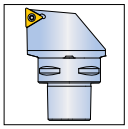


### T-F Flat T-Holder

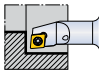
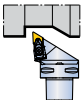
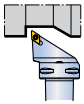
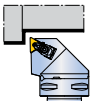
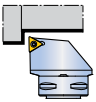
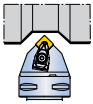
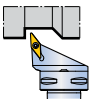
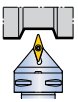
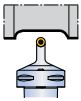
| | | | | |
|---|---|---|---|---|
| 80° |  TCLNR/L-F A126 |  CCLNR/L-F A119 | | |
| 55° |  TDJNR/L-F A127 | | | |
| 90° |  TSDNN-F A130 |  TSKNR/L-F A130 |  TSRNR/L-F A131 |  TSSNR/L-F A131 |
| 60° |  TTJNR/L-F A132 | | | |
| |  TRDNN-F A129 |  TRGNR/L-F A129 | 75° |  TEGNR/L-F A128 |

# Tool Selection Guide

## External and internal C-adapter

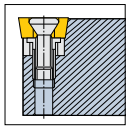


**C** C-Adapter

| | | | | |
|---|---|---|---|---|
| 80° |  C...TCLNR/L A146 |  C...SCLCR/L A151 |  C...SCLCR/L A154 | |
| 55° |  C...TDJNR/L A146 |  C...SDJCR/L A151 |  C...SDUCR/L A154 | |
| 60° |  C...TTGNR/L A148<br>C...TTJNR/L A148 |  C...STGCR/L A152<br>C...STJCR/L A152 |  C...STFCR/L A155 | |
| 90° |  C...TSDNN A147 |  C...TSSNR/L A147 | | |
| 35° |  C...TVJNR/L A148 |  C...SVJBR/L A153 |  C...SVVBN A153 |  C...SVQBR/L A155 |
| 45° |  C...TZQNR/L-TB A150 | 80° |  C...TWLNR/L A149 | |
| |  C...SRDCN A152 | | | |

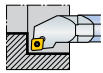
# Tool Selection Guide

## Internal boring bars

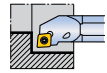


**S** Screw clamp

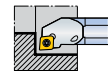
### 80°



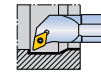
S-SCLCR/L A174
C-SCLCR/L A175
E-SCLCR/L A175



S-SCLPR/L A176
A-SCLPR/L A176

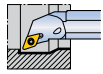


E-SCLPR/L A177

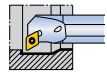


S-SDQCR/L A178

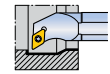
### 55°



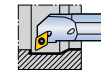
A-SDQNR/L A178



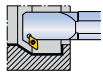
A-SDLNR/L A177



S-SDUCR/L A179

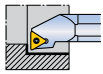


A-SDUNR/L A179

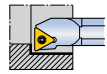


S-SDZCR/L A180

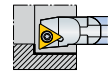
### 60°



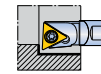
S-STFCR/L A182
C-STFCR/L A182



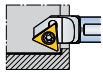
S-STFPR/L A183
A-STFPR/L A183



C-STFPR/L A184
E-STFPR/L A184

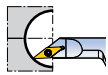


S-STUBR/L A185
C-STUBR/L A185

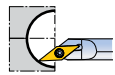


C-STZBR/L A186

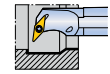
### 35°



S-SVJBR/L A187
S-SVJCR/L A187



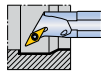
S-SVJPR/L A188



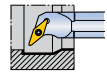
A-SVLNR/L A188



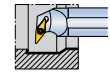
S-SVPBR/L A189
S-SVPCR/L A189



A-SVPNR/L A190



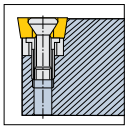
S-SVQBR/L A191
S-SVQCR/L A191



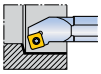
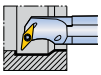
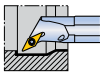
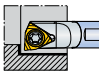
S-SVUBR/L A192
S-SVUCR/L A192

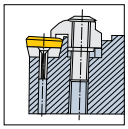
# Tool Selection Guide

## Internal boring bars

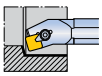
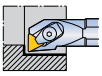
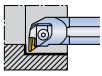


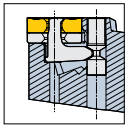
### S Screw clamp

| | | | |
|---|---|---|---|
| 90° |  S-SSKCR/L A181 | 70° |  A-SXUNR/L A190 |
| 25° |  A-SVLNR/L A188  A-SVPNR/L A190 | 80° |  S-SWUBR/L A193 C-SWUBR/L A193 |

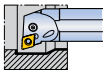


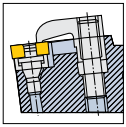
### C Top clamp

| | | | | | |
|---|---|---|---|---|---|
| 90° |  S-CSKPR/L A166 | 60° |  S-CTFCR/L A167 S-CTFPR/L A167 | 55° |  S-CKUNR/L A165 |



### H Hook lever holder

| | |
|---|---|
| 70° |  A-HXUNR/L A168 |

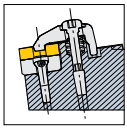


### M Multi lock

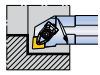
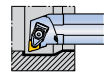
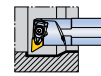
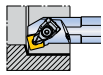
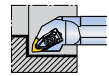
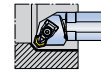
| | |
|---|---|
| 80° |  S-MWLNR/L A169 |

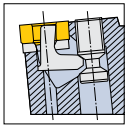
# Tool Selection Guide

## Internal boring bars

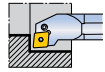
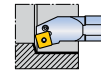
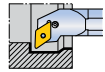
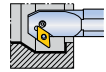
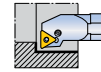


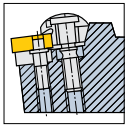
### T T-Holder

| | | | | | |
|---|---|---|---|---|---|
| 80° |  A-TCLNR/L A194 | 70° |  A-TXUNR/L A199 | 55° |  A-TDUNR/L A195 |
| 90° |  A-TSKNR/L A197 | 80° |  S-TWLNR/L A198<br>A-TWLNR/L A198 | 120° |  A-THSNR/L A196 |

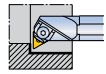


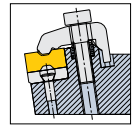
### P Lever lock

| | | | |
|---|---|---|---|
| 80° |  S-PCLNR/L A170 | 90° |  S-PSKNR/L A172 |
| 55° |  S-PDUNR/L A171  S-PDZNR/L A171 | 60° |  S-PTFNR/L A173 |

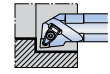


### W Wedge clamp

| | |
|---|---|
| 60° |  S-WTFNR/L A200 |

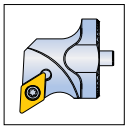


### T-CH CH dimple holder

| | |
|---|---|
| 80° |  S-TCLNR/L-CH A201 |

# Tool Selection Guide

## Internal boring bars



### QH Modular head

80°



QH-SCLCR/L A208



QH-PCLNR/L A203



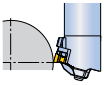
QH-TCLNR/L A205

70°



QH-SXUNR/L A212

45°



QH...Y-TZXNN-TB A213

55°



QH-SDUCR/L A209



QH-SDUCR/L-VH A214



QH-PDUNR/L A203



QH-TDUNR/L A206



QH-TDUNR/L-VH A215

35°



QH-SVUBR/L A211

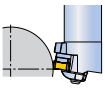


QH-SVLCR/L-VH A214



QH-TVUNR/L A206

60°



QH...Y-TTXNN-TB A213



QH-PTFNR/L A204



QH-STFCR/L A210

80°



QH-TWLNR/L A207

# Tool Selection Guide

## Negative inserts

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Super finishing | | Finishing | | |
| **Chip breaker** | **FA** | **EA** | **FLP** | **FG** | **SF** |
| **Insert** |  |  |  |  |  |
| **Material** | P | M S | P | P | P M |
| **C** 80° | • A229 | • A228 | • A229 | • A229 | • A231 |
| **D** 55° | • A235 | • A234 | • A235 | • A235 | |
| **S** 90° | | • A243 | | • A244 | |
| **T** 60° | | • A248 | • A248 | • A248 | • A250 |
| **V** 35° | • A251 | • A251 | • A251 | • A251 | |
| **W** 80° | | • A253 | • A254 | • A253 | |
| **X** 70° | | | | | |
| **Y** 25° | | | | | |

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Finishing | | Medium | | |
| **Chip breaker** | **FX** | **FC** | **MLP** | **MC** | **VF** |
| **Insert** |  |  |  |  |  |
| **Material** | P | P M | P | P | P M |
| **C** 80° | | • A229 | • A230 | • A229 | |
| **D** 55° | | • A235 | • A236 | • A236 | • A237 |
| **S** 90° | | • A244 | | • A244 | |
| **T** 60° | | • A248 | • A249 | • A249 | • A250 |
| **V** 35° | • A252 | • A251 | | | |
| **W** 80° | | • A253 | • A254 | • A254 | |
| **X** 70° | | | | | |
| **Y** 25° | | | | | |

# Tool Selection Guide

## Negative inserts

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Medium | | | | |
| **Chip breaker** | **MGS** | **ML** | **MP** | **EM** | **MGP** |
| **Insert** |  |  |  |  |  |
| **Material** | S | P M S | M S | M S | P |
| **C** 80° | • A230 | • A226 A230 | • A230 | • A228 | • A229 |
| **D** 55° | • A236 | • A234 A236 | • A236 | • A234 | • A236 |
| **R** | | | | | |
| **S** 90° | • A244 | • A244 | • A245 | • A243 | • A244 |
| **T** 60° | | • A249 | • A249 | • A248 | • A249 |
| **V** 35° | | • A251 A252 | | • A251 | • A252 |
| **W** 80° | • A254 | • A254 | • A254 | • A253 | • A254 |
| **Y** 25° | | | | | |

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Medium | | | Roughing | |
| **Chip breaker** | **PC** | **MT** | **No Notation** | **ET** | **RGP** |
| **Insert** |  |  |  |  |  |
| **Material** | P | P M K | P K | M S | P |
| **C** 80° | • A231 | • A230 | • A228 | • A228 | • A231 |
| **D** 55° | • A237 | • A237 | • A234 | • A234 | |
| **R** | | | • A240 | | |
| **S** 90° | • A245 | • A245 | • A243 | • A243 | |
| **T** 60° | • A250 | • A249 | • A247 | • A248 | |
| **V** 35° | • A252 | • A252 | • A251 | | |
| **W** 80° | • A255 | • A255 | | • A253 | • A255 |
| **Y** 25° | | | | | |

# Tool Selection Guide

## Negative inserts

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Roughing | | | | |
| **Chip breaker** | **RT** | **KT** | **RX** | **RH** | **EH** |
| **Insert** |  |  |  |  |  |
| **Material** | P M K | K | P | P | M |
| **C** 80° | • A231 | • A229 | • A233 | • A233 | • A232 |
| **D** 55° | • A237 | • A235 | • A238 | | |
| **R** | | | | | |
| **S** 90° | • A245 | • A244 | • A246 | • A246 | • A245 |
| **T** 60° | • A250 | • A249 | • A250 | • A250 | |
| **V** 35° | | | | | |
| **W** 80° | • A255 | • A254 | | | |
| **Y** 25° | | | | | |

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Roughing | | | | Finishing wiper |
| **Chip breaker** | **HT** | **HD** | **HY** | **HZ** | **WS** |
| **Insert** |  |  |  |  |  |
| **Material** | P | P | P | P | P M K |
| **C** 80° | • A227 A232 | • A227 | • A227 A232 | • A227 A232 | • A232 |
| **D** 55° | | | | | • A238 |
| **R** | | | | | |
| **S** 90° | • A242 A245 | • A241 | • A242 A246 | • A242 A246 | |
| **T** 60° | | | | | |
| **V** 35° | | | | | |
| **W** 80° | | | | | • A255 |
| **Y** 25° | | | | | |

# Tool Selection Guide

## Negative inserts

| | T-TURN | | | | WIN TURN |
|---|---|---|---|---|---|
| **Application** | Medium wiper | Medium | | Roughing | Finishing / Medium |
| **Chip breaker** | **WT** | **GU** | **SU** | **KNUX** | **TNMV** |
| **Insert** |  |  |  |  |  |
| **Material** | P M K S | P K | P M S | P M | P M |
| **C** 80° | • A226 A232 | | | | |
| **D** 55° | • A238 | | | | |
| **H** 120° | | • A239 | • A239 | | |
| **S** 90° | | | | • A239 | |
| **T** 60° | | | | | • A256 |
| **V** 35° | | | | | |
| **W** 80° | • A255 | | | | |
| **Y** 25° | | | | | |

| | POSSTURN | | | | |
|---|---|---|---|---|---|
| **Application** | Finishing / Medium | | | | |
| **Chip breaker** | **XNMV** | **ZNMV** | **ZNMV Y-BF** | | |
| **Insert** |  |  |  | | |
| **Material** | P K S | P S | P S | | |
| **C** 80° | | | | | |
| **D** 55° | | | | | |
| **H** 120° | | | | | |
| **K** 90° | | | | | |
| **T** 60° | | | | | |
| **V** 35° | | | | | |
| **X** 70° | • A257 | | | | |
| **Z** 45° | | • A258 | • A258 | | |

# Tool Selection Guide

## Positive inserts

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Super finishing | Finishing | | Medium | |
| **Chip breaker** | **FA** | **FG** | **FX** | **PC** | **FM** |
| **Insert** |  |  |  |  |  |
| **Material** | P M | P M S | P | P M S | P M |
| **C** 80° | • A263 | • A263 A264 | | • A263 A264 | • A263 A264 |
| **D** 55° | • A268 | • A268 | | • A268 | • A268 |
| **R** | | | | • A271 | |
| **S** 90° | | • A272 | | • A272 | • A272 |
| **T** 60° | • A276 A279 | • A276 A279 | | • A276 A279 | • A276 A279 |
| **V** 35° | • A282 | • A282 | • A282 | • A282 A284 | • A282 A284 |
| **W** 80° | | | | | |
| **F** 90° | | | | | |

| | T-TURN | | | | |
|---|---|---|---|---|---|
| **Application** | Medium | | Medium wiper | Roughing | |
| **Chip breaker** | **MT** | **MGS** | **WT** | **No Notation** | **RA** |
| **Insert** |  |  |  |  |  |
| **Material** | P M K | M S | P M K | P M K S | P |
| **C** 80° | • A263 | | • A263 | | |
| **D** 55° | • A268 | | | | |
| **R** | • A271 | • A271 | | | • A271 |
| **S** 90° | • A272 | | | • A273 | |
| **T** 60° | • A276 | | | • A279 | |
| **V** 35° | • A282 | | | | |
| **W** 80° | | | | | |
| **F** 90° | | | | | |

# Tool Selection Guide

## Positive inserts

| | T-Turn | | | | | TurnSpeed |
|---|---|---|---|---|---|---|
| **Application** | Roughing | Finishing | | | | Medium |
| **Chip breaker** | **No Notation** | **FF** | **GF** | **GW** | **FGS** | **FCMX** |
| **Insert** |  |  |  |  |  |  |
| **Material** | P | P M S | P M S | P M S | S | P |
| **C** 80° | | • A261 | • A260 | • A260 | | |
| **D** 55° | | • A266 A269 | • A265 A269 | • A265 | | |
| **R** | • A271 | | | | | |
| **S** 90° | | | | | | |
| **T** 60° | | • A274 A277 | • A275 A277 | | | |
| **V** 35° | | • A281 A285 | • A281 A285 | • A281 | • A282 | |
| **W** 80° | | • A286 | | | | |
| **F** 90° | | | | | | • A270 |

| | T-Turn | | | | | |
|---|---|---|---|---|---|---|
| **Application** | Finishing | | | | | |
| **Chip breaker** | **SL** | **SA** | **SM** | **SH** | **FL** | **ST** |
| **Insert** |  |  |  |  |  |  |
| **Material** | P M S | P M S | P M S | P M S | M N S | P M S |
| **C** 80° | • A262 | • A261 | • A262 | • A262 | • A261 | |
| **D** 55° | • A267 | • A266 | • A267 | • A267 | • A266 | • A267 |
| **R** | | | | | • A271 | |
| **S** 90° | | | | | • A272 | |
| **T** 60° | | • A275 | | | • A275 | |
| **V** 35° | • A281 A283 | • A281 A283 | • A281 A283 | • A283 | • A283 | |
| **W** 80° | | | | | | |
| **F** 90° | | | | | | |

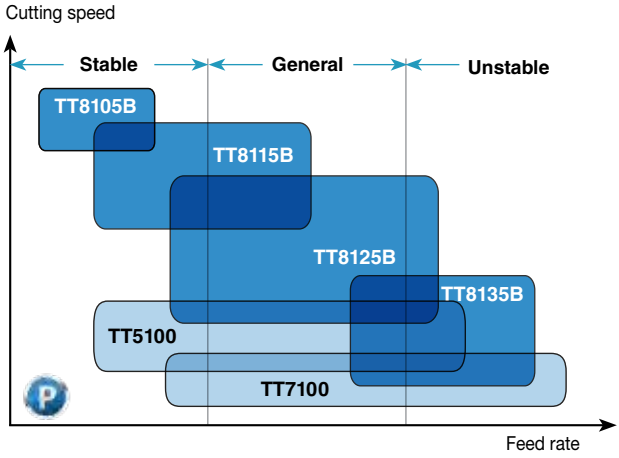


TaeguTec Member IMC Group

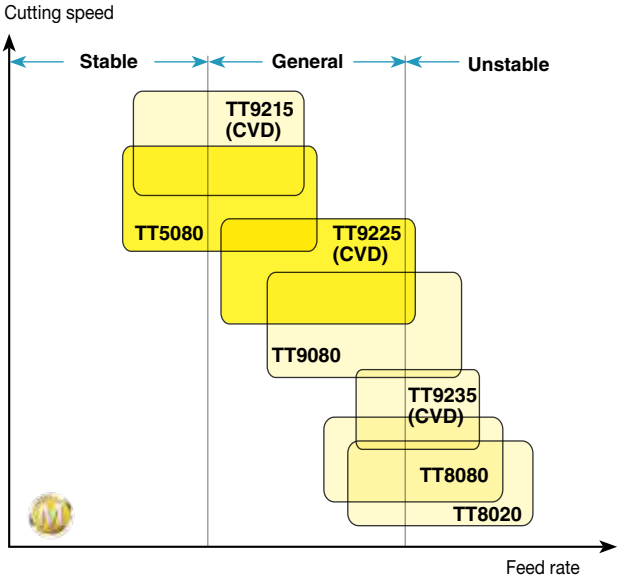
# Grades

## Selection guide for turning grades

### For steel ( SPEEDRUSH - CVD coated)



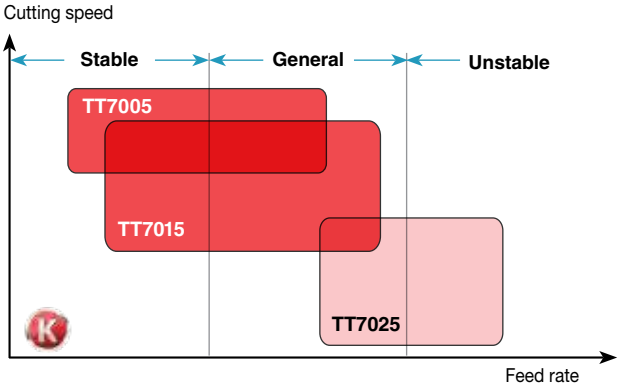

### For stainless steel (CVD & PVD coated)



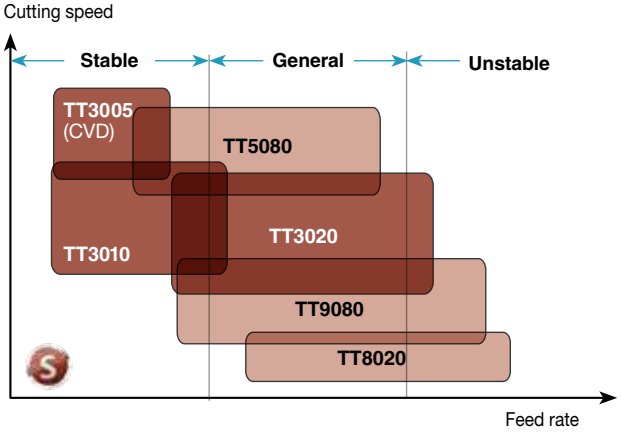
# Grades

## Selection guide for turning grades

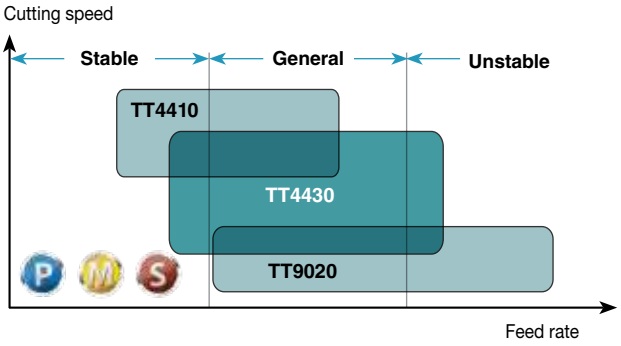
### For cast iron (CVD coated)




### For super alloys (CVD & PVD coated)




### For small parts machining (PVD coated)



# Grades

## Carbide grades

| Grades | ISO | Characteristics & applications |
|---|---|---|
| **TT7005**<br>CVD coated | K05 – K15 | • High speed turning of gray cast iron in continuous conditions |
| **TT7015**<br>CVD coated | K10 – K25 | • General turning of gray and ductile cast iron in continuous and interrupted conditions |
| **TT7025**<br>CVD coated | K20 – K35 | • Interrupted turning of gray and ductile cast iron especially good in ductile cast iron |
| **TT8105B**<br>CVD coated | P05 – P15 | • High speed turning of steel in continuous conditions |
| **TT8115B**<br>CVD coated | P05 – P20 | • General turning of steel in high speed conditions |
| **TT3005**<br>CVD coated | S05 – S15 | • Finish turning of heat resistant super alloys in high speed and low depth of conditions |
| **TT9215**<br>CVD coated | M05 – M20<br>S05 – S20 | • High speed turning of stainless steel and heat resistant super alloys in continuous conditions |
| **TT4410**<br>PVD coated | M05 – M25<br>P05 – P25<br>S05 – S25 | • High speed turning of small parts for stainless steel, steel and titanium alloys in continuous conditions |
| **TT3010**<br>PVD coated | S05 – S20 | • High speed turning of heat resistant super alloys in continuous conditions |
| **TT5080**<br>PVD coated | M05 – M25<br>S05 – S25 | • Wide range of turning for stainless steel and heat resistant super alloy |
| **TT3020**<br>PVD coated | S10 – S30 | • General turning of heat resistant super alloy |
| **TT8125B**<br>CVD coated | P15 – P30 | • General turning of steel in wide range of conditions |
| **TT5100**<br>CVD coated | P20 – P35<br>M20 – M35 | • Wide range of turning for mild steel, low carbon steel, low carbon alloy steel and stainless steel |
| **TT9225**<br>CVD coated | M15 – M30<br>S15 – S30 | • General turning of stainless steel and heat resistant super alloy |
| **TT9020**<br>PVD coated | P20 – P40<br>M20 – M40 | • General turning of small parts for steel and stainless steel |

# Grades

## Carbide grades

| Grades | ISO | Characteristics & applications |
|---|---|---|
| **TT4430**<br>PVD coated | M20 – M40<br>P20 – P40<br>S20 – S40 | • General turning of small parts for stainless steel, steel and titanum alloy |
| **TT9080**<br>PVD coated | M20 – M40<br>P20 – P40<br>S20 – S40 | • General turning of stainless steel, steel and heat resistant super alloy |
| **TT8135B**<br>CVD coated | P25 – P40 | • Interrupted turning of steel in low speed conditions |
| **TT7100**<br>CVD coated | P30 – P45 | • Heavy intrrupted turning of steel |
| **TT9235**<br>CVD coated | M25 – M40<br>S25 – S40 | • Interrupted turning of stainless steel and heat resistant super alloy in low speed conditions |
| **TT8080**<br>PVD coated | M30 – M50<br>P30 – P50<br>S30 – S50 | • Interrupted and rough turning of stainless steel and steel<br>• Interrupted turning of heat resistant super alloys in low speed conditions |
| **TT8020**<br>PVD coated | M30 – M50<br>P30 – P50<br>S30 – S50 | • Low speed turning of stainless steel, heat reisitant super alloys and low carbon steel |
| **PV3010**<br>Cermet<br>PVD coated | P05 – P20<br>M05 – M20<br>K05 – K20 | • Good surface finish turning of steel, stainless steel and cast iron in high speed conditions |
| **CT3000**<br>Cermet<br>uncoated | P10 – P20<br>M10 – M20<br>K10 – K20 | • Excellent surface finish turning of steel, stainless steel and cast iron |
| **K10**<br>Carbide | K05 – K15<br>N05 – N15<br>S05 – S15 | • General turning of cast iron, non-ferrous materials of aluminum and titanum alloy |

# Grades

## CBN, PCD, Ceramic grades

| Grades | ISO | Characteristics & applications |
|---|---|---|
| **TB610** CBN | H05 – H10 | • High speed continuous turning of hardened steel |
| **TB2015** CBN | H10 – H20 | • Light interrupted turning of hardened steel |
| **TB650** CBN | H10 – H20 | • General turning of hardened steel |
| **TB670** CBN | H20 – H30 | • Medium interrupted turning of hardened steel |
| **TB7015** CBN | H25 – H35<br>K10 – K20 | • High speed turning of cast iron and general turning of carbide roll |
| **TB7020** Solid CBN | K10 – K25 | • High speed and light interrupted turning of cast iron. Solid CBN insert |
| **TB730** CBN | K05 – K10<br>P10 – P20 | • General turning of sintered or powder metals |
| **AW120** Ceramic, $Al_2O_3$+$Zr O_2$ | K05 – K15 | • High speed continuous turning of white cast iron |
| **AB2010** Ceramic, PVD coated | H05 – H10 | • High speed finish turning of hardened steel |
| **AB20** Ceramic, $Al_2O_3$ | H05 – H15 | • Continuous and finish turning of hardened steel |
| **AB30** Ceramic, $Al_2O_3$ | H10 – H15<br>K05 – K15 | • General turning of hardened steel under HRC 55 and cast iron |
| **TC430** Ceramic, Whisker | S05 – S15 | • High speed turning of super alloys especially for Ni-based super alloy |
| **TC3020** Ceramic, SiAlON | S15 – S25 | • General turning and milling of super alloy |
| **TC3030** Ceramic, SiAlON | S25 – S35 | • Rough turning and milling of super alloy |
| **AS500** Ceramic, SiAlON | K15 – K25 | • General and light interrupted turning of gray cast iron |
| **SC10** Ceramic, CVD coated | K25 – K35 | • General turning of ductile cast iron |
| **AS10** Ceramic, $Si_3N_4$ | K25 – K35 | • Interrupted turning of gray cast iron |
| **TD1010** PCD | N05 – N15 | • Bi-modal composition for high speed turning of non-ferrous materials, high Si aluminum alloy, ceramic and sintered tungsten carbide |
| **TD1020** PCD | N10 – N25 | • General turning of non-ferrous materials and finish turning of carbide roll |
| **TD1030** PCD | N20 – N35 | • Low Si aluminum alloys and composite plastics (CFRP, GFRP) |

# Recommendations for Chip Breakers

T-TURN

## ISO Negative inserts

### For steel

| | Stable ← P → Unstable |
|---|---|
| Finishing | WS, FLP, FG, FC |
| Medium | MLP, PC, MGP, MT |
| Roughing | RGP, RT |

### For stainless steel

| | Stable ← M → Unstable |
|---|---|
| Finishing | EA |
| Medium | GG-ML, ML, EM, MP |
| Roughing | ET |

### For super alloys

| | Stable ← S → Unstable |
|---|---|
| Finishing | EA |
| Medium | GG-ML, ML, MGS, MP |
| Roughing | ET |

### For cast iron

| | Stable ← K → Unstable |
|---|---|
| Finishing | |
| Medium | MT, No Notation |
| Roughing | KT, No Notation |

### For aluminum

| | Stable ← N → Unstable |
|---|---|
| Finishing | |
| Medium | GG-ML, ML |
| Roughing | |

# Recommendations for Chip Breakers

T-TURN

## ISO Positive inserts

### For steel

| | Stable ← P → Unstable |
|---|---|
| Finishing | FA, FG |
| Medium | FM, PC, MT |
| Roughing | |

### For stainless steel

| | Stable ← M → Unstable |
|---|---|
| Finishing | FA, FG |
| Medium | PC |
| Roughing | |

### For super alloys

| | Stable ← S → Unstable |
|---|---|
| Finishing | FG |
| Medium | PC |
| Roughing | |

### For cast iron

| | Stable ← K → Unstable |
|---|---|
| Finishing | |
| Medium | MT |
| Roughing | |

### For aluminum

| | Stable ← N → Unstable |
|---|---|
| Finishing | |
| Medium | GT-FL |
| Roughing | |

# Recommendations for Chip Breakers

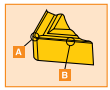
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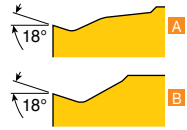
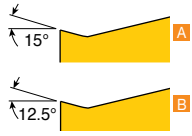
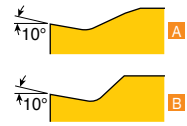
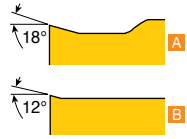
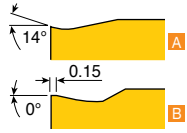
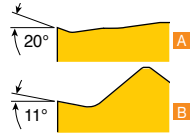
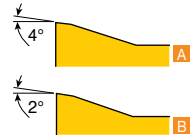
### ISO Positive inserts

| | Stable ← P M S → Unstable |
|---|---|
| Finishing |  SL |
| Finishing-Medium |  SA  SM |
| Roughing |  SH  ST |

# Chip Breakers

## Negative inserts

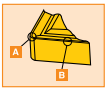


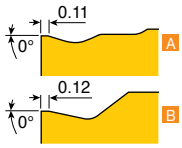
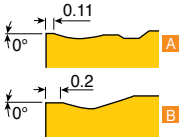
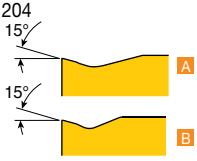
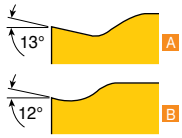
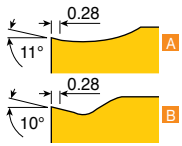
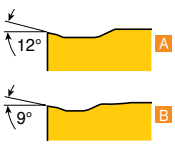
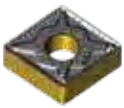
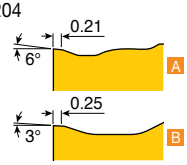

| Chip breaker name and geometry | | | Applications and features |
|---|---|---|---|
| **FA** |  | CNMG 1204<br>  | • For super finish applications<br>• Steel, stainless steel and heat resistant alloy machining<br>• Excellent chip control |
| **EA** |  | CNMG 1204<br>  | • For finishing applications<br>• Exotic materials<br>• Excellent chip control at low feeds and depths of cut |
| **FLP** |  | CNMG 1204<br>  | • For finishing applications for steel machining<br>• Wide supporting area |
| **FG** |  | CNMG 1204<br>  | • For finish and semi finish applications<br>• Steel, stainless steel and cast iron machining<br>• Low cutting forces |
| **SF** |  | CNMG 1204<br>  | • For finishing applications<br>• Stainless steel and heat resistant alloy machining<br>• Low cutting forces |
| **FX** |  | VNMG 1604<br>  | • For finishing applications on mild steels<br>• Narrow chip breaker design for optimal chip control |
| **FC** |  | CNMG 1204<br>  | • Ideal for finishing applications<br>• Low carbon steel & low carbon alloy steel<br>• Effective chip breaking in both turning and facing operations |

# Chip Breakers

T-TURN

## Negative inserts

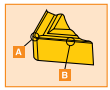


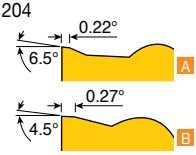
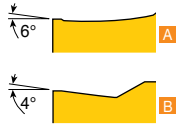
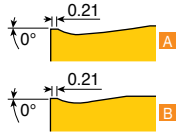
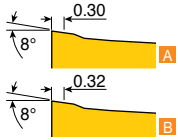
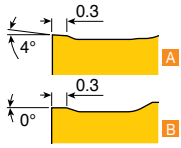
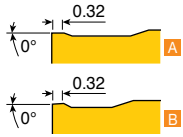
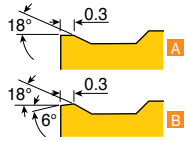

| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **MLP** |  | CNMG 1204<br>  | • For semi-finishing and medium applications on steels<br>• Wave cutting edge |
| **MC** |  | CNMG 1204<br>  | • For medium applications<br>• Steel and cast iron machining<br>• Strong rake geometry<br>• Excellent chip control on medium turning applications |
| **MGS** |  | CNMG 1204<br>  | • Low cutting resistance and heat generation in high-temperature alloy machining<br>• High rake angle for smooth chip formation |
| **ML** |  | CNMG 1204<br>  | • For medium light applications<br>• Stainless steel, steel and aluminum<br>• Very high positive rake geometry to minimize built-up-edge and cutting forces |
| **MP** |  | CNMG 1204<br>  | • For medium machining applications<br>• Steel and stainless steel<br>• High positive rake geometry to optimize machining and provide stable machining conditions |
| **EM** |  | CNMG 1204<br>  | • For medium applications<br>• Stainless steel machining<br>• Sharp land design for low cutting force |
| **MGP** |  | CNMG 1204<br>  | • Wide range for medium application on steels<br>• Wide groove and several dimples |

# Chip Breakers

T-TURN

## Negative inserts

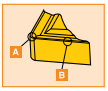


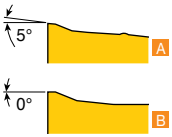
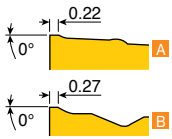
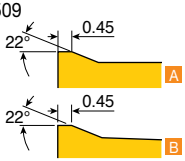
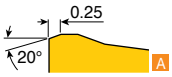
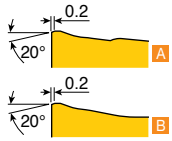
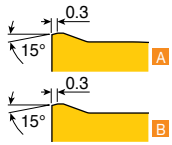
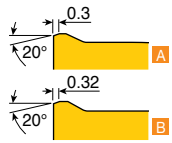

| Chip breaker name and geometry | | | Applications and features |
|---|---|---|---|
| **PC** |  | CNMG 1204<br>  | • For medium to semi-finishing applications<br>• Steel & Automotive component<br>• Positive geometry<br>• Excellent chip control on medium applications |
| **MT** |  | CNMG 1204<br>  | • For medium rough applications<br>• Steel, cast iron and stainless steel<br>• Tough rake angle for general use |
| **No Notation** |  | CNMG 1204<br>  | • For medium rough applications<br>• Steel and cast iron machining<br>• Strong rake geometry<br>• Suitable for manual lathes |
| **ET** |  | CNMG 1204<br>  | • For roughing applications on exotic materials<br>• Low cutting force<br>• Wide chip control range when roughing |
| **RGP** |  | CNMG 1204<br>  | • For roughing applications on steels<br>• Reliable cutting edge with low cutting force |
| **RT** |  | CNMG 1906<br>  | • For roughing applications<br>• Steel and cast iron machining<br>• Very strong rake geometry |
| **KT** |  | CNMG 1204<br>  | • For roughing applications on cast iron<br>• Stable broad supporting area<br>• Reliable, uniform performance |

# Chip Breakers

T-TURN

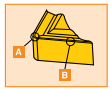
## Negative inserts

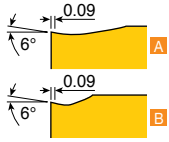
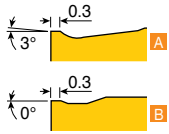



| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **RX** |  | CNMM 1906<br>  | • For semi heavy roughing applications<br>• Steel, stainless steel and cast iron machining<br>• Strong cutting edge with flat land<br>• Low cutting force |
| **RH** |  | CNMM 1906<br>  | • For roughing applications<br>• Steel, stainless steel and cast iron machining<br>• Very strong rake geometry |
| **EH** |  | CNMM 2509<br>  | • Heavy turning for stainless and mild steel<br>• Low cutting force in stainless steel machining<br>• Reliable & uniform performance<br>• Excellent chip control due to the specially designed chip breaker geometry<br>• Single sided insert |
| **HT** |  | CNMM 1906<br>  | • For heavy roughing applications<br>• Low cutting force for low horse power machines<br>• Excellent chip control due to changeable land and a flexible chip breaker |
| **HD** |  | CNMD 2509<br>  | • For heavy roughing applications<br>• For all kinds of shafts, connecting-rods and ship building components<br>• Flexible chip breaker offers excellent chip evacuation |
| **HY** |  | CNMM 2509<br>  | • For heavy roughing applications<br>• For large depth of cut and high feed<br>• Strong cutting edge credit to a wide land and large land angle |
| **HZ** |  | CNMM 2509<br>  | • For heavy roughing applications<br>• For large depth of cut and high feed<br>• Extremely strong cutting edge credit to a wide land and large land angle<br>• Suitable for high cutting conditions |

# Chip Breakers

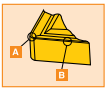
## Negative inserts



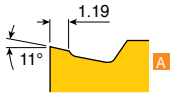
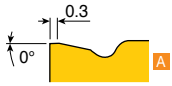

| Chip breaker name and geometry | | | Applications and features |
|---|---|---|---|
| **WS** |  | CNMG 1204<br>  | • For super finish applications<br>• Steel, cast iron and stainless steel machining<br>• Excellent chip control and low cutting forces |
| **WT** |  | CNMG 1204<br>  | • For medium to rough machining applications<br>• Steel, cast iron and stainless steel machining<br>• Stable cutting and low cutting forces at high feed rates |
| | | | |
| | | | |
| | | | |
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| | | | |

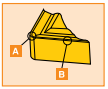
# Chip Breakers

## Negative inserts

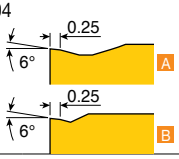
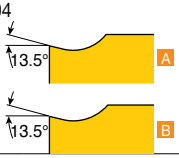



### KNUX type

| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **11** |  | KNUX 1604<br>  | • For medium light to medium applications<br>• Steel and stainless steel machining<br>• Positive rake geometry to minimize cutting forces<br>• Excellent chip control |
| **12** |  | KNUX 1604<br>  | • For medium to medium rough applications<br>• Steel and stainless steel<br>• Strong rake geomerty<br>• Wide chip control range |
| | | | |



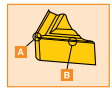

### HNMG type

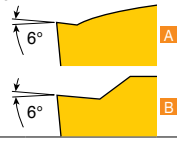
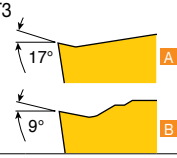
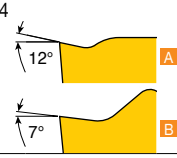
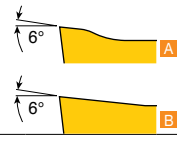
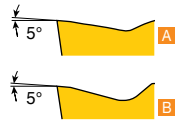
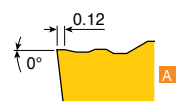
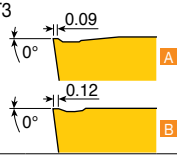
| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **GU** |  | HNMG 0504<br>  | • For medium applications<br>• For general turning of steels and cast irons<br>• Strong rake geometry |
| **SU** |  | HNMG 0504<br>  | • For exotic materials<br>• Stainless steels, super alloys, low carbon steels, low carbon alloy steel machining<br>• Sharp geometry to minimize built-up edge |
| | | | |

# Chip Breakers

T-TURN

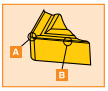
## Positive inserts-pressed

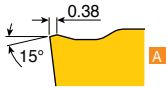
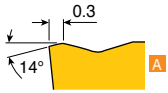



| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **FA** |  | DCMT 11T3<br>  | • For super finish applications<br>• Very tight chipbreaker<br>• Excellent chip control |
| **FG** |  | CCMT 09T3<br>  | • For finish to medium light applications<br>• Steel and stainless steel machining<br>• Low cutting forces<br>• Excellent chip control |
| **FX** |  | VBMT 1604<br>  | • For finishing applications on mild steels<br>• Narrow chip breaker design for optimal chip control |
| **PC** |  | CCMT 09T3<br>  | • For medium applications<br>• Suitable for a wide variety of meterials<br>• Low cutting force |
| **FM** |  | CCMT 09T3<br>  | • Medium and semi-finishing machining for steel and stainless steel<br>• Precision machining<br>• Low cutting force chip breaker geometry |
| **MT** |  | CCMT 09T3<br>  | • For medium to medium rough applications<br>• Steel, stainless steel and cast iron machining<br>• Negative rake geometry for general use |
| **WT** | wiper<br>  | CCMT 09T3<br>  | • For medium to rough machining applications<br>• Steel, cast iron and stainless steel machining<br>• Stable cutting and low cutting forces at high feed rates |
| **PMR-** |  | TPMR 1103<br>  | • For medium to medium rough applications<br>• Steel, stainless steel and cast iron<br>• Positive rake geometry |

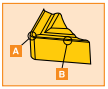
# Chip Breakers

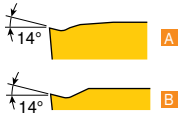
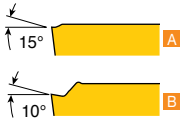
## Positive inserts-pressed




| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **RA** |  | RCMX 3209<br>  | • For heavy and interrupted machining applications<br>• Steel, stainless steel and cast iron machining<br>• Optimized chip groove geometry |
| **No Notation** |  | RCMX 1204<br>  | • For high feed roughing applications<br>• Steel, stainless steel and cast iron machining<br>• Strong rake geometry |

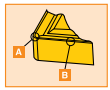
## Positive inserts-ground

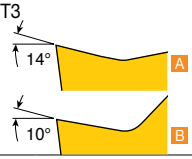
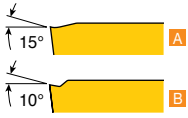
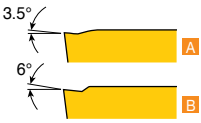
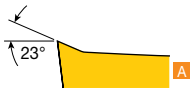



| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **FF** |  | CCGT 0301<br>  | • For finish to medium applications<br>• For small component machining<br>• Excellent surface finish |
| **GF** |  | CCET 0602<br>  | • For super finish applications<br>• Steel, stainless steel and alloy steel machining |
| **GW** |  | CCET 0602<br>  | • For super finish applications<br>• Wiper geometry for good surface finish<br>• Steel, stainless steel and alloy steel machining |
| **FGS** |  | VBGT 1604<br>  | • Lower cutting resistance and heat generation in heat resistant super alloys machining<br>• High rake angle for smooth chip formation |
| **SL** |  | CCGT 09T3<br>  | • High performance in low depth of cut and low feed machining<br>• Excellent chip segmentation due to wave geometry edge and special inclined design |

# Chip Breakers

**Positive inserts-ground**




| | Chip breaker name and geometry | | Applications and features |
|---|---|---|---|
| **SA** |  | CCGT 09T3<br>  | • For finish to medium applications<br>• Steel & aluminum machining<br>• Low cutting force |
| **SM** |  | CCGT 09T3<br>  | • 1st recommended chip breaker for Swiss type automatic lathe<br>• Stable cutting edge and low cutting resistance |
| **SH** |  | CCGT 09T3<br>  | • Suitable for deep depth of cut machining<br>• Excellent chip control in a wide machining range |
| **FL** |  | CCGT 1204<br>  | • For finish to medium applications<br>• Aluminum machining<br>• Very high positive rake geomerty to minimize built-up-edge |
| **ST** |  | DCGT 11T3<br>  | • Capable of deep depth of cut machining up to 5 mm<br>• Low cutting force due to the high positive rake geometry<br>• Stable chip evacuation |
| | | | |
| | | | |
| | | | |

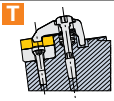
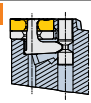
# Turning Toolholders



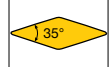
# Toolholder Designation System

| P | C | L | N | R |
|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 |

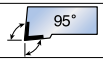
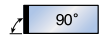
## 1 Clamping system

| P | C | S | M | T | W | H |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
| Lever lock | Top clamp | Screw clamp | Multi lock | T-holder | Wedge clamp | Hook lever |

## 2 Insert shape

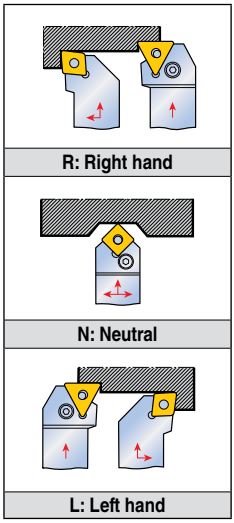
|  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| C | D | E | H | K | R | S | T | V | W |

## 3 Approach angle

| Symbol | Shape | Offset | Symbol | Shape | Offset | Symbol | Shape | Offset |
|---|---|---|---|---|---|---|---|---|
| A |  | × | J |  | ○ | V |  | × |
| |  | | K |  | ○ | W |  | ○ |
| B |  | × | L |  | ○ | X | Special angle | |
| | | | M |  | × | C* |  | × |
| D |  | × | N |  | × | H* |  | ○ |
| E |  | × | R |  | ○ | Q* |  | ○ |
| F |  | ○ | S |  | ○ | | | |
| G |  | ○ | T |  | ○ | | | |
| |  | | U |  | ○ | | | |

* TaeguTec standard

## 5 Hand of tool

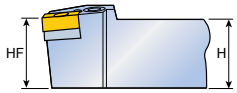



## 4 Insert clearance angle

|  |  |  |  |
|---|---|---|---|
| N | B | C | P |

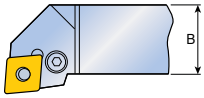
| 25 | 25 | M | 12 | - | | |
|---|---|---|---|---|---|---|
| 6 | 7 | 8 | 9 | | 10 | 11 |

## 6 Shank height



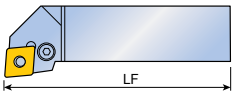

Integers to be preceded by 0
e.g.: H=8mm indicated by 08

## 7 Shank width



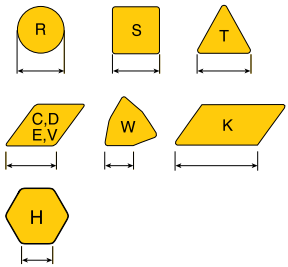

Integers to be preceded by 0
e.g.: B=8mm indicated by 08

## 8 Tool length




| LF (mm) | Symbol | LF (mm) | Symbol |
|---|---|---|---|
| 32 | A | 160 | N |
| 40 | B | 170 | P |
| 50 | C | 180 | Q |
| 60 | D | 200 | R |
| 70 | E | 250 | S |
| 80 | F | 300 | T |
| 90 | G | 350 | U |
| 100 | H | 400 | V |
| 110 | J | 450 | W |
| 125 | K | 500 | Y |
| 140 | L | Special | X |
| 150 | M | | |

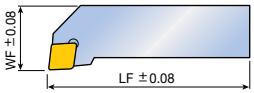
## 9 Cutting edge length



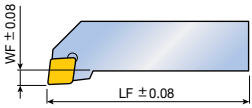

See page A225

## 10 Qualified tool

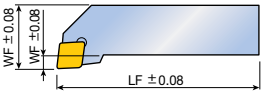
Q




F




B



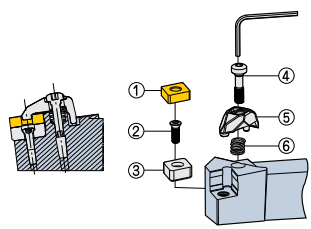

## 11 Manufacturer's type designation

Unique to manufacturer

# Toolholder Clamping System

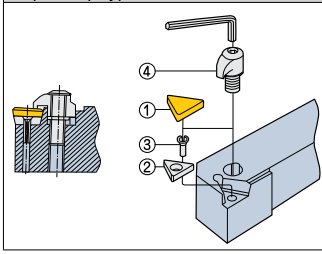
T-TURN

## T-holder type — T



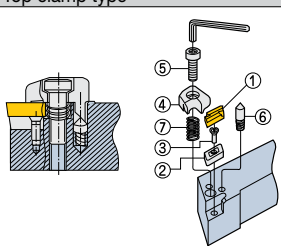
① Insert
② Shim screw
③ Shim
④ Clamp screw
⑤ Clamp
⑥ Spring

## Top clamp type — C



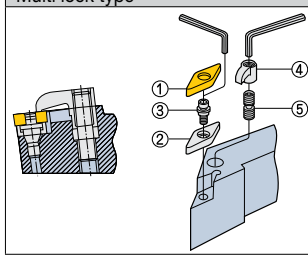
① Insert
② Shim
③ Shim pin
④ Clamp set

## Top clamp type — C



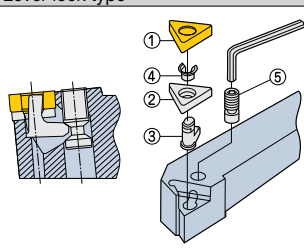
① Insert
② Shim
③ Shim screw
④ Clamp
⑤ Clamp screw
⑥ Pin and spring
⑦ Clamp spring

## Multi lock type — M



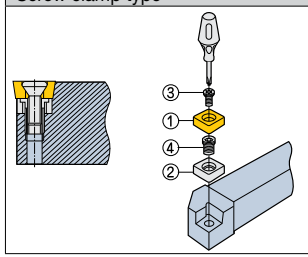
① Insert
② Shim
③ Lock pin
④ Clamp
⑤ Clamp screw

## Lever lock type — P



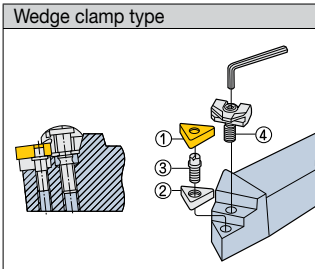
① Insert
② Shim
③ Lever
④ Shim pin
⑤ Screw

## Screw clamp type — S



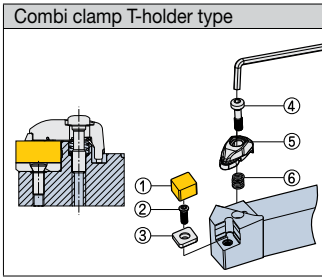
① Insert
② Shim
③ Screw
④ Shim screw

## Wedge clamp type — W



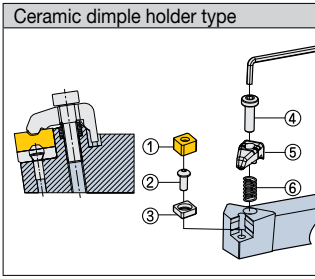
① Insert
② Shim
③ Pin screw
④ Wedge set

## Combi clamp T-holder type — T



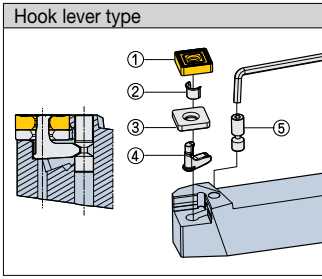
① Insert
② Shim screw
③ Shim
④ Clamp screw
⑤ Clamp
⑥ Spring

## Ceramic dimple holder type — T



① Insert
② Shim screw
③ Shim
④ Clamp screw
⑤ Clamp
⑥ Spring

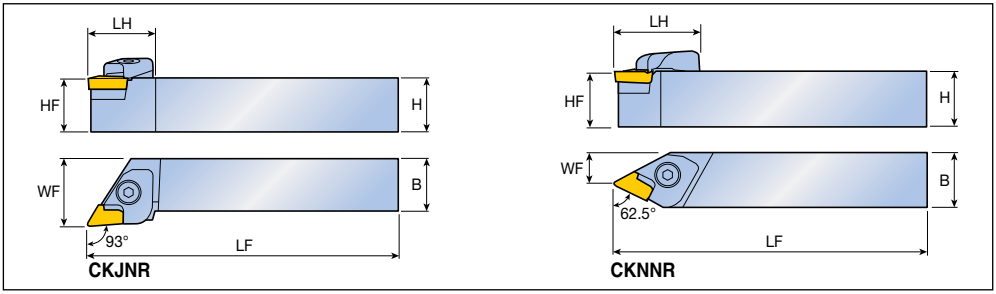
## Hook lever type — H



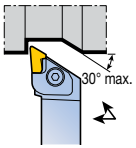
① Insert
② Shim pin
③ Shim
④ Hook lever
⑤ Screw

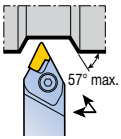
# CKJNR/L CKNNR/L

## Top clamp type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **CKJNR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 35 | 25 | KNUX 1604...R/L 11<br>KNUX 1604...R/L 12 A239 |
| | | **2020 M16** | 20 | 20 | 20 | 150 | 35 | 25 | |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 32 | 32 | |
| | | **3225 P16** | 32 | 32 | 25 | 170 | 33.3 | 32 | |
| | | **3232 M16** | 32 | 32 | 32 | 150 | 33.3 | 40 | |
| | | **3232 P16** | 32 | 32 | 32 | 170 | 33.3 | 40 | |
| | | **4040 R16** | 40 | 40 | 40 | 200 | 33.3 | 50 | |
| **62.5°** | **CKNNR/L** | **2525 M16** | 25 | 25 | 25 | 150 | 44.7 | 14.4 | |
| | | **3225 M16** | 32 | 32 | 25 | 150 | 44.7 | 14.4 | |



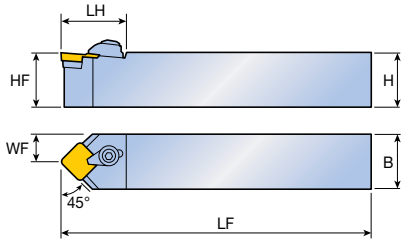




## Spare parts

| Designation | Clamp | Screw | Clamp spring | Pin | Pin spring | Shim | Shim screw | Wrench |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...16** | CL 16KR/L | CLS 16K | KSP 90 | KP 48S | KSP 48 | CSK 1604R/L | FH M3×0.5×10 | L-W 4<br>L-W 2 |
| | | | | | | | | |
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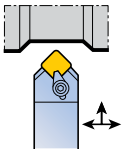
# CSDPN

## Top clamp type holders




**CSDPN**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **45°** | **CSDPN 1616 H09** | 16 | 16 | 16 | 100 | 24 | 8.0 | SPMR,SP...N 0903... |
| | **2020 K12** | 20 | 20 | 20 | 125 | 29 | 10 | SPMR,SP...N 1203... |
| | **2525 M12** | 25 | 25 | 25 | 150 | 29 | 12.5 | |



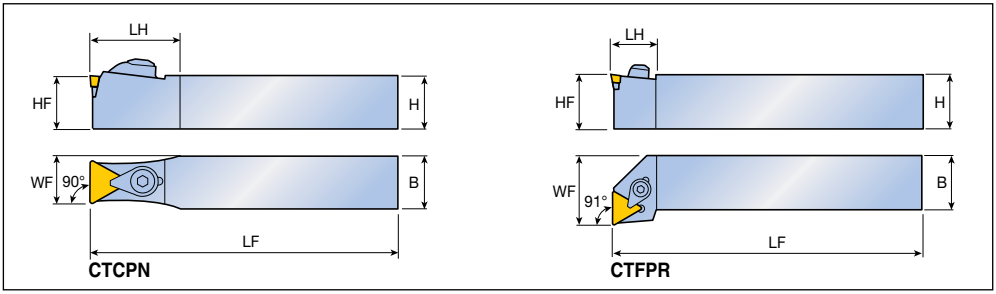
A273, A302

## Spare parts

| Designation | Clamp | Screw | Shim | Shim pin | Snap ring | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **...09** | CL 2 | CLS 2 | CSS 32 | CSP 3 | CSR 2 | L-W 2.5 | | |
| **...12** | CL 3 | CLS 3 | CSS 42 | CSP 3 | WSR 4 | L-W 3 | | |
| | | | | | | | | |
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# CTCPN CTFPR/L

## Top clamp type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **90°** | **CTCPN** | **2009 K11** | 20 | 20 | 9 | 125 | 20 | 9.4 | TPMR,TP...N 1103... |
| | | **2513 Q16** | 25 | 25 | 13 | 180 | 30 | 14.1 | TPMR,TP...N 1603... |
| | | **2525 M22** | 25 | 25 | 25 | 150 | 50 | 19.4 | TPMR,TP...N 2204... |
| **91°** | **CTFPR/L** | **1616 H11** | 16 | 16 | 16 | 100 | 14.4 | 20 | TPMR,TP...N 1103... |
| | | **2020 K11** | 20 | 20 | 20 | 125 | 16 | 25 | |
| | | **2020 K16** | 20 | 20 | 20 | 125 | 20 | 25 | TPMR,TP...N 1603... |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 20 | 32 | |

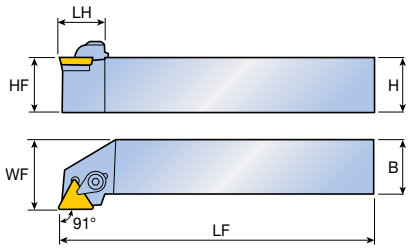
A279-A280, A302, A313-A314,

## Spare parts

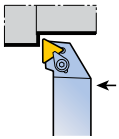
| Designation | Clamp | | | Screw | | Shim | Shim pin | Snap ring | Wrench |
|---|---|---|---|---|---|---|---|---|---|
| **CTCPN...11** | CL 2C | - | - | CLS 2C | - | - | - | CSR 2C | L-W 2.5 |
| **CTCPN...16** | CL 3C | - | - | CLS 3C | - | CST 32 | CSP 3 | CSR 2 | L-W 3 |
| **CTCPN...22** | - | CLM 12 | - | - | XNSM 0825 | CST 43 | CSP 16K | CSR 4 | L-W 4 |
| **CTFPR/L...11** | - | - | CL 2 | CLS 2 | - | - | - | CSR 2 | L-W 2.5 |
| **CTFPR/L...16** | - | - | CL 3 | CLS 3 | - | CST 32 | CSP 3 | WSR 4 | L-W 3 |

# CTGPR/L

## Top clamp type holders




**CTGPR**

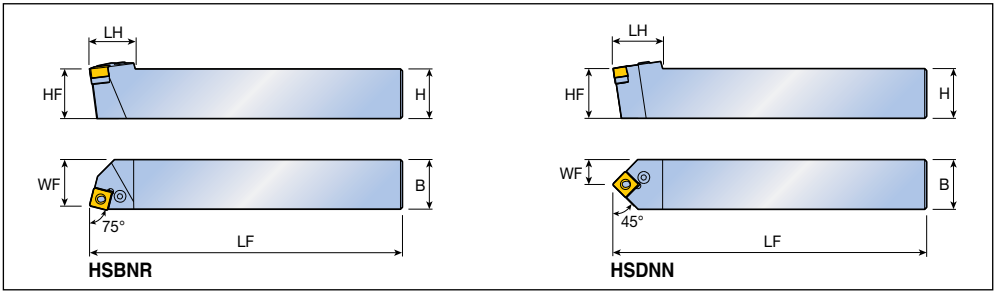
| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **91°** | **CTGPR/L** | **1212 F11** | 12 | 12 | 12 | 80 | 19 | 16 | TPMR,TP...N 1103... | A279-A280, A302, A313-A314, |
|  | | **1616 H11** | 16 | 16 | 16 | 100 | 18 | 20 | | |
| | | **2020 K11** | 20 | 20 | 20 | 125 | 19 | 25 | | |
| | | **2020 K16** | 20 | 20 | 20 | 125 | 25 | 25 | TPMR,TP...N 1603... | |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 25 | 32 | | |
| | | **2525 M22** | 25 | 25 | 25 | 150 | 30 | 32 | TPMR,TP...N 2204... | |
| | | **3232 P22** | 32 | 32 | 32 | 170 | 30 | 40 | | |

## Spare parts

| Designation | Clamp | Screw | Shim | Shim pin | Snap ring | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | | |
| **...11** | CL 2 | CLS 2 | - | - | CSR 2 | L-W 2.5 | | |
| **...16** | CL 3 | CLS 3 | CST 32 | CSP 3 | WSR 4 | L-W 3 | | |
| **...22** | CL 4 | CLS 4 | CST 43 | CSP 16K | CSR 4 | L-W 4 | | |
| | | | | | | | | |
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# HSBNR/L HSDNN

## Hook lever type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **75°** | **HSBNR/L** | **4040 S3109** | 40 | 40 | 40 | 250 | 55 | 35 | SNMD 3109... A241, A242 |
| | | **5050 T3109** | 50 | 50 | 50 | 300 | 55 | 43 | |
| **45°** | **HSDNN** | **4040 S3109** | 40 | 40 | 40 | 250 | 60 | 20 | SNMD 3109... |
| | | **5050 T3109** | 50 | 50 | 50 | 300 | 60 | 25 | |

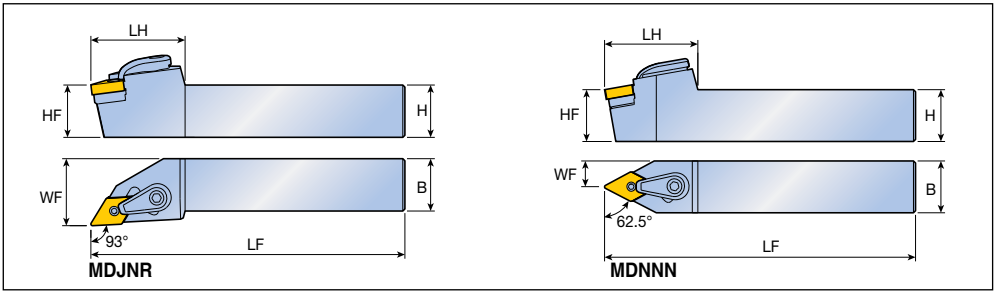
## Spare parts

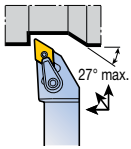
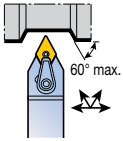
| Designation | Lever | Screw | Shim | Shim pin | Wrench | | |
|---|---|---|---|---|---|---|---|
| **...3109** | LCL 32-NX | LCS 8 | LSS 104 | LSP 8 | L-W 5 | | |

# MDJNR/L MDNNN

T-TURN

## Multi lock type holders



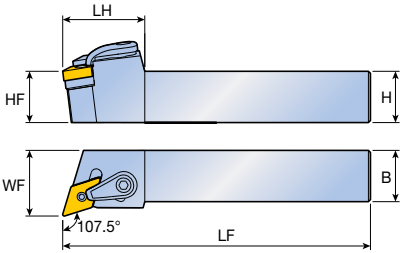

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **MDJNR/L** | **2020 K15** | 20 | 20 | 20 | 125 | 45 | 25 | DN... 1504... |
|  | | **2525 M15** | 25 | 25 | 25 | 150 | 45 | 32 | A234-A238, A293, A304 |
| | | **2020 K15A** | 20 | 20 | 20 | 125 | 45 | 25 | DN... 1506... |
| | | **2525 M15A** | 25 | 25 | 25 | 150 | 45 | 32 | |
| | | **3232 P15A** | 32 | 32 | 32 | 170 | 45 | 40 | |
| **62.5°** | **MDNNN** | **2525 M15** | 25 | 25 | 25 | 150 | 45 | 12.5 | DN... 1504... |
|  | | **3225 P15** | 32 | 32 | 25 | 170 | 45 | 12.5 | |
| | | **2525 M15A** | 25 | 25 | 25 | 150 | 45 | 12.5 | DN... 1506... |

## Spare parts

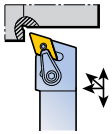
| Designation | Clamp | Screw | Shim | Lock pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...15** | CLM 30 | XNSM 0825 | S 45 | MLP 4 | L-W 2.5, L-W 4 | | | |
| **...15A** | CLM 30 | XNSM 0825 | MSD 43 | MLP 4-06 | L-W 2.5, L-W 4 | | | |
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# MDQNR/L

## Multi lock type holders




**MDQNR**

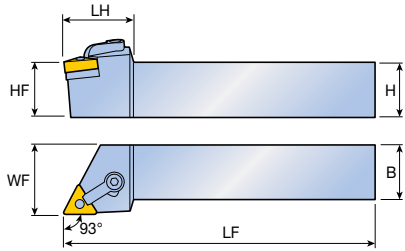
| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **107.5°** | **MDQNR/L** | **2020 K15** | 20 | 20 | 20 | 125 | 40 | 25 | DN... 1504... A234-A238, A293, A304 |
|  | | **2525 M15** | 25 | 25 | 25 | 150 | 40 | 32 | |
| | | **2525 M15A** | 25 | 25 | 25 | 150 | 40 | 32 | DN... 1506... |

## Spare parts

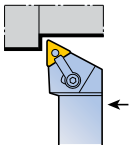
| Designation | Clamp | Screw | Shim | Lock pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...15** | CLM 30 | XNSM 0825 | S 45 | MLP 4 | L-W 2.5, L-W 4 | | | |
| **...15A** | CLM 30 | XNSM 0825 | MSD 43 | MLP 4-06 | L-W 2.5, L-W 4 | | | |
| | | | | | | | | |
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# MTJNR/L

## Multi lock type holders




MTJNR

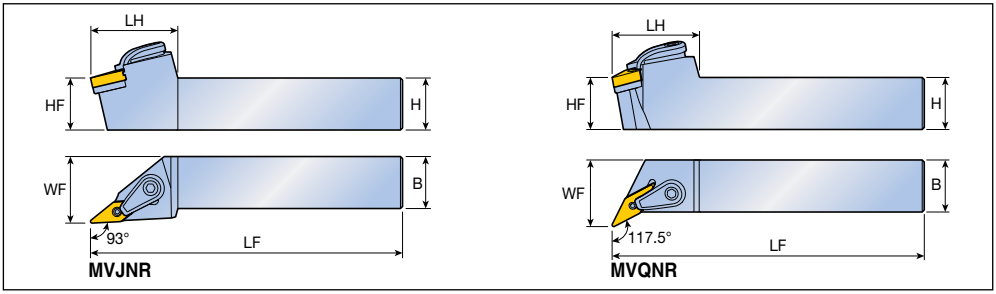
| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **MTJNR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 28 | 25 | TN... 1604... A247-A250, A299, A307 |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 28 | 32 | |
| | | **2525 M1604** | 25 | 25 | 25 | 150 | 28 | 32 | |

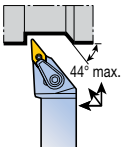
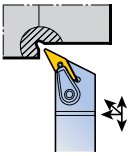
## Spare parts

| Designation | Clamp | Screw | Shim | Lock pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...16** | CLM 6 | XNSM 0520 | S 3 | MLP 3 | L-W 2, L-W 2.5 | | | |
| **...1604** | CLM 6 | XNSM 0520 | S 31 | MLP 3 | L-W 2, L-W 2.5 | | | |
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# MVJNR/L MVQNR/L

## Multi lock type holders



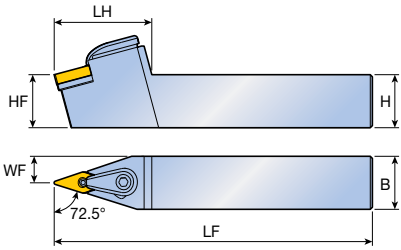

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **MVJNR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 42 | 25 | VN... 1604... A251-A252, A300, A308 |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 42 | 32 | |
| | | **3225 P16** | 32 | 32 | 25 | 170 | 42 | 32 | |
| | | **3232 P16** | 32 | 32 | 32 | 170 | 42 | 40 | |
| **117.5°** | **MVQNR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 42 | 25 | |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 42 | 32 | |
| | | **3232 P16** | 32 | 32 | 32 | 170 | 42 | 40 | |

## Spare parts

| Designation | Clamp | Screw | Shim | Lock pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...16** | CLM 30 | XNSM 0825 | IVSN 324 | MLP 3 | L-W 2, L-W 4 | | | |

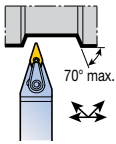
# MVVNN

## Multi lock type holders



MVVNN

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **72.5°** | **MVVNN 2020 K16** | 20 | 20 | 20 | 125 | 46 | 10.0 | VN... 1604... A251-A252, A300, A308 |
| | **2525 M16** | 25 | 25 | 25 | 150 | 46 | 12.5 | |

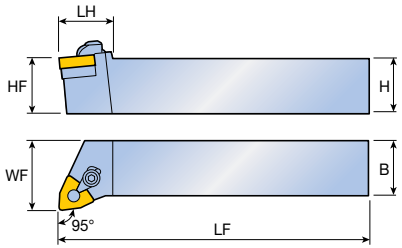



## Spare parts

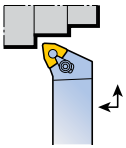
| Designation | Clamp | Screw | Shim | Lock pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...16** | CLM 30 | XNSM 0825 | IVSN 324 | MLP 3 | L-W 2, L-W 4 | | | |
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# MWLNR/L

## Multi lock type holders




**MWLNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **95°** | **MWLNR/L 1616 H06** | 16 | 16 | 16 | 100 | 19.4 | 16 | WN... 0604... |
|  | **2020 K08** | 20 | 20 | 20 | 125 | 25 | 25 | WN... 0804... A253-A255, A300-A309 |
| | **2525 M08** | 25 | 25 | 25 | 150 | 25 | 32 | |

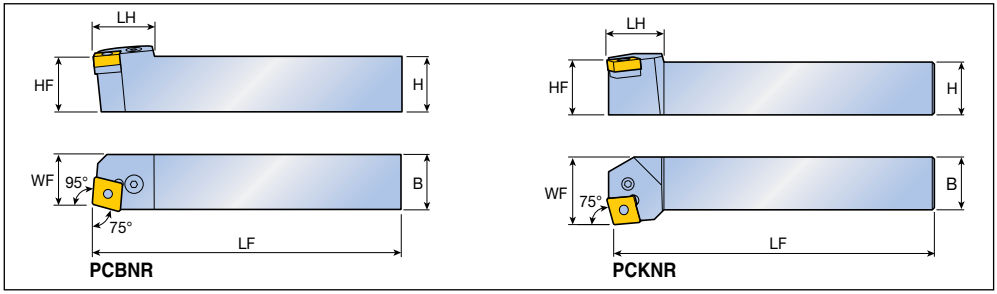
## Spare parts

| Designation | Clamp | Screw | Shim | Lock pin | Snap ring | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | | |
| **...06** | CL 2 | CLS 2 | MSW 32 | MLP 3 | CSR 2 | L-W 2, L-W 2.5 | | |
| **...08** | CL 2 | CLS 2 | MSW 43 | MLP 4 | CSR 2 | L-W 2.5 | | |
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# PCBNR/L PCKNR/L

T-TURN

## Lever lock type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| 75° | PCBNR/L | 2020 K12 | 20 | 20 | 20 | 125 | 28 | 17.5 | CN... 1204... | A226-A233, A291, A292, A303 |
| | | 2525 M12 | 25 | 25 | 25 | 150 | 28 | 22.5 | | |
| | | 3225 P12 | 32 | 32 | 25 | 170 | 28 | 22.5 | | |
| | | 2525 M16 | 25 | 25 | 25 | 150 | 32 | 22 | CN... 1606... | |
| | | 3232 P16 | 32 | 32 | 32 | 170 | 32 | 27 | | |
| | | 3232 P1906D | 32 | 32 | 32 | 170 | 37 | 27 | CN... 1906... | |
| | | 4040 S1906D | 40 | 40 | 40 | 250 | 37 | 37 | | |
| | | 4040 S2509D | 40 | 40 | 40 | 250 | 50 | 37 | CN... 2509... | |
| | | 5050 T2509D | 50 | 50 | 50 | 300 | 50 | 47 | | |
| 75° | PCKNR/L | 2020 K12 | 20 | 20 | 20 | 125 | 27 | 25 | CN... 1204... | |
| | | 2525 M12 | 25 | 25 | 25 | 150 | 24 | 32 | | |

▸ CNMD, CNMM, CNMG type insert can be mounted on "-D" holder

## Spare parts

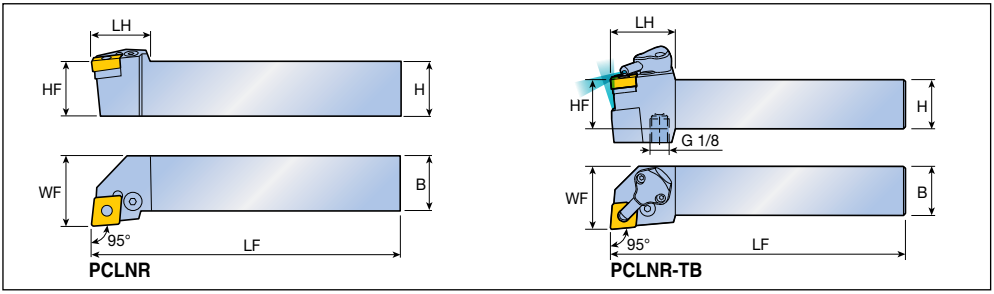
| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| ...12 | LCL 4 | LCS 4 | LSC 42 | LSP 4 | L-W 3 | | | |
| ...16 | LCL 5 | LCS 5 | LSC 53 | LSP 5 | L-W 3 | | | |
| ...1906 | LCL 6D | LCS 25C | LSC 64D | LSP 6 | L-W 4 | | | |
| ...2509 | LCL 8 | LCS 8 | LSC 84D | LSP 8 | L-W 5 | | | |
| | | | | | | | | |
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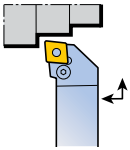
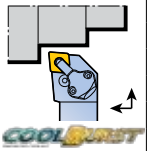
▸ Apply LSC 85D shim when using CN...2507... insert

# PCLNR/L PCLNR/L-TB

T-TURN

## Lever lock type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| 95° | PCLNR/L | 1616 H12 | 16 | 16 | 16 | 100 | 27 | 20 | CN... 1204... | A226-A233, A291, A292, A303 |
|  | | 2020 K12 | 20 | 20 | 20 | 125 | 27 | 25 | | |
| | | 2525 M12 | 25 | 25 | 25 | 150 | 27 | 32 | | |
| | | 3225 P12 | 32 | 32 | 25 | 170 | 27 | 32 | | |
| | | 3232 P12 | 32 | 32 | 32 | 170 | 27 | 40 | | |
| | | 2525 M16 | 25 | 25 | 25 | 150 | 33 | 32 | CN... 1606... | |
| | | 3225 P16 | 32 | 32 | 25 | 170 | 33 | 32 | | |
| | | 3232 P16 | 32 | 32 | 32 | 170 | 33 | 40 | | |
| | | 2525 M1906D | 25 | 25 | 25 | 150 | 38 | 32 | CN... 1906... | |
| | | 3225 P1906D | 32 | 32 | 25 | 170 | 38 | 32 | | |
| | | 3232 P1906D | 32 | 32 | 32 | 170 | 38 | 40 | | |
| | | 4040 S1906D | 40 | 40 | 40 | 250 | 38 | 50 | | |
| | | 4040 S2509D | 40 | 40 | 40 | 250 | 47 | 50 | CN... 2509... | |
| | | 5050 T2509D | 50 | 50 | 50 | 300 | 47 | 60 | | |
| 95° | PCLNR/L | 2525 M12-TB | 25 | 25 | 25 | 150 | 33 | 32 | CN... 1204... | |
|  | | 3232 P12-TB | 32 | 32 | 32 | 170 | 33 | 40 | | |

▸ CNMD, CNMM, CNMG type insert can be mounted on "-D" holder

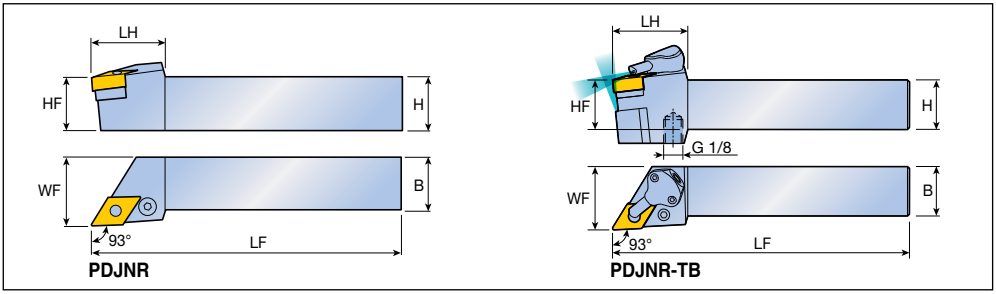
## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Cooling unit | O-ring | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **1616...12** | LCL 4 | LCS 4S | LSC 42 | LSP 4 | - | - | - | L-W 3 |
| **...12** | LCL 4 | LCS 4 | LSC 42 | LSP 4 | - | - | - | L-W 3 |
| **...16** | LCL 5 | LCS 5 | LSC 53 | LSP 5 | - | - | - | L-W 3 |
| **...1906** | LCL 6D | LCS 25C | LSC 64D | LSP 6 | - | - | - | L-W 4 |
| **...2509** | LCL 8 | LCS 8 | LSC 84D | LSP 8 | - | - | - | L-W 5 |
| **PCLNR/L...TB** | LCS 4 | LCS 4 | LSC 42 | LSP 4 | CU-CW-TB | ID 6.4x0.9 | T 8 | L-W 2, L-W 3 |
| | | | | | | | | |

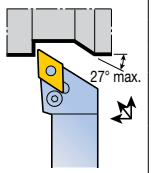
▸ Apply LSC 85D shim when using CN...2507... insert
▸ Please refer to A135 page for COOL-BURST accessories

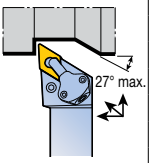
# PDJNR/L PDJNR/L-TB

**Lever lock type holders**




| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| 93° | PDJNR/L 1616 H11 | 16 | 16 | 16 | 100 | 30 | 20 | DN... 1104... |
| | 2020 K11 | 20 | 20 | 20 | 125 | 30 | 25 | A234-A238, A293, A304 |
| | 2525 M11 | 25 | 25 | 25 | 150 | 30 | 32 | |
| | 2020 K15 | 20 | 20 | 20 | 125 | 34 | 25 | DN... 1506... |
| | 2525 M15 | 25 | 25 | 25 | 150 | 34 | 32 | |
| | 3225 P15 | 32 | 32 | 25 | 170 | 34 | 32 | |
| | 3232 P15 | 32 | 32 | 32 | 170 | 34 | 40 | |
| | 2020 K15A | 20 | 20 | 20 | 125 | 34 | 25 | DN... 1504... |
| | 2525 M15A | 25 | 25 | 25 | 150 | 34 | 32 | |
| 93° | PDJNR/L 2525 M1504-TB | 25 | 25 | 25 | 150 | 37 | 32 | DN... 1504... |
| | 2525 M1506-TB | 25 | 25 | 25 | 150 | 37 | 32 | DN... 1506... |




COOL BURST

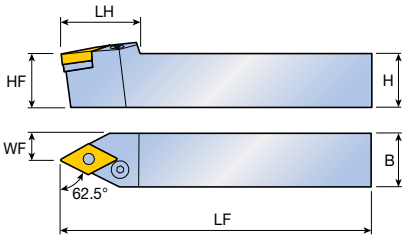
## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Cooling unit | O-ring | Wrench | |
|---|---|---|---|---|---|---|---|---|
| ...11 | LCL 12C | LCS 3 | LSD 32 | LSP 3A | - | - | - | L-W 2.5 |
| ...15 | LCL 4A | LCS 4 | LSD 42 | LSP 4 | - | - | - | L-W 3 |
| ...M1504-TB | LCL 4A | LCS 4 | LSD 43 | LSP 4 | CU-D-TB | ID 6.4x0.9 | T 8 | L-W 2, L-W 3 |
| ...M1506-TB | LCL 4A | LCS 4 | LSD 42 | LSP 4 | CU-D-TB | ID 6.4x0.9 | T 8 | L-W 2, L-W 3 |
| | | | | | | | | |
| | | | | | | | | |

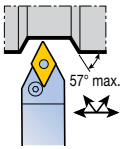
▸ Please refer to A135 page for COOL-BURST accessories

# PDNNR/L

## Lever lock type holders




**PDNNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **62.5°** | **PDNNR/L 2020 K15** | 20 | 20 | 20 | 125 | 36.5 | 10 | DN... 1506... A234-A238, A293, A304 |
|  | **2525 M15** | 25 | 25 | 25 | 150 | 36.5 | 12 | |
| | **3232 P15** | 32 | 32 | 32 | 170 | 36.5 | 16.8 | |

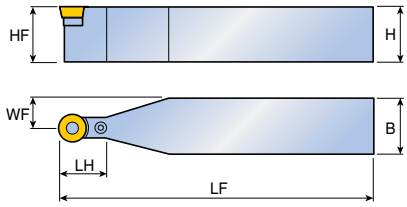


## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...15** | LCL 4A | LCS 4 | LSD 42 | LSP 4 | L-W 3 | | | |
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# PRDCN

## Lever lock type holders




PRDCN

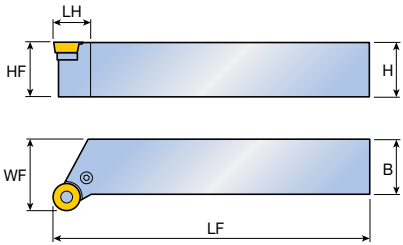
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| 45° | **PRDCN 2020 M10** | 20 | 20 | 20 | 150 | 30 | 10.0 | RC...X 1003... A271 |
| | **2525 M10** | 25 | 25 | 25 | 150 | 30 | 12.5 | |
| | **2020 K12** | 20 | 20 | 20 | 125 | 30 | 10.0 | RC...X 1204... |
| | **2525 M12** | 25 | 25 | 25 | 150 | 30 | 12.5 | |
| | **3225 Q12** | 32 | 32 | 25 | 180 | 30 | 12.5 | |
| | **2525 Q16** | 25 | 25 | 25 | 180 | 30 | 12.5 | RC...X 1606... |
| | **3225 Q16** | 32 | 32 | 25 | 180 | 30 | 12.5 | |
| | **3232 Q16** | 32 | 32 | 32 | 180 | 30 | 16.0 | |
| | **3232 S20** | 32 | 32 | 32 | 250 | 40 | 16.0 | RC...X 2006... |
| | **4040 S20** | 40 | 40 | 40 | 250 | 40 | 20.0 | |
| | **4040 S25** | 40 | 40 | 40 | 250 | 50 | 20.0 | RC...X 2507... |
| | **4040 T25** | 40 | 40 | 40 | 300 | 50 | 20.0 | |
| | **5050 U32** | 50 | 50 | 50 | 350 | 60 | 25.0 | RC...X 3209... |

## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...10** | LCL 10C | LCS 2 | LSR 32 | LSP 3A | L-W 2 | | | |
| **...12** | LCL 12C | LCS 3 | LSR 1203 | LSP 3A | L-W 2.5 | | | |
| **...16** | LCL 16C | LCS 16C | LSR 1604 | LSP 16C | L-W 2.5 | | | |
| **...20** | LCL 20C | LCS 5 | LSR 2004 | LSP 5 | L-W 3 | | | |
| **...25** | LCL 25C | LCS 25C | LSR 2506 | LSP 6 | L-W 4 | | | |
| **...32** | LCL 32C | LCS 8 | LSR 3206 | LSP 8 | L-W 5 | | | |
| | | | | | | | | |
| | | | | | | | | |

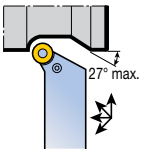
# PRGCR/L

## Lever lock type holders




PRGCR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **90°** | **PRGCR/L 2020 K10** | 20 | 20 | 20 | 125 | 14.5 | 25 | RC...X 1003... |
| | **2525 M10** | 25 | 25 | 25 | 150 | 17.5 | 32 | |
| | **3225 P10** | 32 | 32 | 25 | 170 | 17 | 32 | |
| | **2020 K12** | 20 | 20 | 20 | 125 | 18 | 25 | RC...X 1204... |
| | **2525 M12** | 25 | 25 | 25 | 150 | 18 | 32 | |
| | **3225 P12** | 32 | 32 | 25 | 170 | 18 | 32 | |
| | **2525 M16** | 25 | 25 | 25 | 150 | 23 | 32 | RC...X 1606... |
| | **3225 P16** | 32 | 32 | 25 | 170 | 23 | 32 | |
| | **3232 P16** | 32 | 32 | 32 | 170 | 23 | 40 | |
| | **4040 P16** | 40 | 40 | 40 | 170 | 23 | 50 | |
| | **3232 P20** | 32 | 32 | 32 | 170 | 27.5 | 40 | RC...X 2006... |
| | **4040 S25** | 40 | 40 | 40 | 250 | 33.5 | 50 | RC...X 2507... |
| | **4040 S32** | 40 | 40 | 40 | 250 | 41 | 50 | RC...X 3209... |



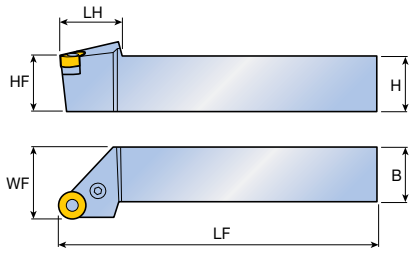

A271

## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...10** | LCL 10C | LCS 2 | LSR 32 | LSP 3A | L-W 2 | | | |
| **...12** | LCL 12C | LCS 3 | LSR 1203 | LSP 3A | L-W 2.5 | | | |
| **...16** | LCL 16C | LCS 16C | LSR 1604 | LSP 16C | L-W 2.5 | | | |
| **...20** | LCL 20C | LCS 5 | LSR 2004 | LSP 5 | L-W 3 | | | |
| **...25** | LCL 25C | LCS 25C | LSR 2506 | LSP 6 | L-W 4 | | | |
| **...32** | LCL 32C | LCS 8 | LSR 3206 | LSP 8 | L-W 5 | | | |
| | | | | | | | | |
| | | | | | | | | |

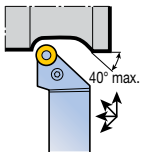
# PRGNR/L

## Lever lock type holders




**PRGNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **90°** | **PRGNR/L 2525 M12** | 25 | 25 | 25 | 150 | 28 | 32 | RNMG 120400 |
| | **3225 P15** | 32 | 32 | 25 | 170 | 35 | 32 | RNMG 150600 |
| | **3232 P19** | 32 | 32 | 32 | 170 | 38 | 40 | RNMG 190600 |



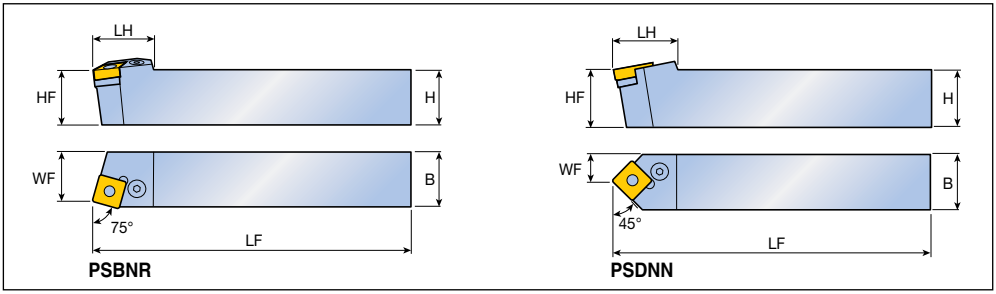

A240

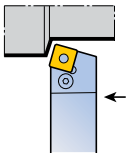
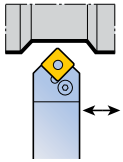
## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...12** | LCL 4 | LCS 4 | LSR 42 | LSP 4 | L-W 3 | | | |
| **...15** | LCL 5 | LCS 5 | LSR 53 | LSP 5 | L-W 3 | | | |
| **...19** | LCL 6D | LCS 6 | LSR 63 | LSP 6 | L-W 4 | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |

# PSBNR/L PSDNN

## Lever lock type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **75°** | **PSBNR/L** | **2020 K12** | 20 | 20 | 20 | 125 | 28 | 17 | SN... 1204... | A241-A246, A296, A297, A306 |
|  | | **2525 M12** | 25 | 25 | 25 | 150 | 28 | 22 | | |
| | | **3225 P12** | 32 | 32 | 25 | 170 | 28 | 22 | | |
| | | **2525 M15** | 25 | 25 | 25 | 150 | 34 | 22 | SN... 1506... | |
| | | **3232 P1906D** | 32 | 32 | 32 | 170 | 39 | 27 | SN... 1906... | |
| | | **4040 S1906D** | 40 | 40 | 40 | 250 | 39 | 35 | | |
| | | **4040 S2509D** | 40 | 40 | 40 | 250 | 48 | 35 | SN... 2509... | |
| | | **5050 T2509D** | 50 | 50 | 50 | 300 | 48 | 43 | | |
| **45°** | **PSDNN** | **2020 K12** | 20 | 20 | 20 | 125 | 28 | 10.0 | SN... 1204... | |
|  | | **2525 M12** | 25 | 25 | 25 | 150 | 28 | 12.5 | | |
| | | **3225 P12** | 32 | 32 | 25 | 170 | 28 | 12.5 | | |
| | | **2020 K15** | 20 | 20 | 20 | 125 | 34 | 10.0 | SN... 1506... | |
| | | **2525 M15** | 25 | 25 | 25 | 150 | 34 | 12.5 | | |
| | | **3225 P1906D** | 32 | 32 | 25 | 170 | 40.5 | 12.5 | SN... 1906... | |
| | | **3232 P1906D** | 32 | 32 | 32 | 170 | 40.5 | 16.0 | | |
| | | **4040 S1906D** | 40 | 40 | 40 | 250 | 40.5 | 20.0 | | |
| | | **5050 S1906D** | 50 | 50 | 50 | 250 | 40.5 | 25.0 | | |
| | | **4040 S2509D** | 40 | 40 | 40 | 250 | 49 | 20.0 | SN... 2509... | |
| | | **5050 T2509D** | 50 | 50 | 50 | 300 | 49 | 25.0 | | |

▸ SNMD, SNMM, SNMG type insert can be mounted on "-D" holder

## Spare parts

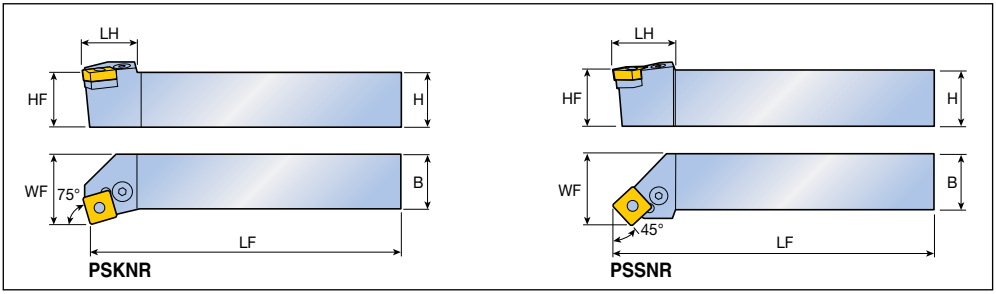
| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...12** | LCL 4 | LCS 4 | LSS 42 | LSP 4 | L-W 3 | | | |
| **...15** | LCL 5 | LCS 5 | LSS 53 | LSP 5 | L-W 3 | | | |
| **...1906** | LCL 6D | LCS 25C | LSS 64D | LSP 6 | L-W 4 | | | |
| **...2509** | LCL 8 | LCS 8 | LSS 84D | LSP 8 | L-W 5 | | | |
| | | | | | | | | |
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| | | | | | | | | |

▸ Apply LSC 85D shim when using CN...2507... insert

# PSKNR/L PSSNR/L

T-TURN

## Lever lock type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| 75° | PSKNR/L | 2020 K12 | 20 | 20 | 20 | 125 | 25 | 25 | SN... 1204... |
| | | 2525 M12 | 25 | 25 | 25 | 150 | 25 | 32 | |
| | | 2525 M15 | 25 | 25 | 25 | 150 | 32 | 32 | SN... 1506... |
| | | 3232 P15 | 32 | 32 | 32 | 170 | 32 | 40 | |
| | | 3232 P1906D | 32 | 32 | 32 | 170 | 38 | 40 | SN... 1906... |
| | | 4040 S1906D | 40 | 40 | 40 | 250 | 38 | 50 | |
| | | 4040 S2509D | 40 | 40 | 40 | 250 | 42 | 50 | SN... 2509... |
| | | 5050 T2509D | 50 | 50 | 50 | 300 | 42 | 60 | |
| 45° | PSSNR/L | 2020 K12 | 20 | 20 | 20 | 125 | 30 | 25 | SN... 1204... |
| | | 2525 K12 | 25 | 25 | 25 | 125 | 30 | 32 | |
| | | 2525 M12 | 25 | 25 | 25 | 150 | 30 | 32 | |
| | | 3225 P12 | 32 | 32 | 25 | 170 | 30 | 32 | |
| | | 3232 P12 | 32 | 32 | 32 | 170 | 32 | 40 | |
| | | 3232 P15 | 32 | 32 | 32 | 170 | 37 | 40 | SN... 1506... |
| | | 3232 P1906D | 32 | 32 | 32 | 170 | 42 | 40 | SN... 1906... |
| | | 4040 S1906D | 40 | 40 | 40 | 250 | 42 | 50 | |
| | | 4040 S2509D | 40 | 40 | 40 | 250 | 53 | 50 | SN... 2509... |

A241-A246, A296, A297, A306

▸ SNMD, SNMM, SNMG type insert can be mounted on "-D" holder

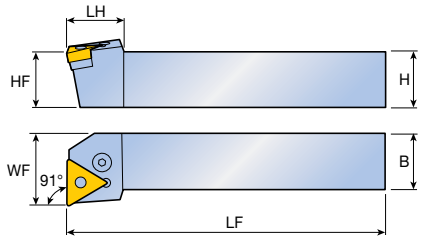
## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| ...12 | LCL 4 | LCS 4 | LSS 42 | LSP 4 | L-W 3 | | | |
| ...15 | LCL 5 | LCS 5 | LSS 53 | LSP 5 | L-W 3 | | | |
| ...1906 | LCL 6D | LCS 25C | LSS 64D | LSP 6 | L-W 4 | | | |
| ...2509 | LCL 8 | LCS 8 | LSS 84D | LSP 8 | L-W 5 | | | |
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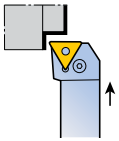
▸ Apply LSC 85D shim when using CN...2507... insert

# PTFNR/L

## Lever lock type holders




**PTFNR**

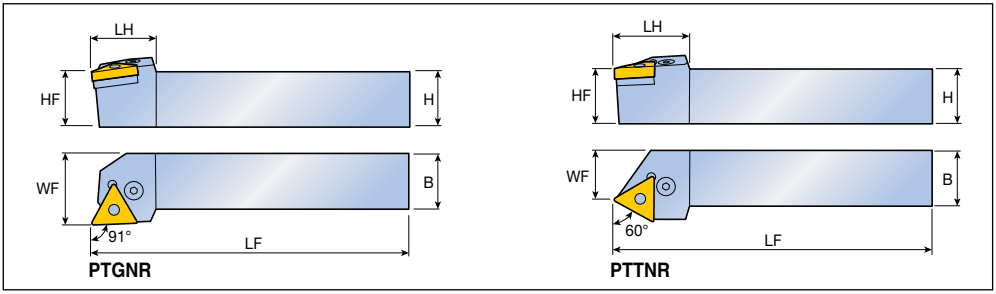
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **91°** | **PTFNR/L 2020 K16** | 20 | 20 | 20 | 125 | 20 | 25 | TN... 1604... A247-A250, A299, A307 |
|  | **2525 M16** | 25 | 25 | 25 | 150 | 20 | 32 | |

## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...16** | LCL 3 | LCS 3 | LST 31.8 | LSP 3A | L-W 2.5 | | | |
| | | | | | | | | |
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# PTGNR/L PTTNR/L

**Lever lock type holders**




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **91°** | **PTGNR/L** | **1010 E11** | 10 | 10 | 10 | 70 | 15 | 12 | TN... 1103... |
| | | **1212 F11** | 12 | 12 | 12 | 80 | 15 | 16 | |
| | | **2525 M11** | 25 | 25 | 25 | 150 | 30 | 32 | |
| | | **1616 H16** | 16 | 16 | 16 | 100 | 22 | 20 | TN... 1604... |
| | | **2020 K16** | 20 | 20 | 20 | 125 | 22 | 25 | |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 22 | 32 | |
| | | **3232 P16** | 32 | 32 | 32 | 170 | 22 | 40 | |
| | | **2525 M22** | 25 | 25 | 25 | 150 | 29 | 32 | TN... 2204... |
| | | **3232 P22** | 32 | 32 | 32 | 170 | 29 | 40 | |
| **60°** | **PTTNR/L** | **1616 H16** | 16 | 16 | 16 | 100 | 24 | 13 | TN... 1604... |
| | | **2020 K16** | 20 | 20 | 20 | 125 | 24 | 17 | |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 24 | 22 | |

A247-A250, A299, A307

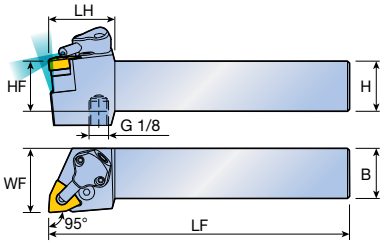
## Spare parts

| Designation | Lever | Screw | Shim | Snap ring | Shim pin | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **...11** | LCL 2B | LCS 2B | - | LSR 2B | - | L-W 2 | | |
| **...16** | LCL 3 | LCS 3 | LST 31.8 | - | LSP 3A | L-W 2.5 | | |
| **...22** | LCL 4 | LCS 4 | LST 42 | - | LSP 4 | L-W 3 | | |

# PWLNR/L-TB

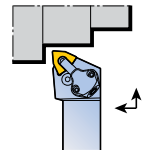
T-TURN

## Lever lock type holders




**PWLNR-TB**

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **95°** | **PWLNR/L** | **2525 M08-TB** | 25 | 25 | 25 | 150 | 33 | 32 | WN... 0804... A253-A255, A300, A309 |
| | | **3232 P08-TB** | 32 | 32 | 32 | 170 | 33 | 40 | |



COOL-BURST

## Spare parts

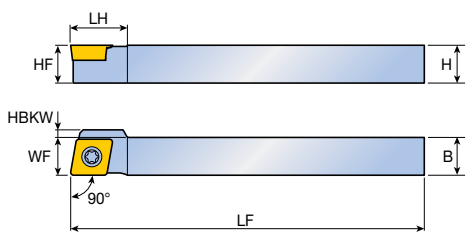
| Designation | Lever | Screw | Shim | Shim pin | Cooling unit | O-ring | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...08-TB** | LCL 4 | LCS 4 | TWN 423(T) | LSP 4 | CU-CW-TB | ID 6.4x0.9 | T 8 | L-W 2, L-W 3 |
| | | | | | | | | |
| | | | | | | | | |
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▸ Please refer to A135 page for COOL-BURST accessories

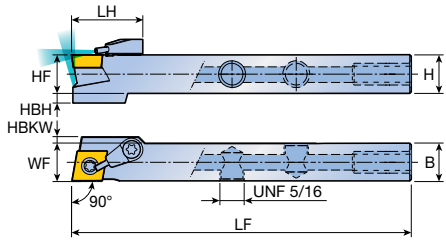
# SCACR/L-SH SCACR/L-SH-TB

T-TURN

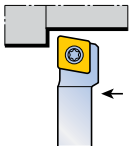
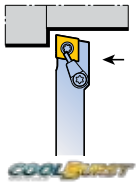
## Screw type holders




SCACR-SH




SCACR-SH-TB

| Approach angle | Designation | | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | HBH | B | LF | LH | WF | HBKW | |
| 90° | # SCACR/L | 1010 K06-SH | 10 | 10 | - | 10 | 125 | 10 | 10 | - | CC... 0602... |
|  | | 1010 K09-SH | 10 | 10 | - | 10 | 125 | 15 | 10 | 2 | CC... 09T3... |
| | | 1212 K09-SH | 12 | 12 | - | 12 | 125 | 15 | 12 | - | A260-A263, A310 |
| | | 1616 K09-SH | 16 | 16 | - | 16 | 125 | 16 | 16 | - | |
| 90° | # SCACR/L | 1212 K09-SH-TB | 12 | 12 | 3 | 12 | 125 | 23 | 12 | 2 | |
|  | | 1616 K09-SH-TB | 16 | 16 | - | 16 | 125 | 23 | 16 | - | |

▸ #: TOP-MINI holders

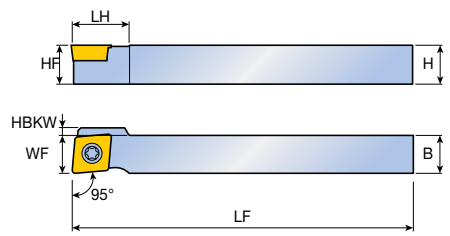
## Spare parts

| Designation | Screw | Cooling unit | Plug | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| ...06-SH | SO 25065I | - | - | T 7 | - | | |
| ...09-SH | SO 35080I | - | - | T 15 | - | | |
| SCACR/L-SH-TB | SO 35080I | S-CU-TB | PLG 5/16 UNF | T 15 | L-W 5/32 | | |
| | | | | | | | |
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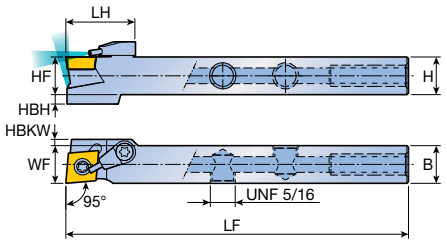
▸ Please refer to A135 page for COOL-BURST accessories

# SCLCR/L-SH SCLCR/L-SH-TB

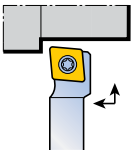
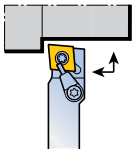
## Screw type holders




SCLCR-SH




SCLCR-SH-TB

| Approach angle | Designation | | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | HBH | B | LF | LH | WF | HBKW | |
| 95° | # SCLCR/L | 0808 K06-SH | 8 | 8 | - | 8 | 125 | 8 | 8 | - | CC... 0602... |
|  | | 1010 K06-SH | 10 | 10 | - | 10 | 125 | 10 | 10 | - | |
| | | 1010 K09-SH | 10 | 10 | - | 10 | 125 | 15 | 10 | 2 | CC... 09T3... |
| | | 1212 K09-SH | 12 | 12 | - | 12 | 125 | 15 | 12 | - | |
| | | 1616 K09-SH | 16 | 16 | - | 16 | 125 | 16 | 16 | - | A260-A263, A310 |
| 95° | # SCLCR/L | 1212 K09-SH-TB | 12 | 12 | 3 | 12 | 125 | 23 | 12 | 2 | |
|  | | 1616 K09-SH-TB | 16 | 16 | - | 16 | 125 | 23 | 16 | - | |

▸ #: TOP-MINI holders

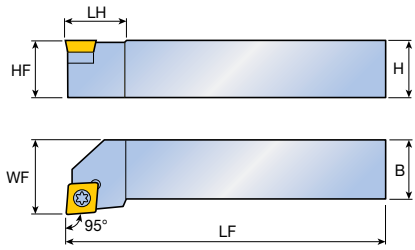
## Spare parts

| Designation | Screw | Cooling unit | Plug | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| ...06-SH | SO 25065I | - | - | T 7 | - | | |
| ...09-SH | SO 35080I | - | - | T 15 | - | | |
| SCLCR/L-SH-TB | SO 35080I | S-CU-TB | PLG 5/16 UNF | T 15 | L-W 5/32 | | |
| | | | | | | | |
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| | | | | | | | |

▸ Please refer to A135 page for COOL-BURST accessories

# SCLCR/L

## Screw type holders




SCLCR

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **95°** | **SCLCR/L** | **0808 F06** | 8 | 8 | 8 | 80 | 10 | 10 | CC... 0602... | A260-A263, A310 |
| | | **1010 F06** | 10 | 10 | 10 | 80 | 10 | 12 | | |
| | | **1212 F09** | 12 | 12 | 12 | 80 | 16 | 16 | CC... 09T3... | |
| | | **1616 H09** | 16 | 16 | 16 | 100 | 16 | 20 | | |
| | | **2020 K09** | 20 | 20 | 20 | 125 | 20 | 25 | | |
| | | **2525 M09** | 25 | 25 | 25 | 150 | 20 | 32 | | |
| | | **2020 K12** | 20 | 20 | 20 | 125 | 25 | 25 | CC... 1204... | |
| | | **2525 M12** | 25 | 25 | 25 | 150 | 26 | 32 | | |

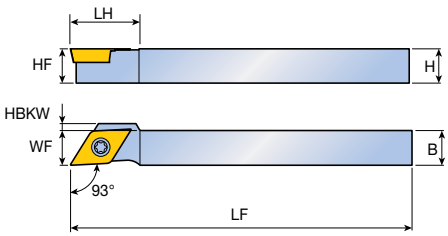
## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| **...06** | SO 25065I | - | - | T 7 | | | |
| **...F09** | SO 35080I | - | - | T 15 | | | |
| **...09** | SO 35124I | SSC 32 | SO 50090S | T 15 | | | |
| **...12** | SO 45130I | SSC 43N | SO 60105S | T 20 | | | |
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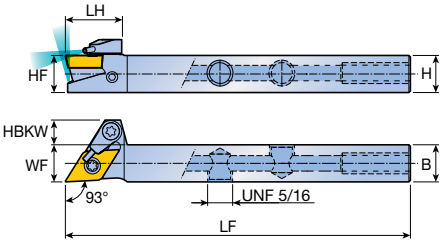
# SDJCR/L-SH SDJCR/L-SH-TB

T-TURN

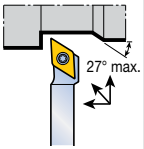
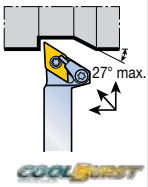
## Screw type holders




SDJCR-SH




SDJCR-SH-TB

| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBKW | |
| **93°** | # **SDJCR/L** | **0808 K07-SH** | 8 | 8 | 8 | 125 | 12.7 | 8 | - | DC... 0702... A265-A268, A311 |
|  | | **1010 K07-SH** | 10 | 10 | 10 | 125 | 15 | 10 | - | |
| | | **1010 K11-SH** | 10 | 10 | 10 | 125 | 20 | 10 | 2 | DC... 11T3... |
| | | **1212 K11-SH** | 12 | 12 | 12 | 125 | 20 | 12 | - | |
| | | **1616 K11-SH** | 16 | 16 | 16 | 125 | 20 | 16 | - | |
| | | **2020 K11-SH** | 20 | 20 | 20 | 125 | 20 | 20 | - | |
| **93°** | # **SDJCR/L** | **1212 K11-SH-TB** | 12 | 12 | 12 | 125 | 19 | 12 | 8 | |
|  | | **1616 K11-SH-TB** | 16 | 16 | 16 | 125 | 19 | 16 | 4 | |
| | | **2020 K11-SH-TB** | 20 | 20 | 20 | 125 | 20 | 20 | - | |

▸ #: TOP-MINI holders

## Spare parts

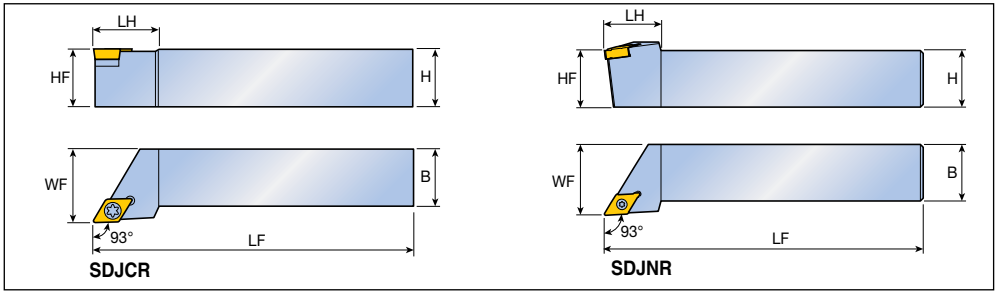
| Designation | Screw | Cooling unit | Plug | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...07** | SO 25065I | - | - | T 7 | - | | |
| **...11-SH** | SO 35080I | - | - | T 15 | - | | |
| **SDJCR/L-SH-TB** | SO 35080I | S-CU-TB | PLG 5/16 UNF | T 15 | L-W 5/32 | | |

▸ Please refer to A135 page for COOL-BURST accessories

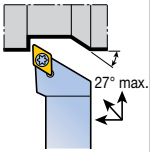
# SDJCR/L SDJNR/L

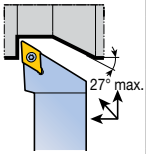
T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **SDJCR/L** | **1212 F07** | 12 | 12 | 12 | 80 | 15 | 16 | DC... 0702... A265-A268, A311 |
| | | **1616 H07** | 16 | 16 | 16 | 100 | 15 | 20 | |
| | | **2020 K07** | 20 | 20 | 20 | 125 | 20 | 25 | |
| | | **1616 H11** | 16 | 16 | 16 | 100 | 24 | 20 | DC... 11T3... |
| | | **2020 K11** | 20 | 20 | 20 | 125 | 24 | 25 | |
| | | **2525 M11** | 25 | 25 | 25 | 150 | 28 | 32 | |
| **93°** | **SDJNR/L** | **1616 H11** | 16 | 16 | 16 | 100 | 25 | 20 | DN... 1104... A234-A235, A237 |
| | | **2020 K11** | 20 | 20 | 20 | 125 | 25 | 25 | |
| | | **2525 M11** | 25 | 25 | 25 | 150 | 25 | 32 | |




## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  | | | | |
| **...07** | SO 25065I | - | - | T 7 | | | | |
| **...11** | SO 35124I | SSD 32 | SO 50090S | T 15 | | | | |
| **...1104...** | SO 35120I | SSD 32 | SO 50090S | T 10 | | | | |
| | | | | | | | | |
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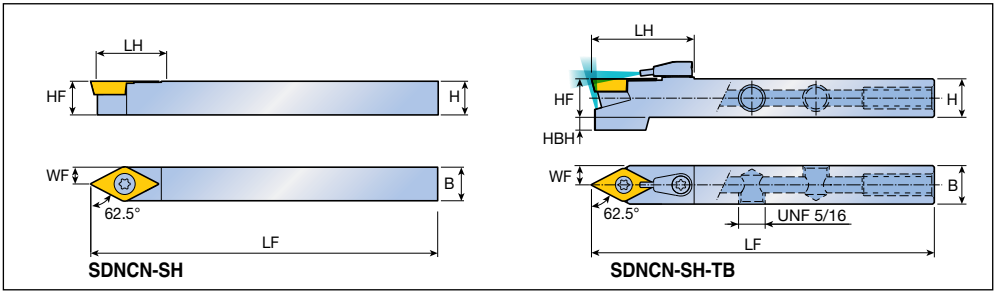


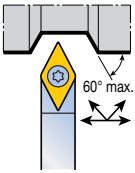
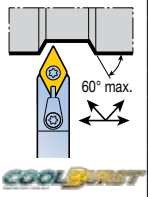
ADVANCE CUTTING TaeguTec

# SDNCN-SH SDNCN-SH-TB

T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | HBH | B | LF | LH | WF | |
| **62.5°** | **# SDNCN** | **0808 K07-SH** | 8 | 8 | - | 8 | 125 | 15 | 4 | DC... 0702... A265-A268, A311 |
|  | | **1010 K07-SH** | 10 | 10 | - | 10 | 125 | 15 | 5 | |
| | | **1010 K11-SH** | 10 | 10 | - | 10 | 125 | 22 | 5 | DC... 11T3... |
| | | **1212 K11-SH** | 12 | 12 | - | 12 | 125 | 22 | 6 | |
| | | **1616 K11-SH** | 16 | 16 | - | 16 | 125 | 22 | 8 | |
| **62.5°** | **# SDNCN** | **1212 K11-SH-TB** | 12 | 12 | 4 | 12 | 125 | 32 | 6 | |
|  | | **1616 K11-SH-TB** | 16 | 16 | - | 16 | 125 | 32 | 8 | |

▸ #: TOP-MINI holders

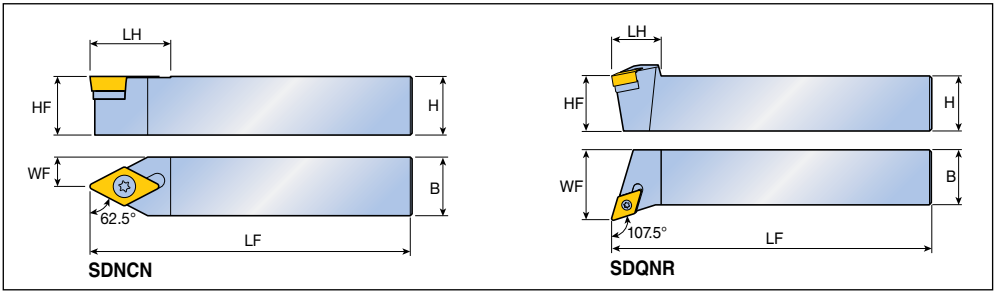
## Spare parts

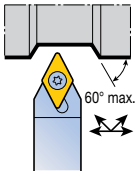
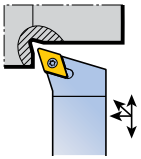
| Designation | Screw | Cooling unit | Plug | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...07** | SO 25065I | - | - | T 7 | - | | | |
| **...11-SH** | SO 35080I | - | - | T 7 | - | | | |
| **SDNCN-SH-TB** | SO 35080I | S-CU-TB | PLG 5/16 UNF | T 15 | L-W 5/32 | | | |
| | | | | | | | | |
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▸ Please refer to A135 page for COOL-BURST accessories

# SDNCN SDQNR/L

## Screw type holders



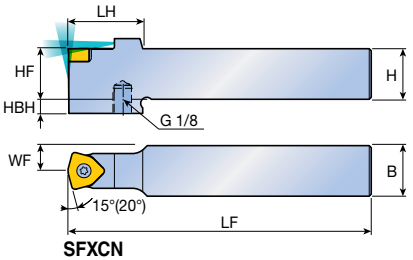

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **62.5°** | **SDNCN** | **0808 F07** | 8 | 8 | 8 | 80 | 15 | 4 | DC... 0702... | A265-A268, A311 |
|  | | **1010 F07** | 10 | 10 | 10 | 80 | 15 | 5 | | |
| | | **1616 H11** | 16 | 16 | 16 | 100 | 22 | 8 | DC... 11T3... | |
| | | **2525 M11** | 25 | 25 | 25 | 150 | 22 | 12.5 | | |
| **107.5°** | **SDQNR/L** | **1616 H11** | 16 | 16 | 16 | 100 | 22 | 20 | DN... 1104... | A234-A235, A237 |
|  | | **2020 K11** | 20 | 20 | 20 | 125 | 22 | 25 | | |
| | | **2525 M11** | 25 | 25 | 25 | 150 | 22 | 32 | | |

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  | | | | |
| **...07** | SO 25065I | - | - | T 7 | | | | |
| **SDNCN ...11** | SO 35124I | SSD 32 | SO 50090S | T 15 | | | | |
| **SDQNR/L...11** | SO 35120I | SSD 32 | SO 50090S | T 10 | | | | |
| | | | | | | | | |
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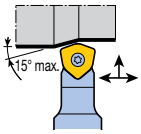
# SFXCN

## Screw type holders for FCMX high feed inserts



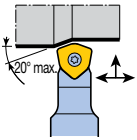

**SFXCN**

| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBH | |
| **15°** | **SFXCN** | **2525 M1006** | 25 | 25 | 25 | 150 | 37 | 12.5 | 7 | FCMX 1006... A270 |
| | | **3232 P1006** | 32 | 32 | 32 | 170 | 37 | 16 | - | |




FCMX HFG

**20°**




FCMX HFP

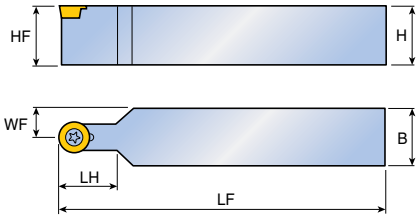
## Spare parts

| Designation | Screw | Wrench | | | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  | | | | | | |
| **...1006** | SO 45130I | T 20 | | | | | | |

# SRDCN

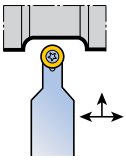
T-TURN

## Screw type holders




SRDCN

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| 45° | SRDCN | 1616 H08 | 16 | 16 | 16 | 100 | 20 | 8 | RC…T 0803… | A271 |
| | | 2020 K08 | 20 | 20 | 20 | 125 | 25 | 10 | | |
| | | 2525 M08 | 25 | 25 | 25 | 150 | 30 | 12.5 | | |
| | | 1616 H10 | 16 | 16 | 16 | 100 | 16 | 8 | RC...T 10T3... | |
| | | 2020 K10 | 20 | 20 | 20 | 125 | 20 | 10 | | |
| | | 2525 M10 | 25 | 25 | 25 | 150 | 25 | 12.5 | | |
| | | 2525 M12 | 25 | 25 | 25 | 150 | 25 | 12.5 | RC...T 1204... | |



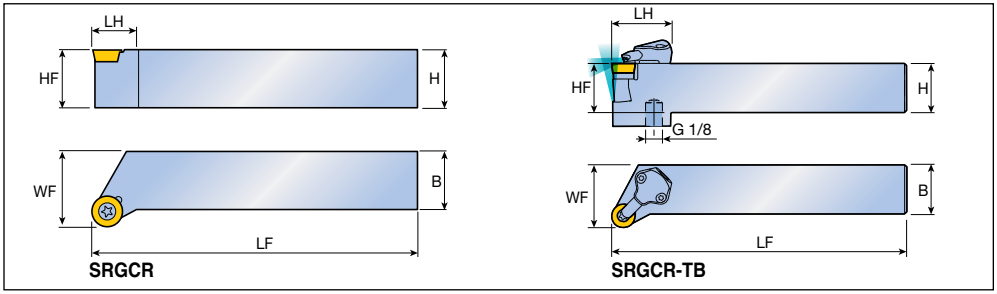
## Spare parts

| Designation | Screw | Wrench | | | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  | | | | | | |
| ...08 | SO 30040I | T 9 | | | | | | |
| ...10 | TS 40097I | T 15 | | | | | | |
| ...12 | SO 40050I | T 15 | | | | | | |
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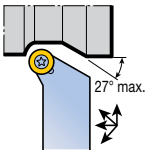
# SRGCR/L SRGCR/L-TB

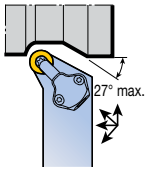
T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **90°** | **SRGCR/L** | **1616 H10** | 16 | 16 | 16 | 100 | 12.3 | 20 | RC...T 10T3... A271 |
| | | **2020 K10** | 20 | 20 | 20 | 125 | 14 | 25 | |
| | | **2525 M10** | 25 | 25 | 25 | 150 | 14 | 32 | |
| **90°** | **SRGCR/L** | **2525 M12-TB** | 25 | 25 | 25 | 150 | 30 | 32 | RC...T 1204... |




COOL BURST

## Spare parts

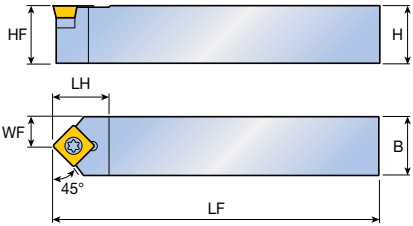
| Designation | Screw | Shim | Shim screw | Cooling unit | O-ring | Wrench | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| **...10** | TS 40097I | - | - | - | - | T 15 | - |
| **SRGCR/L...TB** | TS 35110I | SSR 32 | TS 5035062S | CU-R-TB | ID 6.4x0.9 | T 8, T 15 | L-W 2, L-W 3.5 |

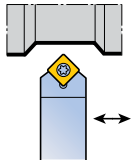
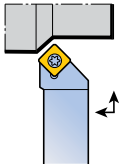
▸ Please refer to A135 page for COOL-BURST accessories

# SSDCN SSSCR/L

T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **45°** | **SSDCN** | **1212 F09** | 12 | 12 | 12 | 80 | 15.5 | 6 | SC... 09T3... A271, A312 |
|  | | **1616 H09** | 16 | 16 | 16 | 100 | 15.5 | 8 | |
| **45°** | **SSSCR/L** | **1212 F09** | 12 | 12 | 12 | 80 | 15.5 | 14 | SC... 09T3... |
|  | | **1616 H09** | 16 | 16 | 16 | 100 | 15.5 | 17 | |
| | | **2020 K12** | 20 | 20 | 20 | 125 | 24 | 22 | SC... 1204... |
| | | **2525 M12** | 25 | 25 | 25 | 150 | 24 | 27 | |

## Spare parts

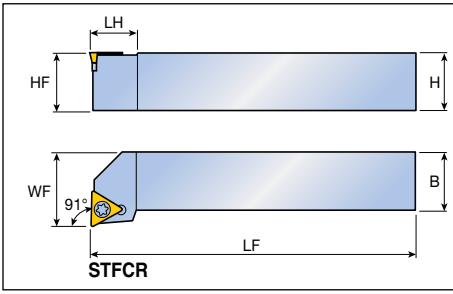
| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  | | | | |
| **...F09** | SO 35080I | - | - | T 15 | | | | |
| **...H09** | SO 35124I | SSS 32 | SO 50090S | T 15 | | | | |
| **...12** | SO 45130I | SSS 43N | SO 60105S | T 20 | | | | |
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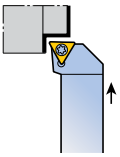


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# STFCR/L

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **91°** | **STFCR/L** | **1212 F1102** | 12 | 12 | 12 | 80 | 14 | 16 | TC...T 1102... | A275, A276, A313, A314 |
|  | | **1616 H16** | 16 | 16 | 16 | 100 | 19 | 20 | TC... 16T3... | |
| | | **2020 K16** | 20 | 20 | 20 | 125 | 19 | 25 | | |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 20 | 32 | | |

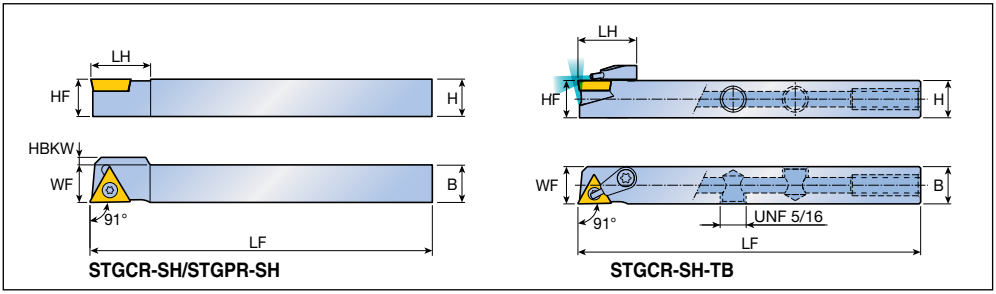
## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  | | | | |
| **...1102** | SO 25065I | - | - | T 7 | | | | |
| **...16** | SO 35124I | SST 32 | SO 50090S | T 15 | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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| | | | | | | | | |
| | | | | | | | | |

# STGCR/L-SH STGPR-SH STGCR/L-SH-TB

T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBKW | | |
| **91°** | # **STGCR/L** | **0808 E08-SH** | 8 | 8 | 8 | 70 | 11 | 8 | 2 | TC...T 0802... | A275, A313, A314 |
| | | **1010 F08-SH** | 10 | 10 | 10 | 80 | 11 | 10 | - | | |
| | # **STGCR** | **1010 K11-SH** | 10 | 10 | 10 | 125 | 16 | 10 | 2 | TC...T 1103... | |
| | | **1212 K11-SH** | 12 | 12 | 12 | 125 | 16 | 12 | - | | |
| | | **1616 K11-SH** | 16 | 16 | 16 | 125 | 16 | 16 | - | | |
| | # **STGPR/L** | **1010 K11-SH** | 10 | 10 | 10 | 125 | 16 | 10 | 2 | TP...T 1103... | A277-A279 |
| | | **1212 K11-SH** | 12 | 12 | 12 | 125 | 16 | 12 | - | | |
| | | **1616 K11-SH** | 16 | 16 | 16 | 125 | 16 | 16 | - | | |
| **91°** | # **STGCR** | **1212 K11-SH-TB** | 12 | 12 | 12 | 125 | 20 | 12 | - | TC...T 1103... | A275 |
| | | **1616 K11-SH-TB** | 16 | 16 | 16 | 125 | 20 | 16 | - | | |

▸ #: TOP-MINI holders
▸ Only -FF/-GF inserts available for 11 size holders

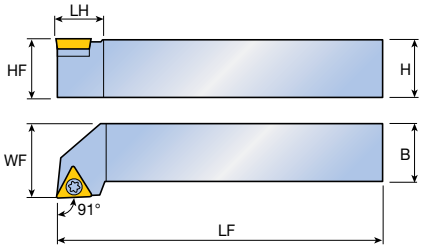
## Spare parts

| Designation | Screw | Cooling unit | Plug | Wrench | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| **...08-SH** | TS 20043I/HG-P | - | - | T 6P | - | | |
| **...11** | SO 25065I | - | - | T 7 | - | | |
| **STGCR/L-SH-TB** | SO 25065I | S-CU-TB | PLG 5/16 UNF | T 7 | L-W 5/32 | | |
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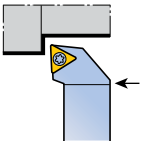
▸ Please refer to A135 page for COOL-BURST accessories

# STGCR/L

## Screw type holders




STGCR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| 91° | **STGCR/L 0808 E08** | 8 | 8 | 8 | 70 | 10 | 10 | TC...T 0802... |
|  | **1010 F08** | 10 | 10 | 10 | 80 | 10 | 12 | A275, A276, |
| | **1010 E09** | 10 | 10 | 10 | 70 | 11 | 12 | TC...T 0902... A313, A314 |
| | **1212 F1102** | 12 | 12 | 12 | 80 | 14.3 | 16 | TC...T 1102... |
| | **1616 H1102** | 16 | 16 | 16 | 100 | 14.3 | 20 | |
| | **1616 H16** | 16 | 16 | 16 | 100 | 21 | 20 | TC...T 16T3... |
| | **2020 K16** | 20 | 20 | 20 | 125 | 21 | 25 | |
| | **2525 M16** | 25 | 25 | 25 | 150 | 21 | 32 | |

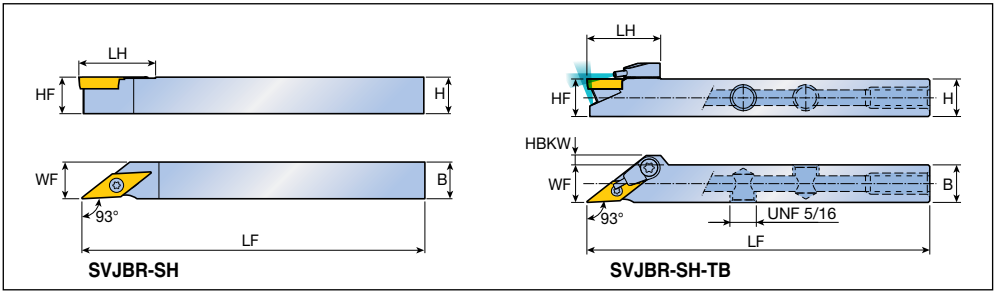
## Spare parts

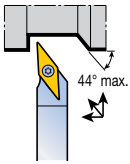
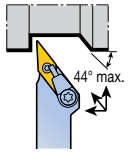
| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  | | | |
| **...08** | TS 20043I/HG-P | - | - | T 6P | | | |
| **...09** | SO 22050I | - | - | T 7 | | | |
| **...1102** | SO 25065I | - | - | T 7 | | | |
| **...16** | SO 35124I | SST 32 | SO 50090S | T 15 | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

# SVJBR/L-SH SVJBR/L-SH-TB

T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBKW | |
| **93°** | # **SVJBR/L** | **1010 K11-SH** | 10 | 10 | 10 | 125 | 21 | 10 | - | VB... 1103... A281, A282, A315 |
|  | | **1212 K11-SH** | 12 | 12 | 12 | 125 | 21 | 12 | - | |
| | | **1616 K11-SH** | 16 | 16 | 16 | 125 | 21 | 16 | - | |
| **93°** | # **SVJBR/L** | **1212 K11-SH-TB** | 12 | 12 | 12 | 125 | 23.6 | 12 | 3 | |
|  | | **1616 K11-SH-TB** | 16 | 16 | 16 | 125 | 23.6 | 16 | - | |

▸ #: TOP-MINI holders

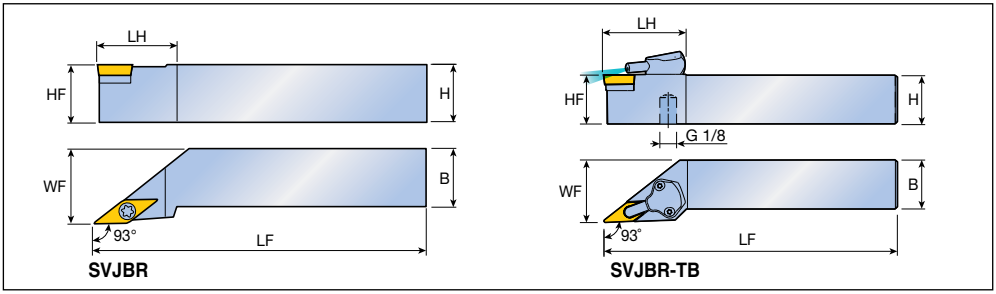
## Spare parts

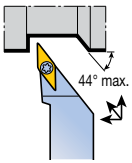
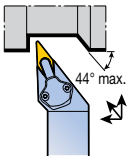
| Designation | Screw | Cooling unit | Plug | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...11** | SO 25065I | - | - | T 7 | - | | |
| **SVJBR/L-SH-TB** | SO 25065I | S-CU-TB | PLG 5/16 UNF | T 7 | L-W 5/32 | | |

▸ Please refer to A135 page for COOL-BURST accessories

# SVJBR/L SVJBR/L-TB

## Screw type holders




| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **93°** | **SVJBR/L 2020 K16** | 20 | 20 | 20 | 125 | 35 | 25 | VB... 1604... A281, A282, A315 |
|  | **2525 M16** | 25 | 25 | 25 | 150 | 35 | 32 | |
| | **3225 P16** | 32 | 32 | 25 | 170 | 35 | 32 | |
| | **3232 P16** | 32 | 32 | 32 | 170 | 35 | 40 | |
| **93°** | **SVJBR/L 2525 M16-TB** | 25 | 25 | 25 | 150 | 42 | 32 | |
|  | | | | | | | | |

## Spare parts

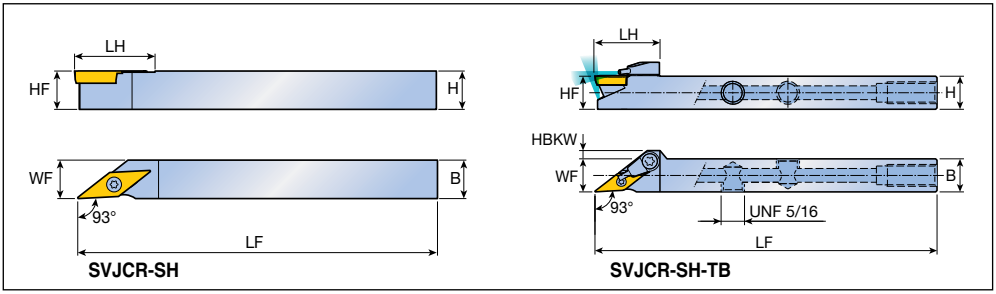
| Designation | Screw | Shim | Shim screw | Cooling unit | O-ring | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...16** | SO 35124I | SSV 32 | SO 50090S | - | - | T 15 | - |
| **SVJBR/L-TB** | SO 35124I | SSV 32 | TS 5035062S | CU-V-TB | ID 6.4x0.9 | T 8, T 15 | L-W 3.5 |
| | | | | | | | |
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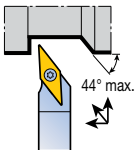
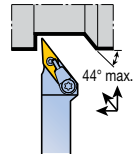
▸ Please refer to A135 page for COOL-BURST accessories

# SVJCR/L-SH SVJCR/L-SH-TB

T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | | Inserts |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBKW | |
| **93°** | # **SVJCR/L** | **1010 K11-SH** | 10 | 10 | 10 | 125 | 21 | 10 | - | VC... 1103... A283, A284 |
|  | | **1212 K11-SH** | 12 | 12 | 12 | 125 | 21 | 12 | - | |
| | | **1616 K11-SH** | 16 | 16 | 16 | 125 | 21 | 16 | - | |
| | | **2020 K11-SH** | 20 | 20 | 20 | 125 | 21 | 20 | - | |
| **93°** | # **SVJCR/L** | **1212 K11-SH-TB** | 12 | 12 | 12 | 125 | 23.6 | 12 | 3 | |
|  | | **1616 K11-SH-TB** | 16 | 16 | 16 | 125 | 23.6 | 16 | - | |
| | | **2020 K11-SH-TB** | 20 | 20 | 20 | 125 | 23.6 | 20 | - | |

▸ #: TOP-MINI holders

## Spare parts

| Designation | Screw | Cooling unit | Plug | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...11-SH** | SO 25065I | - | - | T 7 | - | | |
| **SVJCR/L-SH-TB** | SO 25065I | S-CU-TB | PLG 5/16 UNF | T 7 | L-W 5/32 | | |

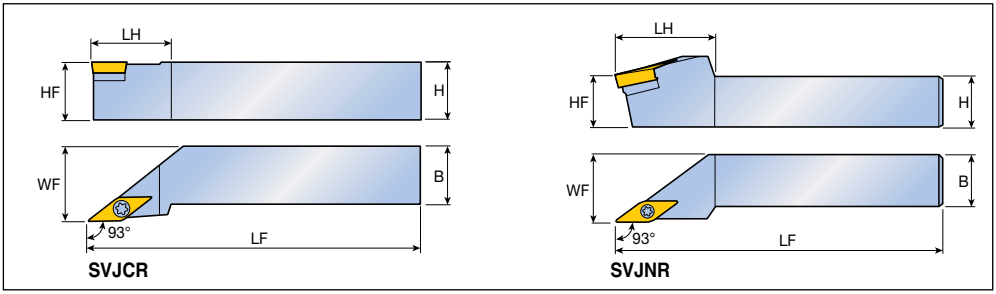
▸ Please refer to A135 page for COOL-BURST accessories

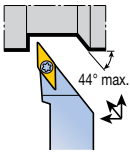
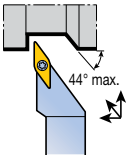


ADVANCE CUTTING TaeguTec

# SVJCR/L SVJNR/L

## Screw type holders



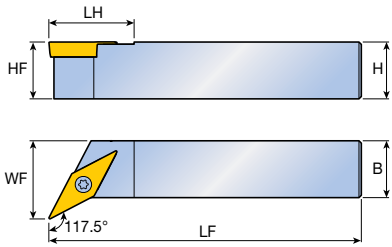

| Approach angle | Designation | | Dimension (mm) | | | | | | Inserts |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **SVJCR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 35 | 25 | VC... 1604... A283, A284 |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 35 | 32 | |
| | | **3225 P16** | 32 | 32 | 25 | 170 | 35 | 32 | |
| | | **3232 P16** | 32 | 32 | 32 | 170 | 47 | 40 | |
| **93°** | **SVJNR/L** | **1616 H13** | 16 | 16 | 16 | 100 | 30 | 20 | VN... 1304... A251-A252 |
|  | | **2020 K13** | 20 | 20 | 20 | 125 | 35 | 25 | |
| | | **2525 M13** | 25 | 25 | 25 | 150 | 43 | 32 | |

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...13** | SO 35120I | SSVN 2.522 | TS 5035062S | T 10 | L-W 3.5 | | |
| **...16** | SO 35124I | SSV 32 | SO 50090S | T 15 | L-W 3.5 | | |

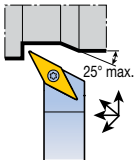
# SVPBR/L

## Screw type holders




**SVPBR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **117.5°** | **SVPBR/L 1010 E11** | 10 | 10 | 10 | 70 | 18 | 14.5 | VB... 1103... A281, A282, A315 |
| | **1212 F11** | 12 | 12 | 12 | 80 | 18 | 16.5 | |
| | **1616 F11** | 16 | 16 | 16 | 80 | 18 | 20.5 | |
| | **2020 K11** | 20 | 20 | 20 | 125 | 18 | 25 | |
| | **2525 M11** | 25 | 25 | 25 | 150 | 18 | 32 | |
| | **2020 K16** | 20 | 20 | 20 | 125 | 25 | 25 | VB... 1604... |
| | **2525 M16** | 25 | 25 | 25 | 150 | 25 | 32 | |



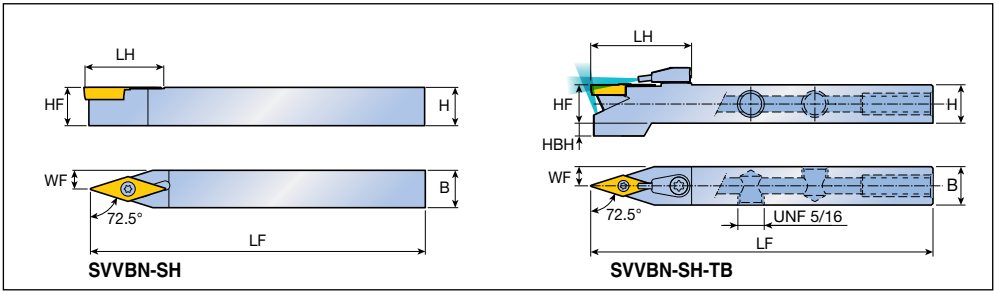

## Spare parts

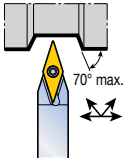
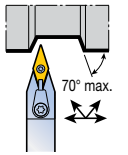
| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **...11** | SO 25065I | - | - | T 7 | - | | | |
| **...16** | SO 35124I | SSV 32 | SO 50090S | T 15 | L-W 3.5 | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# SVVBN-SH SVVBN-SH-TB

T-TURN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | HBH | B | LF | LH | WF | |
| **72.5°** | # **SVVBN** | **1010 K11-SH** | 10 | 10 | - | 10 | 125 | 22 | 5 | VB... 1103... A281, A282, A315 |
|  | | **1212 K11-SH** | 12 | 12 | - | 12 | 125 | 22 | 6 | |
| | | **1616 K11-SH** | 16 | 16 | - | 16 | 125 | 22 | 8 | |
| **72.5°** | # **SVVBN** | **1212 K11-SH-TB** | 12 | 12 | 2 | 12 | 125 | 31.5 | 6 | |
|  | | **1616 K11-SH-TB** | 16 | 16 | - | 16 | 125 | 31.5 | 8 | |

▸ #: TOP-MINI holders

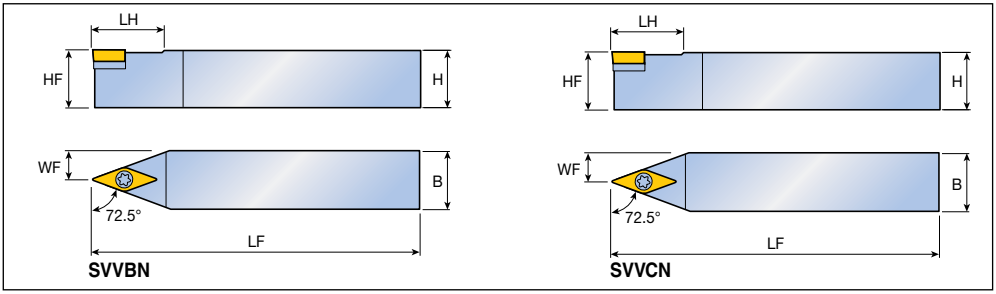
## Spare parts

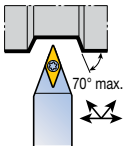
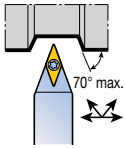
| Designation | Screw | Cooling unit | Plug | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...11** | SO 25065I | - | - | T 7 | - | | | |
| **SVVBN-SH-TB** | SO 25065I | S-CU-TB | PLG 5/16 UNF | T 7 | L-W 5/32 | | | |

▸ Please refer to A135 page for COOL-BURST accessories

# SVVBN SVVCN

## Screw type holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **72.5°** | **SVVBN** | **2020 K16** | 20 | 20 | 20 | 125 | 31.5 | 10.0 | VB... 1604... A281-A282, A315 |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 31.5 | 12.5 | |
| | | **3225 P16** | 32 | 32 | 25 | 170 | 31.5 | 12.5 | |
| **72.5°** | **SVVCN** | **2020 K16** | 20 | 20 | 20 | 125 | 31.5 | 10.0 | VC...T 1604... A283-A284, A315 |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 31.5 | 12.5 | |
| | | **3225 P16** | 32 | 32 | 25 | 170 | 31.5 | 12.5 | |
| | | **3232 P16** | 32 | 32 | 32 | 170 | 32 | 16.0 | |

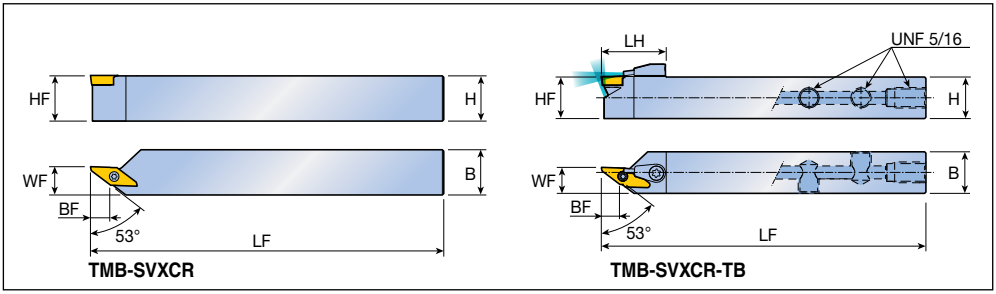
## Spare parts

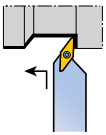
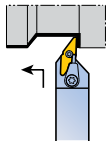
| Designation | Screw | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **...16** | SO 35124I | SSV 32 | SO 50090S | T 15 | L-W 3.5 | |

# TMB-SVXCR TMB-SVXCR-TB

T-TURN

**Screw type back turning holders**




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | BF | |
| **53°** | # **TMB-SVXCR** | **1212 K11** | 12 | 12 | 12 | 125 | - | 10 | 7.2 | BTVC 1103… A259 |
|  | | **1616 K11** | 16 | 16 | 16 | 125 | - | 10 | 7.2 | |
| **53°** | # **TMB-SVXCR** | **1212 K11-TB** | 12 | 12 | 12 | 125 | 25 | 10 | 7.2 | |
|  | | **1616 K11-TB** | 16 | 16 | 16 | 125 | 25 | 10 | 7.2 | |

▸ #: TOP-MINI holders

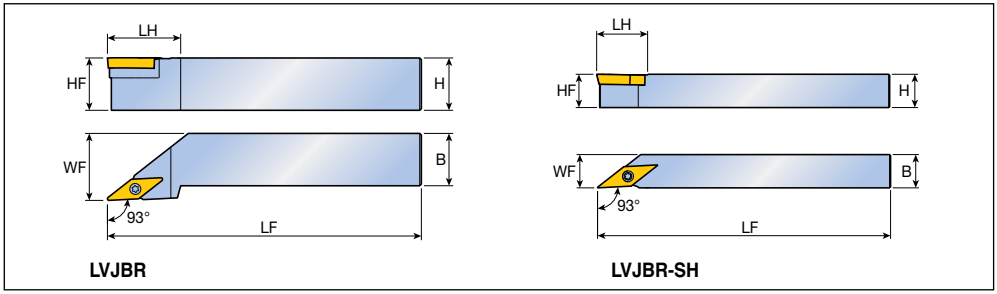
## Spare parts

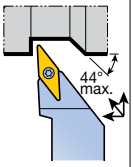
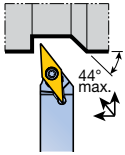
| Designation | Screw | Cooling unit | Plug | Wrench | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **TMB-SVXCR** | SO 25065I | - | - | T 7 | - | |
| **TMB-SVXCR-TB** | SO 25065I | S-CU-TB | PLG 5/16 UNF | T 7 | L-W 5/32 | |

▸ Please refer to A135 page for COOL-BURST accessories

# LVJBR/L LVJBR-SH

## Screw type holders



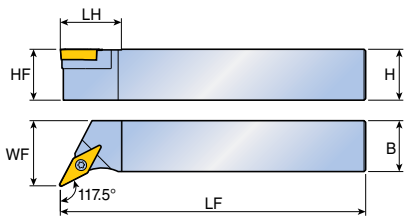

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **LVJBR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 35 | 25 | VBMX 1604... A282 |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 35 | 32 | |
| **93°** | **LVJBR** | **1616 K16-SH** | 16 | 16 | 16 | 125 | 24.5 | 16 | |
|  | | | | | | | | | |

## Spare parts

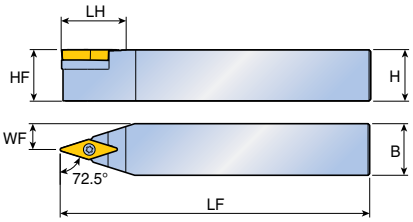
| Designation | Screw | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **LVJBR/L** | SO 35124I | SSVX 32 | TS 5035062S | T 15 | L-W 3.5 | |
| **LVJBR-SH** | SO 35080I | - | - | T 15 | - | |
| | | | | | | |
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# LVQBR/L LVVBN

## Screw type holders




LVQBR




LVVBN

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **117.5°** | **LVQBR/L** | **2525 M16** | 25 | 25 | 25 | 150 | 30 | 32 | VBMX 1604... A282 |
| **72.5°** | **LVVBN** | **2525 M16** | 25 | 25 | 25 | 150 | 31.5 | 12.5 | |

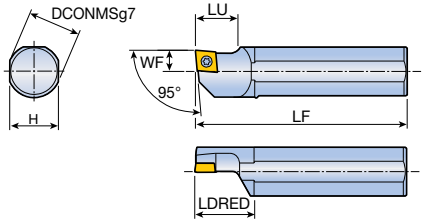
## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|
| **LVQBR/L** | SO 35124I | SSVX 32 | TS 5035062S | T 15 | L-W 3.5 | |
| **LVVBN** | SO 35124I | SSVX 32 | TS 5035062S | T 15 | L-W 3.5 | |

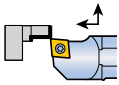
# TMS-SCLCL

T-TURN

## Sleeve holders




TMS-SCLCL

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LU | LDRED | WF | |
| **95°** | # **TMS-19.05H SCLCL 09** | 19.05 | 17 | 100 | 20 | 28 | 10 | CC… 09T3… |
|  | **20H SCLCL 09** | 20 | 18 | 100 | 20 | 28 | 10 | A260-A263, A310 |
| | **22H SCLCL 09** | 22 | 20 | 100 | 20 | 28 | 10 | |
| | **25H SCLCL 09** | 25 | 23 | 100 | 20 | 28 | 10 | |

▸ #: TOP-MINI holders

## Spare parts

| Designation | Screw | Wrench | | | | |
|---|---|---|---|---|---|---|
| |  |  | | | | |
| **TMS-SCLCL** | SO 35080I | T 15 | | | | |
| | | | | | | |
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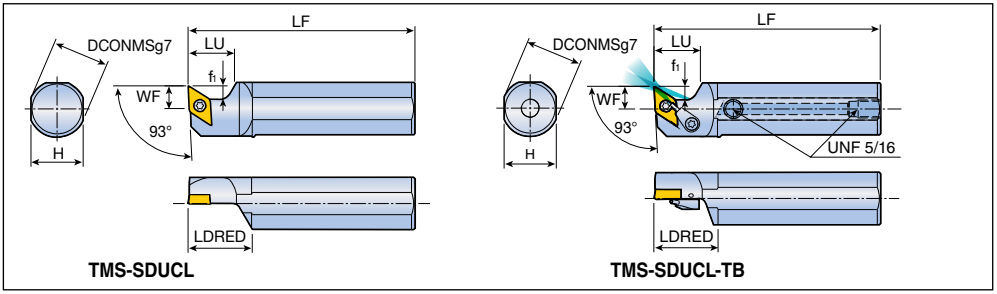


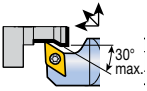
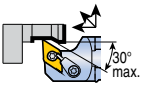
ADVANCE CUTTING TaeguTec

# TMS-SDUCL TMS-SDUCR/L-TB

T-TURN

## Sleeve holders




| Approach angle | Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | f1 | LU | LDRED | WF | |
| **93°** | # **TMS-16X SDUCL 11** | 16 | 15 | 85 | 6 | 20 | 28 | 10 | DC… 11T3… |
|  | **19.05H SDUCL 11** | 19.05 | 17 | 100 | 6 | 20 | 28 | 10 | A265-A268, A311 |
| | **20H SDUCL 11** | 20 | 18 | 100 | 6 | 20 | 28 | 10 | |
| | **22H SDUCL 11** | 22 | 20 | 100 | 6 | 20 | 28 | 10 | |
| | **25H SDUCL 11** | 25 | 23 | 100 | 6 | 20 | 28 | 10 | |
| **93°** | # **TMS-16X SDUCR 11- TB** | 16 | 15 | 85 | 6 | 20 | 28 | 10 | |
|  | **19.05H SDUCL 11-TB** | 19.05 | 17 | 100 | 6 | 20 | 28 | 10 | |
| | **20H SDUCL 11-TB** | 20 | 18 | 100 | 6 | 20 | 28 | 10 | |
| | **22H SDUCL 11-TB** | 22 | 20 | 100 | 6 | 20 | 28 | 10 | |
| | **25H SDUCL 11-TB** | 25 | 23 | 100 | 6 | 20 | 28 | 10 | |

▸ #: TOP-MINI holders

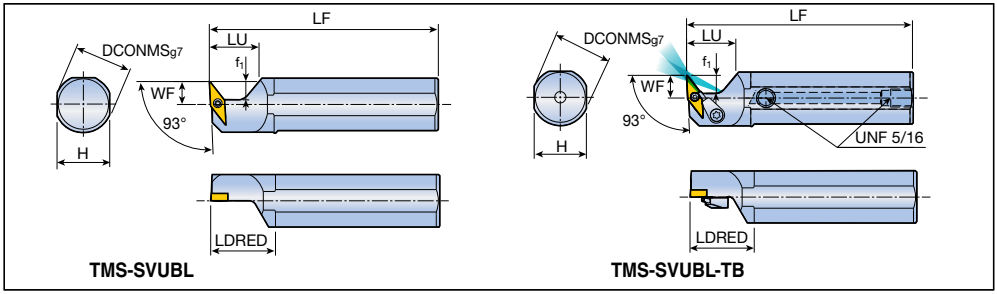
## Spare parts

| Designation | Screw | Cooling unit | Plug | Wrench | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **TMS-SDUCL** | SO 35080I | - | - | T 15 | - | |
| **TMS-SDUCL-TB** | SO 35080I | S-CU-TB | PLG 5/16 UNF | T 15 | L-W 5/32 | |

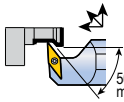
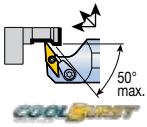
▸ Please refer to A135 page for COOL-BURST accessories

# TMS-SVUBL TMS-SVUCL TMS-SVUBR/L-TB

## Sleeve holders




TMS-SVUBL TMS-SVUBL-TB

| Approach angle | Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | $f_1$ | LU | LDRED | WF | |
| **93°** | # **TMS-19.05H SVUBL 11** | 19.05 | 17 | 100 | 8 | 21 | 25 | 10 | VB... 1103... |
|  | **20H SVUBL 11** | 20 | 18 | 100 | 8 | 21 | 25 | 10 | A281-A282, A315 |
| | **22H SVUBL 11** | 22 | 20 | 100 | 8 | 21 | 25 | 10 | |
| | **25H SVUBL 11** | 25 | 23 | 100 | 8 | 21 | 28 | 10 | |
| | # **TMS-19.05H SVUCL 11** | 19.05 | 17 | 100 | 8 | 21 | 25 | 10 | VC... 1103... |
| | **22H SVUCL 11** | 22 | 20 | 100 | 8 | 21 | 25 | 10 | A282-A283, A315 |
| | **25.4H SVUCL 11** | 25 | 23 | 100 | 8 | 21 | 28 | 10 | |
| | **25H SVUCL 11** | 25 | 23 | 100 | 8 | 21 | 28 | 10 | |
| **93°** | # **TMS-16X SVUBR 11-TB** | 16 | 15 | 85 | 8 | 21 | 25 | 10 | VB... 1103... |
|  | **19.05H SVUBL 11-TB** | 19.05 | 17 | 100 | 8 | 21 | 25 | 10 | A281-A282, A315 |
| | **20H SVUBL 11-TB** | 20 | 18 | 100 | 8 | 21 | 25 | 10 | |
| | **22H SVUBL 11-TB** | 22 | 20 | 100 | 8 | 21 | 25 | 10 | |
| | **25H SVUBL 11-TB** | 25 | 23 | 100 | 8 | 21 | 28 | 10 | |

▸ #: TOP-MINI holders

## Spare parts

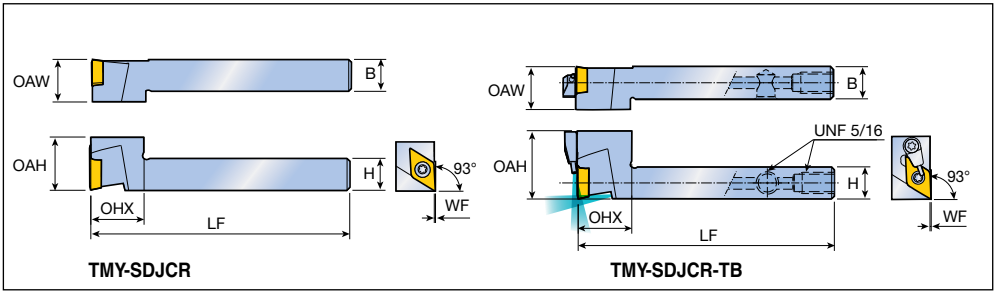
| Designation | Screw | Cooling unit | Plug | Wrench | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **TMS-SVUBL** | SO 25065I | - | - | T 7 | - | |
| **TMS-SVUBR/L-TB** | SO 25065I | S-CU-TB | PLG 5/16 UNF | T 7 | L-W 5/32 | |

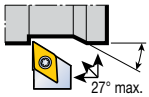
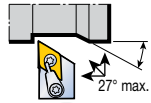
▸ Please refer to A135 page for COOL-BURST accessories

# TMY-SDJCR TMY-SDJCR-TB

T-TURN

## Y-axis holders




| Approach angle | Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | H | B | LF | OHX | OAH | OAW | WF | |
| **93°** | # **TMY-SDJCR 1212 K11** | 12 | 12 | 125 | 21 | 20 | 16 | 0 | DC... 11T3... |
|    | **SDJCR 1616 K11** | 16 | 16 | 125 | 21 | 20 | 16 | 0 |  A265-A268, A311 |
| **93°** | # **TMY-SDJCR 1212 K11-TB** | 12 | 12 | 125 | 21 | 25.5 | 16 | 0 | |
|   COOL BURST  | **SDJCR 1616 K11-TB** | 16 | 16 | 125 | 21 | 25.5 | 16 | 0 | |

▸ #: TOP-MINI holders

## Spare parts

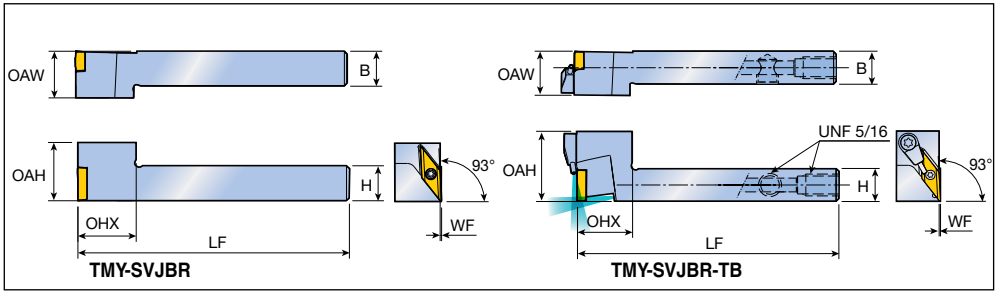
| Designation | Screw | Cooling unit | Plug | Wrench | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **TMY-SDJCR** | SO 35080I | - | - | T 15 | - | |
| **TMY-SDJCR-TB** | SO 35080I | S-CU-TB | PLG 5/16 UNF | T 15 | L-W 5/32 | |
| | | | | | | |
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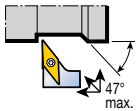
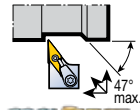
▸ Please refer to A135 page for COOL-BURST accessories

# TMY-SVJBR TMY-SVJBR-TB

T-TURN

## Y-axis holders




| Approach angle | Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | H | B | LF | OHX | OAH | OAW | WF | |
| **93°** | # **TMY-SVJBR 1212 K11** | 12 | 12 | 125 | 20 | 20 | 16 | 0 | VB... 1103... |
|   | **SVJBR 1616 K11** | 16 | 16 | 125 | 20 | 20 | 16 | 0 | A281-A282, A315 |
|  | | | | | | | | | |
| **93°** | # **TMY-SVJBR 1212 K11-TB** | 12 | 12 | 125 | 20 | 25.5 | 16 | 0 | |
|   | **SVJBR 1616 K11-TB** | 16 | 16 | 125 | 20 | 25.5 | 16 | 0 | |
| COOL BURST | | | | | | | | | |
|  | | | | | | | | | |

▸ #: TOP-MINI holders

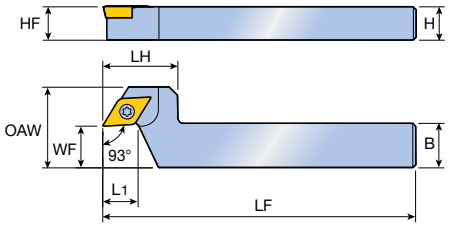
## Spare parts

| Designation | Screw | Cooling unit | Plug | Wrench | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **TMY-SVJBR** | SO 25065I | - | - | T 7 | - | |
| **TMY-SVJBR-TB** | SO 25065I | S-CU-TB | PLG 5/16 UNF | T 7 | L-W 5/32 | |
| | | | | | | |
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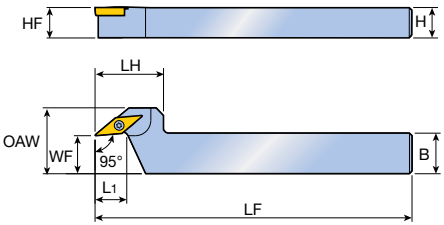
▸ Please refer to A135 page for COOL-BURST accessories

# TMZ-SDJCR TMZ-SVLBR

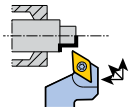
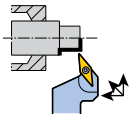
## Shift holders



TMZ-SDJCR



TMZ-SVLBR

| Approach angle | Designation | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | $L_1$ | OAW | LH | WF | |
| **93°** | # **TMZ-SDJCR 1216 K11-F15** | 12 | 12 | 16 | 125 | 12.5 | 29 | 27 | 15 | DC... 11T3... |
|  | **SDJCR 1620 K11-F15** | 16 | 16 | 20 | 125 | 16.3 | 29 | 30 | 15 | A265-A268, A311 |
| **95°** | # **TMZ-SVLBR 1216 K11-F15** | 12 | 12 | 16 | 125 | 12.3 | 26 | 27 | 15 | VB... 1103... |
|  | **SVLBR 1620 K11-F15** | 16 | 16 | 20 | 125 | 16.2 | 26 | 30 | 15 | A218-A282, A315 |

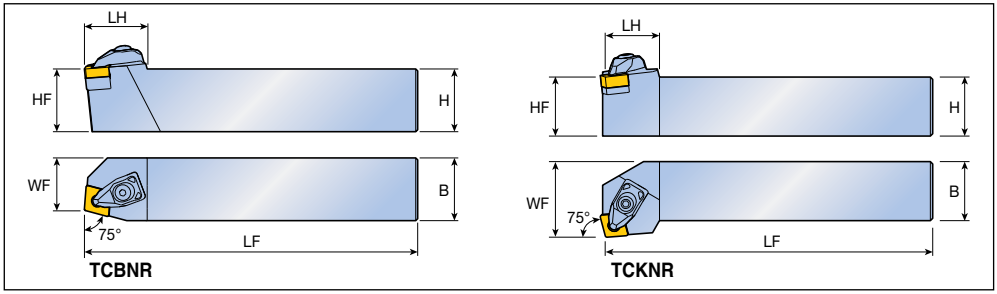
▸ #: TOP-MINI holders

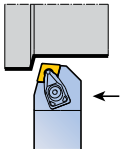
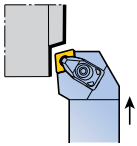
## Spare parts

| Designation | Screw | Wrench | | | | |
|---|---|---|---|---|---|---|
| |  |  | | | | |
| **TMZ-SDJCR** | SO 35080I | T 15 | | | | |
| **TMZ-SVLBR** | SO 25065I | T 7 | | | | |

# TCBNR/L TCKNR/L

## T-holders




| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **75°** | **TCBNR/L 2525 M12** | 25 | 25 | 25 | 150 | 32 | 22.5 | CN... 1204... |
|  | **3232 P19** | 32 | 32 | 32 | 170 | 42 | 27 | CN... 1906... |
| **75°** | **TCKNR/L 2525 M12** | 25 | 25 | 25 | 150 | 25 | 32 | CN... 1204... |
|  | | | | | | | | |

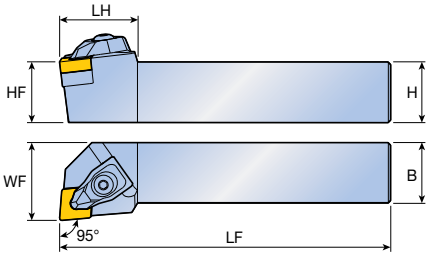
A226, A228-A232

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...12** | DLM 4 | DLS 4 | DSP 4 | TSC 44 | SO 40050I | - | L-W 3 | T 15 |
| **...19** | DLM 6 | DLS 5 | DSP 5 | LSC 63 | - | SO 80180I | L-W 4 | - |

# TCLNR/L

## T-holders




**TCLNR**

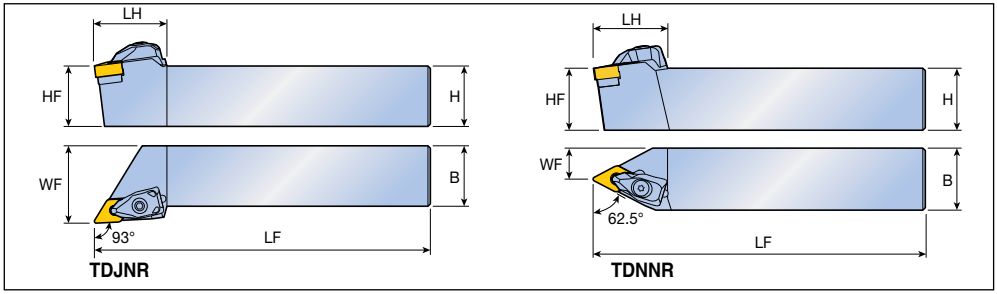
| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | | |
| **95°** | **TCLNR/L 2020 K12** | 20 | 20 | 20 | 125 | 32 | 25 | CN... 1204... | A226, A228-A232 |
| | **2525 M12** | 25 | 25 | 25 | 150 | 32 | 32 | | |
| | **3225 P12** | 32 | 32 | 25 | 170 | 32 | 32 | | |
| | **3232 P12** | 32 | 32 | 32 | 170 | 32 | 40 | | |
| | **2525 M16** | 25 | 25 | 25 | 150 | 36 | 32 | CN... 1606... | |
| | **3232 P16** | 32 | 32 | 32 | 170 | 36 | 40 | | |
| | **3232 P19** | 32 | 32 | 32 | 170 | 42 | 40 | CN... 1906... | |
| | **4040 S19** | 40 | 40 | 40 | 250 | 42 | 50 | | |

## Spare parts

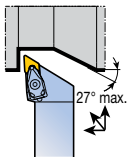
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...12** | DLM 4 | DLS 4 | DSP 4 | TSC 44 | SO 40050I | - | L-W 3 | T 15 |
| **...16** | DLM 5 | DLS 5 | DSP 5 | TSC 54 | SO 50090I | - | L-W 4 | T 20 |
| **...19** | DLM 6 | DLS 5 | DSP 5 | LSC 63 | - | SO 80180I | L-W 4 | - |

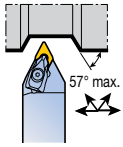
# TDJNR/L TDNNR/L

## T-holders




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **TDJNR/L** | **2020 K11** | 20 | 20 | 20 | 125 | 30 | 25 | DN... 1104... |
| | | **2525 M11** | 25 | 25 | 25 | 150 | 30 | 32 | |
| | | **2020 K15** | 20 | 20 | 20 | 125 | 39 | 25 | DN... 1506... |
| | | **2525 M15** | 25 | 25 | 25 | 150 | 39 | 32 | |
| | | **3232 P15** | 32 | 32 | 32 | 170 | 39 | 40 | |
| | | **2020 K1504** | 20 | 20 | 20 | 125 | 39 | 25 | DN... 1504... |
| | | **2525 M1504** | 25 | 25 | 25 | 150 | 39 | 32 | |
| **62.5°** | **TDNNR/L** | **2525 M11** | 25 | 25 | 25 | 150 | 30 | 12.5 | DN... 1104... |



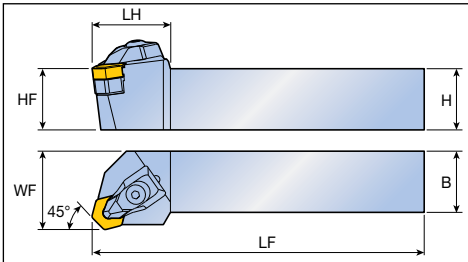

A234-A238

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|---|
| **...11** | DLM 3 | DLS 3 | DSP 3 | LSD 32 | - | SO 40085I | L-W 2.5 | T 15 |
| **...15** | DLM 4 | DLS 4 | DSP 4 | - | TSD 43 | SO 40050I | L-W 3 | T 15 |
| **...1504** | DLM 4 | DLS 4 | DSP 4 | - | TSD 44 | SO 40050I | L-W 3 | T 15 |

# THSNR/L

## T-holders




THSNR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| 45° | THSNR/L 2525 M05 | 25 | 25 | 25 | 150 | 32 | 32 | HN... 0504... |
| | 3232 P05 | 32 | 32 | 32 | 170 | 32 | 40 | |
| | 2525 M10 | 25 | 25 | 25 | 150 | 42 | 32 | HN... 1006... |
| | 3232 P10 | 32 | 32 | 32 | 170 | 42 | 40 | |

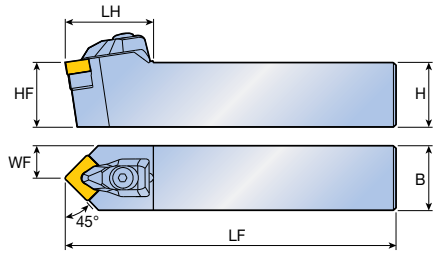
A239

## Spare parts

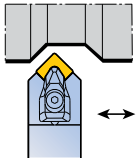
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| ...05 | DLM 4 | DLS 4 | DSP 4 | TSH 44 | SO 40050I | L-W 3 | T 15 | |
| ...10 | DLM 6 | DLS 5 | DSP 5 | TSH 64 | SO 50090I | L-W 4 | T 20 | |

# TSDNN

## T-holders




TSDNN

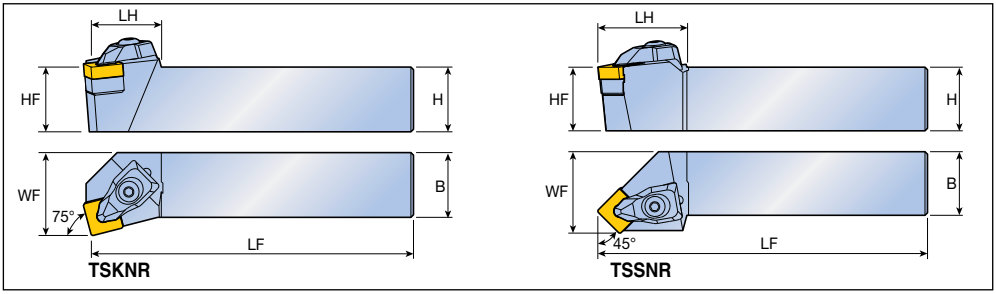
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **45°** | **TSDNN 2525 M12** | 25 | 25 | 25 | 150 | 34 | 12.5 | SN... 1204... |
|  | **3232 P19** | 32 | 32 | 32 | 170 | 44 | 16 | SN... 1906... A241-A246, A296, A297, A306 |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...12** | DLM 4 | DLS 4 | DSP 4 | TSS 44 | SO 40050I | - | L-W 3 | T 15 |
| **...19** | DLM 6 | DLS 5 | DSP 5 | LSS 63 | - | SO 80180I | L-W 4 | - |
| | | | | | | | | |
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# TSKNR/L TSSNR/L

## T-holders




| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **75°** | **TSKNR/L 2525 M12** | 25 | 25 | 25 | 150 | 27 | 32 | SN... 1204... |
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| **45°** | **TSSNR/L 2525 M12** | 25 | 25 | 25 | 150 | 35 | 32 | SN... 1204... |
| | | | | | | | | |
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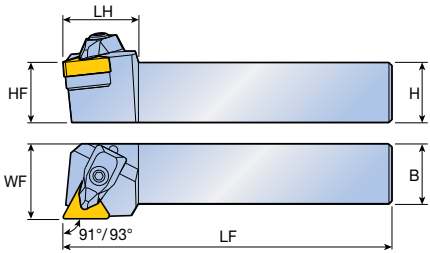
A241-A246, A296, A297, A306

## Spare parts

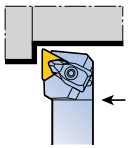
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **...12** | DLM 4 | DLS 4 | DSP 4 | TSS 44 | SO 40050I | L-W 3 | T 15 | |
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# TTGNR/L TTJNR/L

## T-holders




TTGNR (91°) TTJNR (93°)

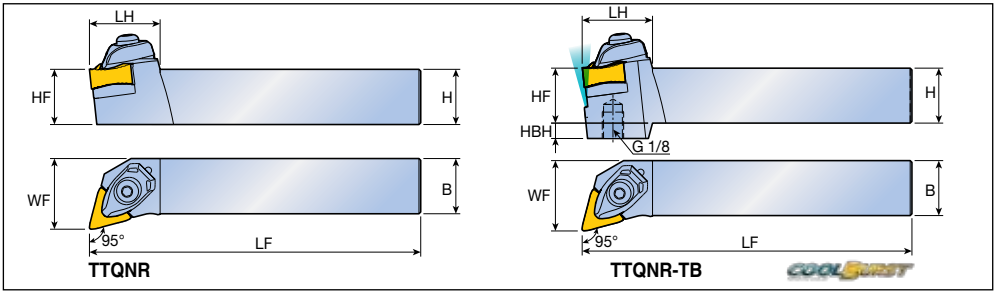
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **91°/93°** | **TTGNR/L 2525 M16** | 25 | 25 | 25 | 150 | 25 | 32 | TN... 1604... A247-A250, A299, A307 |
|  | **TTJNR/L 2020 K16** | 20 | 20 | 20 | 125 | 25 | 25 | |
| | **2525 M16** | 25 | 25 | 25 | 150 | 25 | 32 | |

## Spare parts

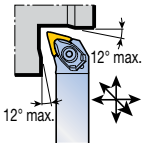
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **...16** | DLM 3 | DLS 3 | DSP 3 | TST 33 | SO 35080I | L-W 2.5 | T 15 | |
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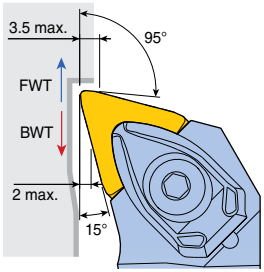
# TTQNR/L TTQNR/L-TB

## T-holders

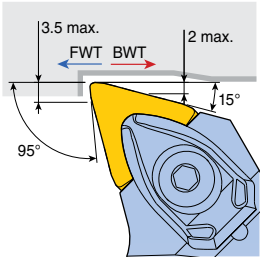



| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBH | |
| **95°** | **TTQNR/L** | **2525 M2109** | 25 | 25 | 25 | 150 | 32 | 32 | - | TNMV 2109... A256 |
| | | **3232 P2109** | 32 | 32 | 32 | 170 | 32 | 40 | - | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | **TTQNR/L** | **2525 M2109-TB** | 25 | 25 | 25 | 150 | 32 | 32 | 7 | |
| | | **3232 P2109-TB** | 32 | 32 | 32 | 170 | 32 | 40 | - | |
| | | | | | | | | | | |
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Facing



Ext.Turning

- BWT: Backward turning
- FWT: Forward turning

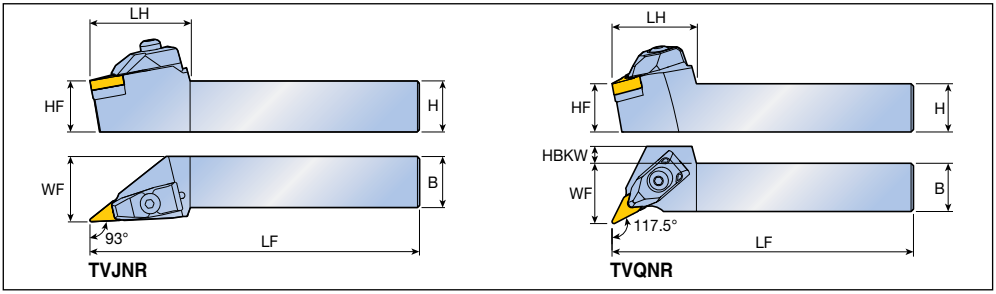
## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| **...2109** | DLM 4.4T-NV | DLS 5 | DSP 5 | TSTV 210510 | TS 35083I/HG | L-W 4 | T 10 |
| **...2109-TB** | DLM 4.4T-NV | DLS 5 | DSP 5 | TSTV 210510 | TS 35083I/HG | L-W 4 | T 10 |
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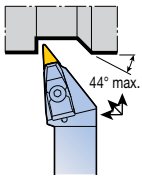
- Please refer to A135 page for COOL-BURST accessories

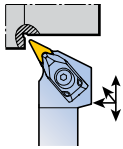
# TVJNR/L TVQNR/L

## T-holders




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **93°** | **TVJNR/L** | **2020 K13** | 20 | 20 | 20 | 125 | 49 | 25 | | VN... 1304... A251-A252 |
| | | **2525 M13** | 25 | 25 | 25 | 150 | 49 | 32 | | |
| | | **2020 K16** | 20 | 20 | 20 | 125 | 49 | 25 | | VN... 1604... A251-A252, A300, A308 |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 49 | 32 | | |
| | | | | | | | | | | |
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| **117.5°** | **TVQNR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 42 | 25 | 8 | VN... 1604... |
| | | **2525 M16** | 25 | 25 | 25 | 150 | 42 | 32 | 2 | |
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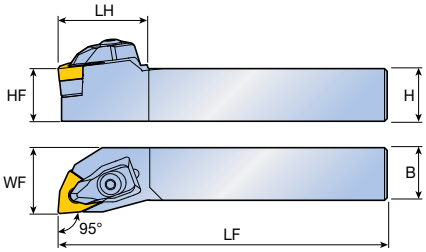
## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...13** | DLM 3V | DLS 5 | DSP 5 | MSV 2.522 | SC 4-SH | - | L-W 4 | T 15 |
| **...16** | DLM 3V | DLS 5 | DSP 5 | TSV 33 | - | SO 35080I | L-W 4 | T 15 |
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# TWLNR/L

T-TURN

## T-holders




TWLNR

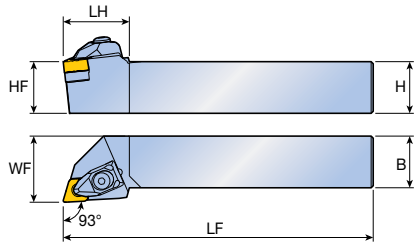
| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| 95° | TWLNR/L | 2020 K06 | 20 | 20 | 20 | 125 | 26 | 25 | WN...G 0604... A253-A255, A300, A309 |
| | | 2525 M06 | 25 | 25 | 25 | 150 | 26 | 32 | |
| | | 2020 K08 | 20 | 20 | 20 | 125 | 34.2 | 25 | WN... 0804... |
| | | 2525 M08 | 25 | 25 | 25 | 150 | 34.2 | 32 | |
| | | 3232 P08 | 32 | 32 | 32 | 170 | 34.2 | 40 | |

## Spare parts

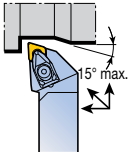
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| ...06 | DLM 3 | DLS 3 | DSP 3 | PSW 32 | SO 40090I | L-W 2.5 | T 15 | |
| ...08 | DLM 4 | DLS 4 | DSP 4 | TSW 44 | SO 40050I | L-W 3 | T 15 | |

# TXJNR/L

## T-holders




**TXJNR**

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **TXJNR/L** | **2020 K1105** | 20 | 20 | 20 | 125 | 32 | 25 | XN... 1105... A257 |
|  | | **2525 M1105** | 25 | 25 | 25 | 150 | 32 | 32 | |

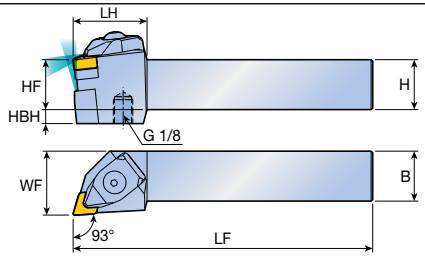


## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...1105** | DLM 3.5-NX | DLS 4 | DSP 4 | TSX 3.53 | SO 50090I | L-W 3 | T 20 |
| | | | | | | | |
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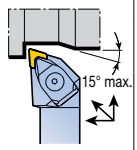
# TXJNR/L-TB

**T-holders with high pressure coolant**




**TXJNR-TB**

| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBH | |
| **93°** | **TXJNR/L** | **2525 M1105-TB** | 25 | 25 | 25 | 150 | 37 | 32 | 7 | XN... 1105... A257 |




## Spare parts

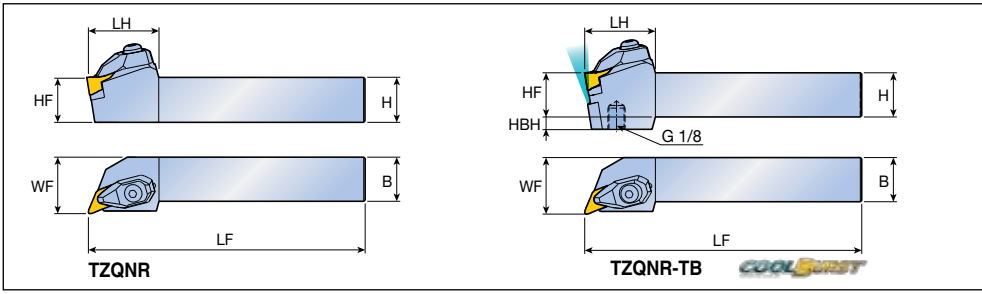
| Designation | Clamp | Clamp screw | Spring | Upper O-ring | Lower O-ring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |
| **...1105** | DLM 3.5-NX-TB | BH M5x0.8x 21-MO-TB | DSP 4 | O-RING ID5.28x 1.78 | O-RING ID7.59x 2.62 | TSX 3.53 | SO 50090I | L-W 3 | T 20 |
| | | | | | | | | | |
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| | | | | | | | | | |

▸ Please refer to A135 page for COOL-BURST accessories

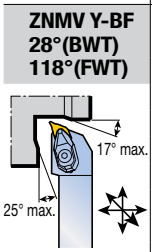
# TZQNR/L TZQNR-TB

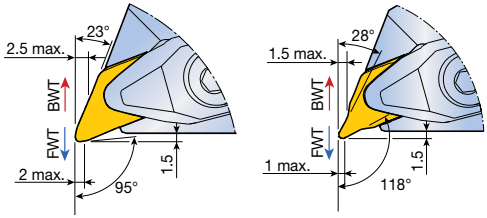
POSSTURN

## T-holders for ZNMV insert




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBH | |
| **ZNMV 23°(BWT) 95°(FWT)** | **TZQNR/L** | **2525 M1410** | 25 | 25 | 25 | 150 | 40 | 32 | - | ZNMV 1410... |
| | | **3232 P1410** | 32 | 32 | 32 | 170 | 40 | 40 | - | A258 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | **TZQNR/L** | **2525 M1410-TB** | 25 | 25 | 25 | 150 | 40 | 32 | 7 | |
| | | **3232 P1410-TB** | 32 | 32 | 32 | 170 | 40 | 40 | - | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| **ZNMV Y-BF 28°(BWT) 118°(FWT)** | | | | | | | | | | |




- BWT: Backward turning
- FWT: Forward turning

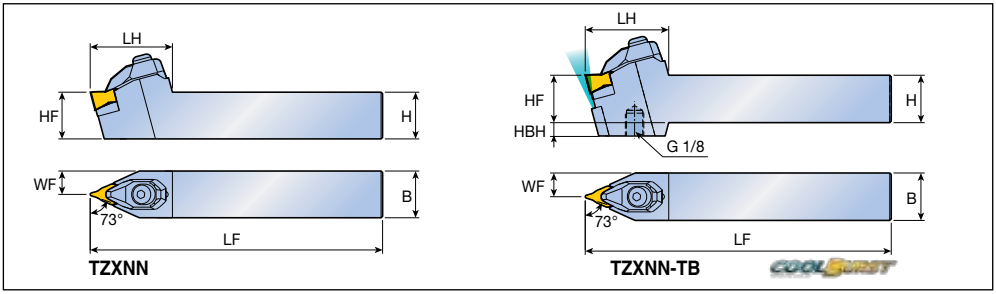
## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| **...1410** | DLM 3.3Z-NV | DLS 5 | DSP 5 | TSZ 140310 | TS 35083I/HG | L-W 4 | T 10 |
| **...1410-TB** | DLM 3.3Z-NV | DLS 5 | DSP 5 | TSZ 140310 | TS 35083I/HG | L-W 4 | T 10 |
| | | | | | | | |
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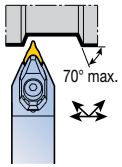
- Please refer to A135 page for COOL-BURST accessories

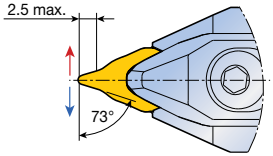
# TZXNN TZXNN-TB

**T-holders for ZNMV Y-BF insert**




| Approach angle | Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | HBH | |
| **73°** | **TZXNN** | **2525 M1410** | 25 | 25 | 25 | 150 | 44 | 12.5 | - | ZNMV 1410...Y-BF |
| | | **3232 P1410** | 32 | 32 | 32 | 170 | 44 | 16 | - | A258 |
| | **TZXNN** | **2525 M1410-TB** | 25 | 25 | 25 | 150 | 44 | 12.5 | 7 | |
| | | **3232 P1410-TB** | 32 | 32 | 32 | 170 | 44 | 16 | - | |




## Spare parts

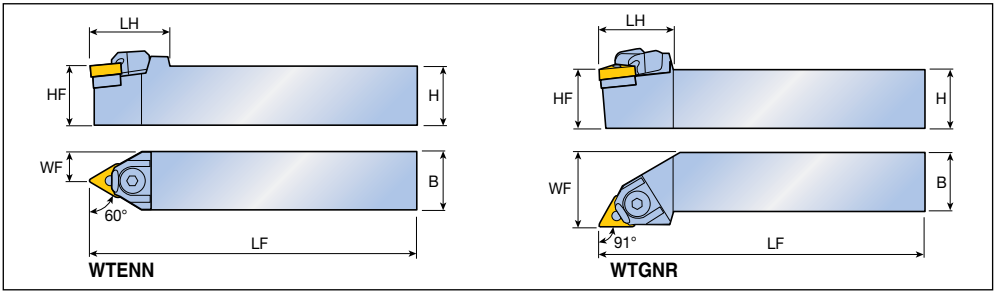
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...1410** | DLM 3.3Z-NV | DLS 5 | DSP 5 | TSZ 140310 | TS 35083I/HG | L-W 4 | T 10 |
| **...1410-TB** | DLM 3.3Z-NV | DLS 5 | DSP 5 | TSZ 140310 | TS 35083I/HG | L-W 4 | T 10 |

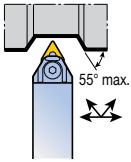
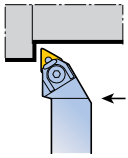
▸ Please refer to A135 page for COOL-BURST accessories

# WTENN WTGNR/L

T-TURN

## Wedge clamp type holders



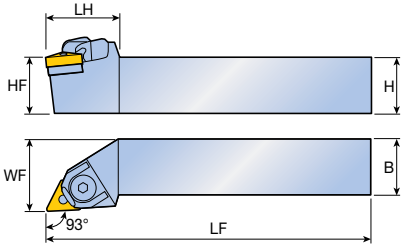

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **60°** | **WTENN** | **2020 K16** | 20 | 20 | 20 | 125 | 35 | 10.0 | TN... 1604... | A247-A250, A299, A307 |
|   | | **2525 M16** | 25 | 25 | 25 | 150 | 35 | 12.5 | | |
| | | **2525 M22** | 25 | 25 | 25 | 150 | 38 | 12.5 | TN... 2204... | |
| | | **3225 P22** | 32 | 32 | 25 | 170 | 38 | 12.5 | | |
| | | **3232 P22** | 32 | 32 | 32 | 170 | 38 | 16.0 | | |
| **91°** | **WTGNR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 32 | 25 | TN... 1604... | |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 32 | 32 | | |
| | | **2525 M22** | 25 | 25 | 25 | 150 | 38 | 32 | TN... 2204... | |
| | | **3232 P22** | 32 | 32 | 32 | 170 | 38 | 40 | | |

## Spare parts

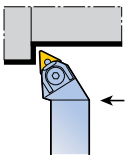
| Designation | Wedge clamp | Screw | Snap ring | Shim | Pin screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | |
| **...16** | WC 33 | WCS 4 | WSR 4 | WST 33 | WSS 33 | L-W 3, L-W 2.5 | |
| **...22** | WC 43 | WCS 4 | WSR 4 | WST 43 | WSS 43 | L-W 3 | |
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# WTJNR/L

## Wedge clamp type holders




**WTJNR**

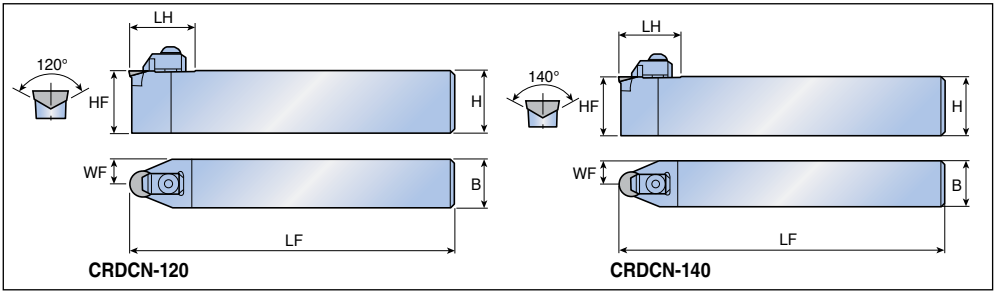
| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **WTJNR/L** | **2020 K16** | 20 | 20 | 20 | 125 | 32 | 25 | TN... 1604... |
|  | | **2525 M16** | 25 | 25 | 25 | 150 | 32 | 32 | A247-A250, A299, A307 |
| | | **3225 P16** | 32 | 32 | 25 | 170 | 32 | 32 | |
| | | **3232 P16** | 32 | 32 | 32 | 170 | 38 | 40 | |
| | | **2525 M22** | 25 | 25 | 25 | 150 | 38 | 32 | TN... 2204... |
| | | **3232 P22** | 32 | 32 | 32 | 170 | 38 | 40 | |

## Spare parts

| Designation | Wedge clamp | Screw | Snap ring | Shim | Pin screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | |
| **...16** | WC 33 | WCS 4 | WSR 4 | WST 33 | WSS 33 | L-W 3, L-W 2.5 | |
| **...22** | WC 43 | WCS 4 | WSR 4 | WST 43 | WSS 43 | L-W 3 | |
| | | | | | | | |
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# CRDCN

## Top clamp type holders for V bottom insert



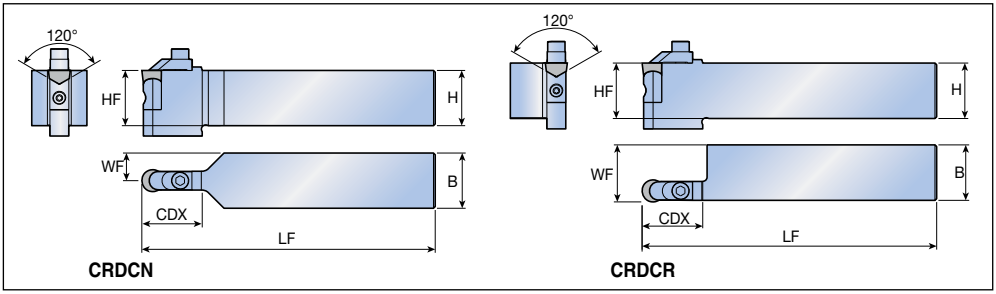

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| 45° | CRDCN | 2525 M06-120 | 25 | 25 | 25 | 150 | 28 | 12.5 | RCGX 0606... | A301 |
| | | 3225 P06-120 | 32 | 32 | 25 | 170 | 28 | 12.5 | | |
| | | 3225 P09-120 | 32 | 32 | 25 | 170 | 30 | 12.5 | RCGX 0907... | |
| | | 3225 P12-120 | 32 | 32 | 25 | 170 | 32 | 12.5 | RCGX 1207... | |
| 45° | CRDCN | 2525 M06-140 | 25 | 25 | 25 | 150 | 28 | 12.5 | RCGX 0603...FT | A312 |
| | | 3225 P06-140 | 32 | 32 | 25 | 170 | 28 | 12.5 | | |
| | | 3225 P09-140 | 32 | 32 | 25 | 170 | 30 | 12.5 | RCGX 0903...FT | |
| | | 3225 P12-140 | 32 | 32 | 25 | 170 | 32 | 12.5 | RCGX 1204...FT | |

## Spare parts

| Designation | Clamp | Clamp screw | Shim | Shim screw | | Wrench | |
|---|---|---|---|---|---|---|---|
| ...06-120 | BCL 6-20A | BH M6x1x25 | CERS 06 | SO 22050I | - | L-W 4 | T 7 |
| ...09-120 | BCL 6-20A | BH M6x1x25 | CERS 09 | - | BH M2.5x0.45x10 | L-W 4, L-W 1.5 | - |
| ...12-120 | BCL 6 | BH M6x1x25 | CERS 12 | - | BH M2.5x0.45x10 | L-W 4, L-W 1.5 | - |
| ...06-140 | BCL 6-20A | BH M6x1x25 | CBRS 06 | SO 22050I | - | L-W 4 | T 7 |
| ...09-140 | BCL 6-20A | BH M6x1x25 | CBRS 09 | - | BH M2.5x0.45x10 | L-W 4, L-W 1.5 | - |
| ...12-140 | BCL 6 | BH M6x1x25 | CBRS 12 | - | BH M2.5x0.45x10 | L-W 4, L-W 1.5 | - |
| | | | | | | | |
| | | | | | | | |

# CRDCN-T CRDCR/L-T

**Narrow top clamp type holders for V bottom insert**



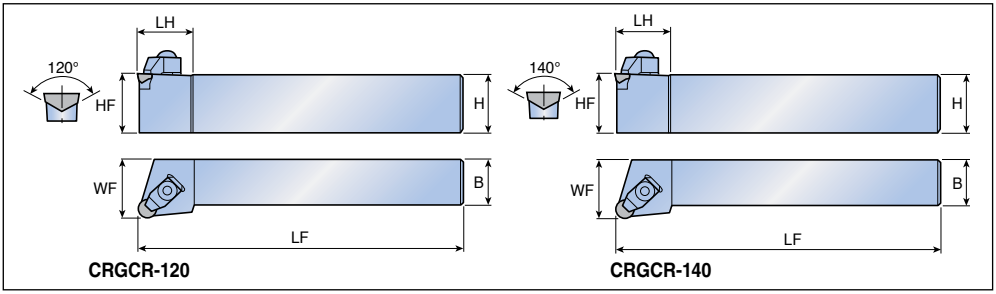

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | CDX | WF | |
| 45° | CRDCN | 3232 P0907-120-T30 | 32 | 32 | 32 | 170 | 30 | 16 | RCGX 0907… A301 |
| | | 3232 P1207-120-T35 | 32 | 32 | 32 | 170 | 35 | 16 | RCGX 1207… |
| 45° | CRDCR/L | 3232 P0907-120-T30 | 32 | 32 | 32 | 170 | 30 | 32.8 | RCGX 0907… A312 |
| | CRDCR | 3225 P0907-120-T30 | 32 | 32 | 25 | 170 | 30 | 32.8 | |
| | CRDCL | 3232 P1207-120-T35 | 32 | 32 | 32 | 170 | 35 | 32.9 | RCGX 1207… |

## Spare parts

| Designation | Clamp | Clamp screw | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|
| ...0907... | HCL 09-M | SH M5X0.8X12 | CERS 09-T | SO 35124I | L-W 4 | T 15 |
| ...1207... | HCL 12-M | SH M6X1X16 | CERS 12-T | TS 40140AJ/HG | L-W 5 | T 20 |

# CRGCR/L

**Top clamp type holders for V bottom insert**



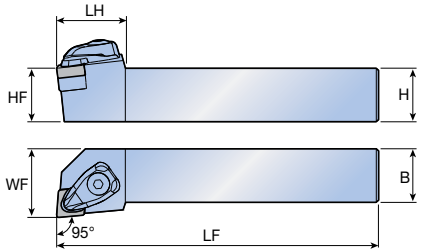

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **90°** | **CRGCR/L** | **2525 M06-120** | 25 | 25 | 25 | 150 | 28 | 32 | RCGX 0606... | A301 |
| | | **3225 P06-120** | 32 | 32 | 25 | 170 | 28 | 32 | | |
| | | **3225 P09-120** | 32 | 32 | 25 | 170 | 30 | 32 | RCGX 0907... | |
| | | **3225 P12-120** | 32 | 32 | 25 | 170 | 32 | 32 | RCGX 1207... | |
| **90°** | **CRGCR/L** | **3225 P06-140** | 32 | 32 | 25 | 170 | 28 | 32 | RCGX 0603...FT | A312 |
| | | **3225 P09-140** | 32 | 32 | 25 | 170 | 30 | 32 | RCGX 0903...FT | |
| | | **3225 P12-140** | 32 | 32 | 25 | 170 | 32 | 32 | RCGX 1204...FT | |

## Spare parts

| Designation | Clamp | Clamp screw | Shim | Shim screw | | Wrench | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| **...06...** | BCL 6-20A | BH M6x1x25 | CERS 06 | SO 22050I | - | L-W 4 | T 7 |
| **...09...** | BCL 6-20A | BH M6x1x25 | CERS 09 | - | BH M2.5x0.45x10 | L-W 4, L-W 1.5 | - |
| **...12...** | BCL 6 | BH M6x1x25 | CERS 12 | - | BH M2.5x0.45x10 | L-W 4, L-W 1.5 | - |
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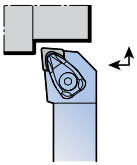
# CCLNR/L-F

## Combi Clamp Top holders for flat inserts




**CCLNR-F**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **95°** | **CCLNR/L 2525 M1204-F** | 25 | 25 | 25 | 150 | 32 | 32 | CNGN 1204... A291, A292, A303 |

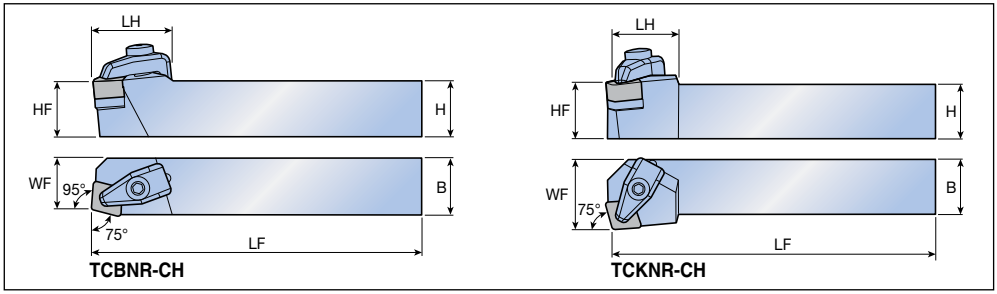


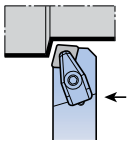
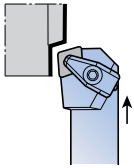
## Spare parts

| Designation | Clamp set | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **CCLNR/L...-F** | CCL S-4F | TSC 44 | SO 40050I | L-W 4 | T 15 | | |
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# TCBNR/L-CH TCKNR/L-CH

**T-holders for CH dimple insert**



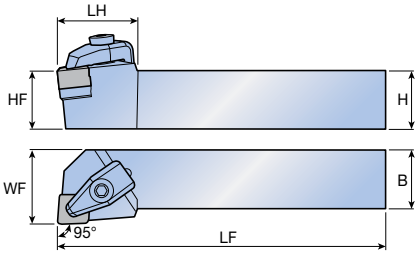

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **75°** | **TCBNR/L** | **2525 M12-CH** | 25 | 25 | 25 | 150 | 34.7 | 23 | CNGX 1207...CH A292 |
|  | | **3225 P12-CH** | 32 | 32 | 25 | 170 | 34 | 24 | |
| **75°** | **TCKNR/L** | **2525 M12-CH** | 25 | 25 | 25 | 150 | 28 | 32 | |
|  | | | | | | | | | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...12-CH** | CCL-4 | CSC 4 | DSP 5 | TSC 43 | SO 40050I | L-W 4 | T 15 |
| | | | | | | | |
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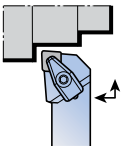
# TCLNR/L-CH

**T-holders for CH dimple insert**




**TCLNR-CH**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **95°** | **TCLNR/L 2525 M12-CH** | 25 | 25 | 25 | 150 | 33 | 32 | CNGX 1207...CH A292 |
| | **3225 P12-CH** | 32 | 32 | 25 | 170 | 33 | 32 | |

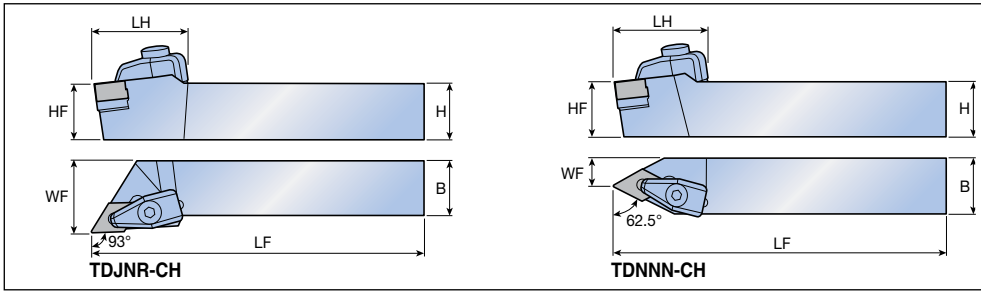


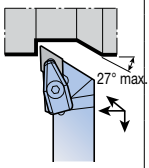
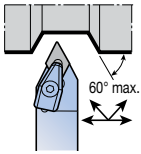
## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...12-CH** | CCL-4 | CSC 4 | DSP 5 | TSC 43 | SO 40050I | L-W 4 | T 15 |

# TDJNR/L-CH TDNNN-CH

**T-holders for CH dimple insert**



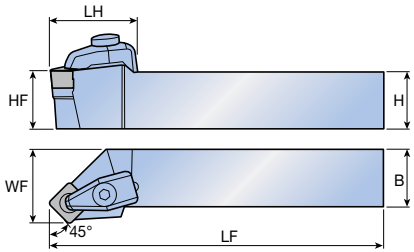

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **93°** | **TDJNR/L** | **2525 M15-CH** | 25 | 25 | 25 | 150 | 38 | 32 | DNGX 1507...CH A293 |
|   | | **3225 P15-CH** | 32 | 32 | 25 | 170 | 38 | 32 | |
| **62.5°** | **TDNNN** | **2525 M15-CH** | 25 | 25 | 25 | 150 | 40 | 12.5 | |
|   | | | | | | | | | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...15-CH** | CCL-4 | CSC 4 | DSP 5 | TSD 43 | SO 40050I | L-W 4 | T 15 |

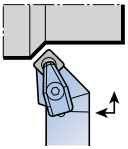
# TSSNR/L-CH

**T-holders for CH dimple insert**




**TSSNR-CH**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **45°** | **TSSNR/L 2525 M12-CH** | 25 | 25 | 25 | 150 | 35 | 32 | SNGX 1207...CH A297 |
| | **3232 P12-CH** | 32 | 32 | 32 | 170 | 35 | 40 | |
| | **3225 P15-CH** | 32 | 32 | 25 | 170 | 35 | 32 | SNGX 1507...CH |

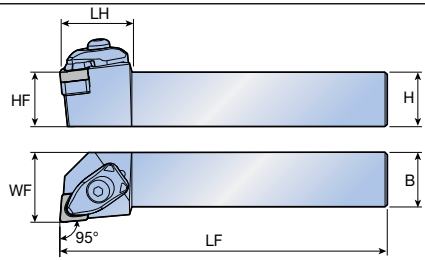


## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...12-CH** | CCL-4 | CSC 4 | DSP 5 | TSS 43 | SO 40050I | - | L-W 4 | T 15 |
| **...15-CH** | CCL-4 | CSC 4 | DSP 5 | S 50 | - | BH M5x0.8x10 | L-W 4, L-W 3 | - |

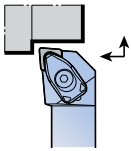
# TCLNR/L-DA

**Combi clamp T-holders for DA dimple inserts**




**TCLNR-DA**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **95°** | **TCLNR/L 2525 M1204-DA** | 25 | 25 | 25 | 150 | 33 | 32 | CNGX 1204…DA A303 |

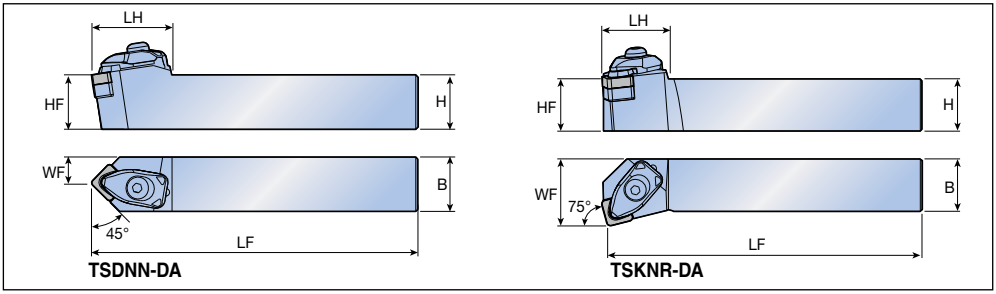


## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...1204-DA** | DCL S-4DA | DLS 5 | DSP 5 | TSC 44 | SO 40050I | L-W 4 | T 15 |

# TSDNN-DA TSKNR/L-DA

**Combi clamp T-holders for DA dimple inserts**



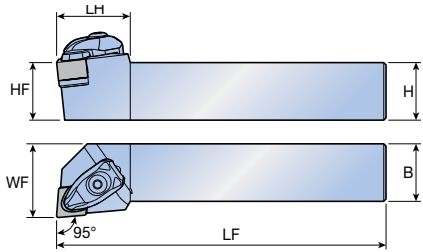

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **45°** | **TSDNN** | **2525 M1204-DA** | 25 | 25 | 25 | 150 | 37 | 12.5 | SNGX 1204…DA A306 |
| **75°** | **TSKNR/L** | **2525 M1204-DA** | 25 | 25 | 25 | 150 | 29 | 32 | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **...1204-DA** | DCL S-4DA | DLS 5 | DSP 5 | TSS 44 | SO 40050I | L-W 4 | T 15 | |

# TCLNR/L-F

## Combi clamp T-holders for flat inserts




TCLNR -F

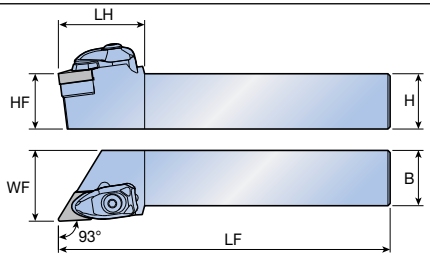
| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **95°** | **TCLNR/L** | **2525 M0903-F** | 25 | 25 | 25 | 150 | 25 | 32 | CN...N 0903... |
| | | **2020 K1204-F** | 20 | 20 | 20 | 125 | 32 | 25 | CN...N 1204... A291, A292, A303 |
| | | **2525 M1204-F** | 25 | 25 | 25 | 150 | 32 | 32 | |
| | | **2020 K1207-F** | 20 | 20 | 20 | 125 | 32 | 25 | CN...N 1207... |
| | | **2525 M1207-F** | 25 | 25 | 25 | 150 | 32 | 32 | |
| | | **3232 P1207-F** | 32 | 32 | 32 | 170 | 32 | 40 | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **...0903-F** | DCL S-3F | DLS 3 | DSP 3 | LSC 32 | SO 40085I | L-W 2.5 | T 15 | |
| **...1204-F** | DCL S-4F | DLS 4 | DSP 4 | TSC 44 | SO 40050I | L-W 3 | T 15 | |
| **...1207-F** | DCL S-4F | DLS 4 | DSP 4 | TSC 42 | SO 40050I | L-W 3 | T 15 | |

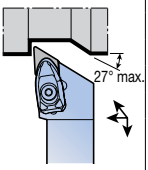
# TDJNR/L-F

**Combi clamp T-holders for flat inserts**




**TDJNR-F**

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **93°** | **TDJNR/L** | **2525 M1504-F** | 25 | 25 | 25 | 150 | 39 | 32 | DN...N 1504... | A293 |
| | | **2525 M1507-F** | 25 | 25 | 25 | 150 | 39 | 32 | DN...N 1507... | |
| | | **3232 P1507-F** | 32 | 32 | 32 | 170 | 39 | 40 | | |



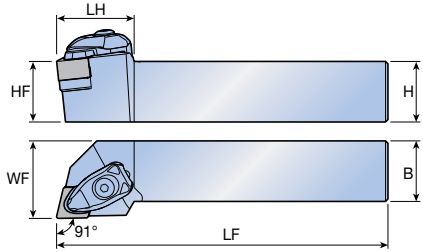

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **...1504-F** | DCL S-4F | DLS 4 | DSP 4 | TSD 44 | SO 40050I | L-W 3 | T 15 | |
| **...1507-F** | DCL S-4F | DLS 4 | DSP 4 | TSD 42 | SO 40050I | L-W 3 | T 15 | |

# TEGNR/L-F

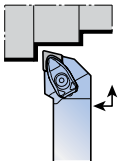
T-TURN

## Combi clamp T-holders for flat inserts




**TEGNR-F**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | LH | WF | |
| **91°** | **TEGNR/L 2525 M1307-F** | 25 | 25 | 25 | 150 | 32 | 32 | EN...N 1307... A294 |

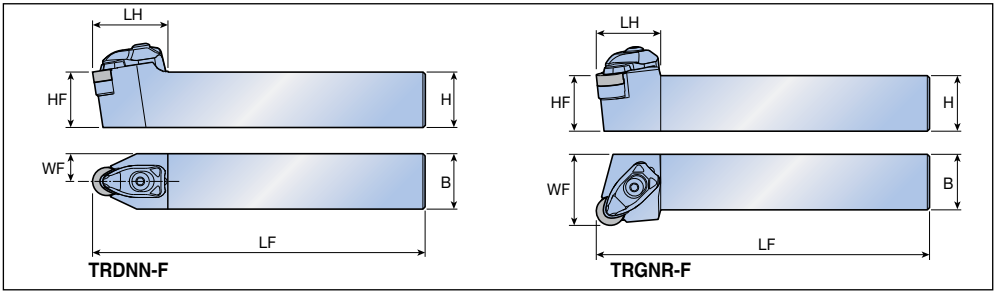


## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **...1307-F** | DCL S-4F | DLS 4 | DSP 4 | E 43 | BH M5x0.8x10 | L-W 3 | | |

# TRDNN-F TRGNR/L-F

**Combi clamp T-holders for flat inserts**




| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **45°** | **TRDNN** | **2525 M0903-F** | 25 | 25 | 25 | 150 | 27 | 12.5 | RN...N 0903... |
| | | **2020 K1204-F** | 20 | 20 | 20 | 125 | 34 | 10 | RN...N 1204... |
| | | **2525 M1204-F** | 25 | 25 | 25 | 150 | 34 | 12.5 | |
| | | **2020 K1207-F** | 20 | 20 | 20 | 125 | 34 | 10 | RN...N 1207... |
| | | **2525 M1207-F** | 25 | 25 | 25 | 150 | 34 | 12.5 | |
| | | **3225 P1207-F** | 32 | 32 | 25 | 170 | 34 | 12.5 | |
| | | **3232 P1207-F** | 32 | 32 | 32 | 170 | 34 | 16 | |
| **90°** | **TRGNR/L** | **2525 M0903-F** | 25 | 25 | 25 | 150 | 29 | 32 | RN...N 0903... |
| | | **2020 K1204-F** | 20 | 20 | 20 | 125 | 29 | 25 | RN...N 1204... |
| | | **2525 M1204-F** | 25 | 25 | 25 | 150 | 29 | 32 | |
| | | **2020 K1207-F** | 20 | 20 | 20 | 125 | 29 | 25 | RN...N 1207... |
| | | **2525 M1207-F** | 25 | 25 | 25 | 150 | 29 | 32 | |
| | | **3225 P1207-F** | 32 | 32 | 25 | 170 | 29 | 32 | |
| | | **3232 P1207-F** | 32 | 32 | 32 | 170 | 29 | 40 | |

A295, A305

15° max.

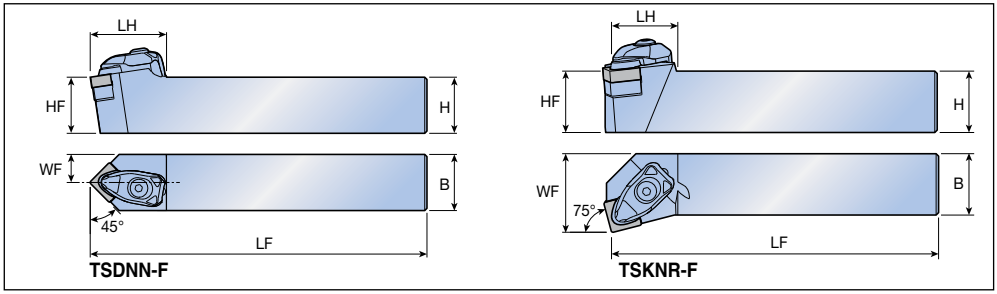
▸ RN...N 1204/1207 are exchangeable, RN...N 1203 is not exchangeable on same holder

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|---|
| **...0903-F** | DCL S-3F | DLS 3 | DSP 3 | LSR 32 | - | SO 40085I | L-W 2.5 | T 15 |
| **...1204-F** | DCL S-4F | DLS 4 | DSP 4 | - | TSR 45 | SO 40050I | L-W 3 | T 15 |
| **...1207-F** | DCL S-4F | DLS 4 | DSP 4 | - | TSR 43 | SO 40050I | L-W 3 | T 15 |

# TSDNN-F TSKNR/L-F

**Combi clamp T-holders for flat inserts**



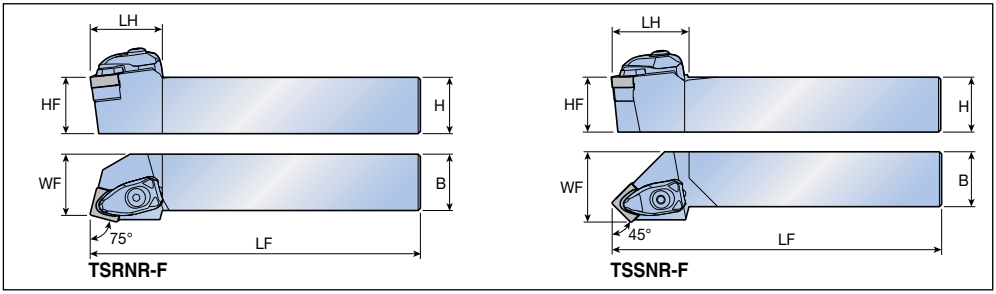

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | |
| **45°** | **TSDNN** | **2020 K1204-F** | 20 | 20 | 20 | 125 | 34 | 10 | SN...N 1204... A296, A306 |
| | | **2525 M1204-F** | 25 | 25 | 25 | 150 | 34 | 12.5 | |
| | | **2525 M1207-F** | 25 | 25 | 25 | 150 | 34 | 12.5 | SN...N 1207... |
| | | **3225 P1207-F** | 32 | 32 | 25 | 170 | 34 | 12.5 | |
| | | **3232 P1207-F** | 32 | 32 | 32 | 170 | 34 | 16 | |
| **75°** | **TSKNR/L** | **2525 M1204-F** | 25 | 25 | 25 | 150 | 27 | 32 | SN...N 1204... |
| | | **3232 P1204-F** | 32 | 32 | 32 | 170 | 27 | 40 | |
| | | **2525 M1207-F** | 25 | 25 | 25 | 150 | 27 | 32 | SN...N 1207... |
| | | **3232 P1207-F** | 32 | 32 | 32 | 170 | 27 | 40 | |

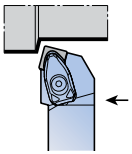
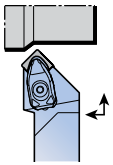
## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **...1204-F** | DCL S-4F | DLS 4 | DSP 4 | TSS 44 | SO 40050I | L-W 3 | T 15 | |
| **...1207-F** | DCL S-4F | DLS 4 | DSP 4 | TSS 42 | SO 40050I | L-W 3 | T 15 | |

# TSRNR/L-F TSSNR/L-F

**Combi clamp T-holders for flat inserts**



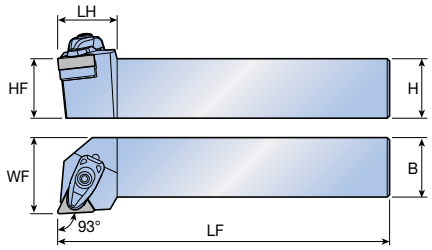

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **75°** | **TSRNR/L** | **2525 M1204-F** | 25 | 25 | 25 | 150 | 32 | 27 | SN...N 1204... | A296, A306 |
|  | | **3232 P1204-F** | 32 | 32 | 32 | 170 | 32 | 35 | | |
| | | **2525 M1207-F** | 25 | 25 | 25 | 150 | 32 | 27 | SN...N 1207... | |
| | | **3225 P1207-F** | 32 | 32 | 25 | 170 | 32 | 27 | | |
| | | **3232 P1207-F** | 32 | 32 | 32 | 170 | 32 | 35 | | |
| **45°** | **TSSNR/L** | **2525 M1204-F** | 25 | 25 | 25 | 150 | 35 | 32 | SN...N 1204... | |
|  | | **3232 P1204-F** | 32 | 32 | 32 | 170 | 35 | 40 | | |
| | | **2525 M1207-F** | 25 | 25 | 25 | 150 | 35 | 32 | SN...N 1207... | |
| | | **3232 P1207-F** | 32 | 32 | 32 | 170 | 35 | 40 | | |

## Spare parts

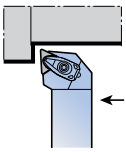
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **...1204-F** | DCL S-4F | DLS 4 | DSP 4 | TSS 44 | SO 40050I | L-W 3 | T 15 | |
| **...1207-F** | DCL S-4F | DLS 4 | DSP 4 | TSS 42 | SO 40050I | L-W 3 | T 15 | |

# TTJNR/L-F

## Combi clamp T-holders for flat inserts




**TTJNR-F**

| Approach angle | Designation | | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | LH | WF | | |
| **93°** | **TTJNR/L** | **2020 K1604-F** | 20 | 20 | 20 | 125 | 25 | 25 | TN...N 1604... | A299 |
|  | | **2525 M1604-F** | 25 | 25 | 25 | 150 | 25 | 32 | | |
| | | **2020 K1607-F** | 20 | 20 | 20 | 125 | 25 | 25 | TN...N 1607... | |
| | | **2525 M1607-F** | 25 | 25 | 25 | 150 | 25 | 32 | | |

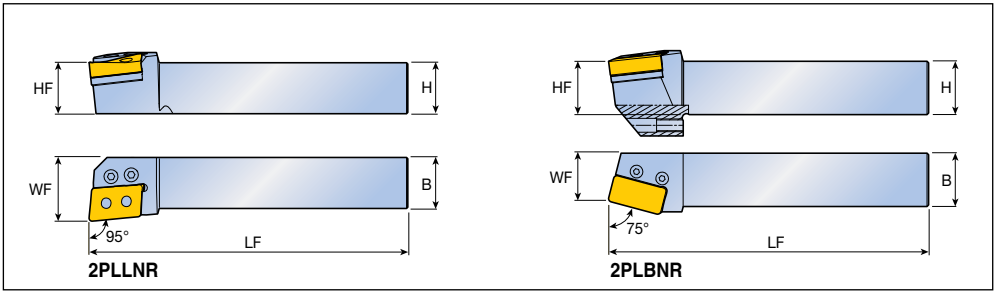
▸ TNGN 1604/1607 Inserts are not exchangable on same holder

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **...16-F** | DCL S-3F | DLS 3 | DSP 3 | TST 33 | SO 40050I | L-W 3 | T 15 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# 2PLLNR/L 2PLBNR/L

**Lever lock type holders with two pins**




| Approach angle | Designation | | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | LF | WF | |
| **95°** | **2PLLNR/L** | **4040 S4012** | 40 | 40 | 40 | 250 | 50 | LNMM 4012...HX A287 |
| | | **5050 T4012** | 50 | 50 | 50 | 300 | 60 | |
| **75°** | **2PLBNR/L** | **5050 T5014** | 50 | 50 | 50 | 300 | 45 | LNMX 5014... |

## Spare parts

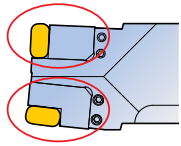
| Designation | Lever | Screw | Shim | Shim pin | Set screw | Wrench | |
|---|---|---|---|---|---|---|---|
| **2PLLNR/L...** | LCL 8 | LCS 8-L39 | LN 4025-T6.35-R/L | LSP 8 | - | L-W 5 | |
| **2PLBNR/L...** | LCL 8 | LCS 8-L43 | LN 5025-T6.35 | LSP 8 | SS M12x1.75x25 | L-W 5 | |

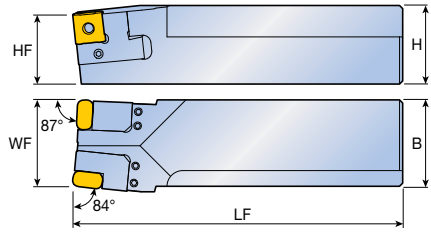
# TRWR/L

## TOP-RAIL holders

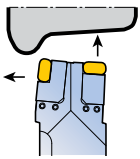
TRWR 177-CA-19

TRWR 175-CA-19
TRWR 175-CA-30



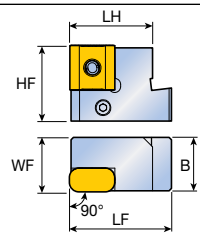



TRWR

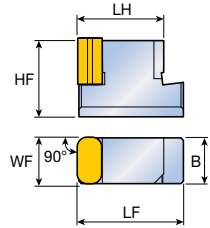
| Approach angle | Designation | Dimension (mm) | | | | | Cartridge |
|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | WF | |
|  | * TRWR/L 50-55 TG | 50 | 44 | 55 | 210 | 55 | Left<br>TRWR/L 175-CA-19<br>TRWR/L 175-CA-30  <br>Right<br>TRWR/L 177-CA-19  |

▸ *: Cartridges are not included in TOP-RAIL holder, please order separately.

## TOP-RAIL cartridges




TRWR 175-CA-19
TRWR 175-CA-30




TRWR 177-CA-19

| Designation | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|
| | HF | B | LF | LH | WF | |
| TRWR/L 175-CA-19 | 32 | 22.6 | 43 | 35 | 23 | LNMX 1919... |
| 175-CA-30 | 32 | 22.6 | 43 | 35 | 23 | LNMX 3019... |
| 177-CA-19 | 32 | 18.6 | 43 | 35 | 19 | LNMX 1919... |

A288

## Spare parts

| Designation | Screw | Pin | Lever | Screw | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| ...50-55 TG | SS M6x1x16 | PIN D5x13 | - | - | L-W 3 | | | |
| ...CA... | - | - | LCL 5 | LCS 5 | L-W 3 | | | |

## Hose

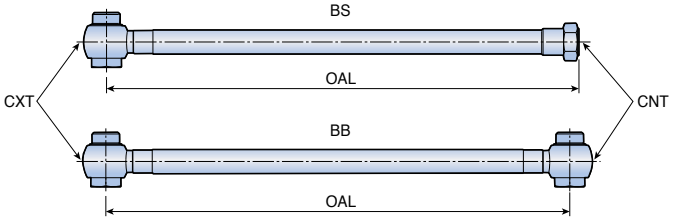



Fig.1

Fig.2

| Designation | | Dimension | | | | Fig. |
|---|---|---|---|---|---|---|
| | | OAL (mm) | CXT | CNT | Max.pressure (Bar) | |
| **TB HOSE** | **G1/8-7/16-200BS** | 200 | G1/8-28 BSPP | 7/16-20 UNF (Flare 37°) | 260 | 1 |
| | **G1/8-7/16-250BS** | 250 | G1/8-28 BSPP | 7/16-20 UNF (Flare 37°) | 260 | 1 |
| | **G1/8-G1/8-200BB** | 200 | G1/8-28 BSPP | G1/8-28 BSPP | 260 | 2 |
| | **G1/8-G1/8-250BB** | 250 | G1/8-28 BSPP | G1/8-28 BSPP | 260 | 2 |
| | **5/16-7/16-200BS** | 200 | 5/16-24 UNF | 7/16-20 UNF (Flare 37°) | 200 | 1 |
| | **5/16-G1/8-200BS** | 200 | 5/16-24 UNF | G1/8-28 BSPP | 200 | 1 |

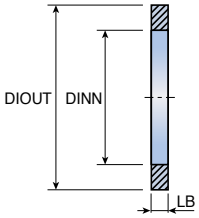
▸ Hose is ordered separately

## Spare parts

| Designation | Bolt | Seal washer |
|---|---|---|
| |  |  |
| **TB HOSE 5/16-7/16-200BS** | TB BANJO BOLT 5/16" UNF | TB COPPER SEAL 5/16" |
| **TB HOSE G1/8-G1/8-200BB** | TB BANJO BOLT G1/8" | TB COPPER SEAL 1/8" |
| **TB HOSE G1/8-G1/8-250BB** | TB BANJO BOLT G1/8" | TB COPPER SEAL 1/8" |

▸ Bolt and Seal washer are ordered separately

## Seal washer

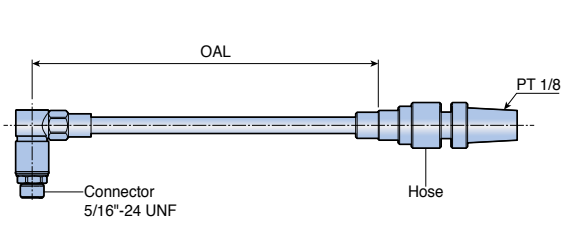



| Designation | | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | DIOUT | DINN | LB | | | | |
| **TB COPPER** | **SEAL 1/8"** | 15 | 10 | 1 | | | | |
| | **SEAL 5/16"** | 12 | 8 | 1 | | | | |
| | | | | | | | | |
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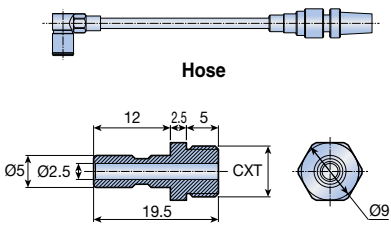
▸ Seal washer is ordered separately

# Accessories

## Coupling system




Hose set

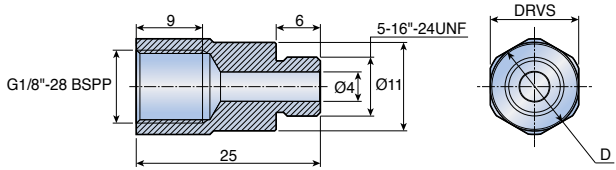



Connector

| Components | Designation | | Dimension | | |
|---|---|---|---|---|---|
| | | | OAL (mm) | CXT | Maximum pressure (Bar) |
| **Hose set** | **S-TB HOSE** | **R1/8-COUPLE-100** | 100 | - | 140 |
| | | **R1/8-COUPLE-200** | 200 | - | 140 |
| | | **R1/8-COUPLE-300** | 300 | - | 140 |
| **Hose** | **TB HOSE** | **R1/8-COUPLE-200** | 200 | - | 140 |
| | | **R1/8-COUPLE-300** | 300 | - | 140 |
| **Connector** | **TB CONECTOR** | **5/16-COUPLE** | - | 5/16"-24 UNF | - |
| | | **G1/8-COUPLE** | - | G1/8"-28 BSPP | - |
| | | **R1/8-COUPLE** | - | PT 1/8" | - |

▸ Hose set, hose and connector are ordered separately

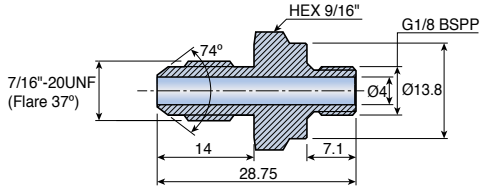
## Connector




| Designation | Dimension (mm) | |
|---|---|---|
| | D | DRVS |
| **TB CONECTOR 5/16"-G1/8"** | 13 | 12 |
| **5/16"-G1/8"-12** | 12 | 11 |

▸ Connector is ordered separately

## Adapter

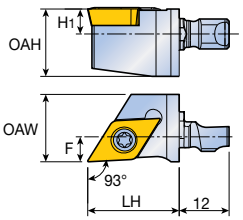



| Designation |
|---|
| **TB NIPPLE G1/8-7/16 UNF** |

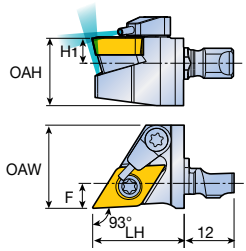
▸ Adapter is ordered separately

# QE1 SDJCR QE1 SDJCR-TB

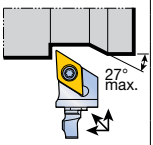
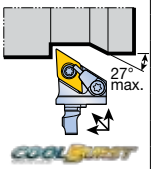
**Screw type modular heads for external turning**



QE1 SDJCR



QE1 SDJCR-TB

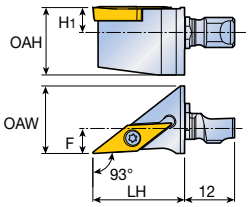
| Approach angle | Designation | Dimension (mm) | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|
| | | OAH | LH | OAW | H1 | F | | |
| **93°** | **QE1 SDJCR 11** | 16.2 | 22.0 | 16.2 | 6.0 | 7.0 | QE1 S12N-TB<br>QE1 S16R-TB | DC... 11T3...<br>A265-A268, A311 |
|  | | | | | | | | |
| **93°** | **QE1 SDJCR 11-TB** | 16.2 | 22.0 | 20.0 | 6.0 | 7.0 | | |
|  | | | | | | | | |

## Spare parts

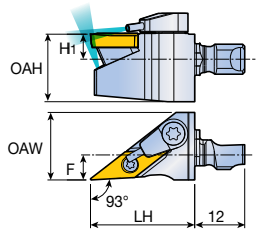
| Designation | Screw | Cooling unit | Wrench | | | |
|---|---|---|---|---|---|---|
| |  |  |  | | | |
| **...11** | SO 35080I | - | T 15 | | | |
| **...11-TB** | SO 35080I | S-CU-TB | T 15 | | | |
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# QE1 SVJBR QE1 SVJBR-TB

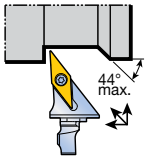
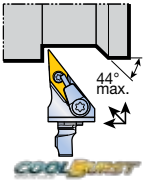
**Screw type modular heads for external turning**




QE1 SVJBR




QE1 SVJBR-TB

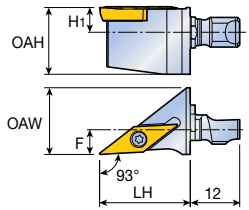
| Approach angle | Designation | Dimension (mm) | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|
| | | OAH | LH | OAW | H1 | F | | |
| **93°** | **QE1 SVJBR 11** | 16.2 | 22.0 | 16.2 | 6.0 | 7.0 | QE1 S12N-TB<br>QE1 S16R-TB | VB.. 1103..<br>A281, A282, A315 |
|  | | | | | | | | |
| **93°** | **QE1 SVJBR 11-TB** | 16.2 | 25.0 | 16.2 | 6.0 | 7.0 | | |
|  | | | | | | | | |

## Spare parts

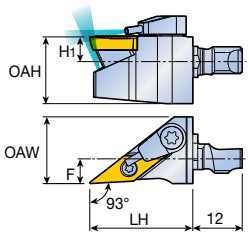
| Designation | Screw | Cooling unit | Wrench | | | |
|---|---|---|---|---|---|---|
| |  |  |  | | | |
| **...11** | SO 25065I | - | T 7 | | | |
| **...11-TB** | SO 25065I | S-CU-TB | T 7 | | | |
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# QE1 SVJCR QE1 SVJCR-TB

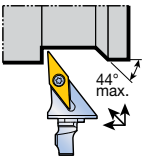
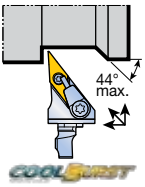
**Screw type modular heads for external turning**




**QE1 SVJCR**




**QE1 SVJCR-TB**

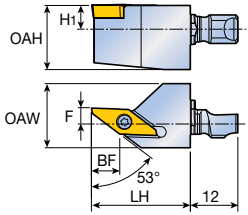
| Approach angle | Designation | Dimension (mm) | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|
| | | OAH | LH | OAW | $H_1$ | F | | |
| **93°**   | **QE1 SVJCR 11** | 16.2 | 22.0 | 16.2 | 6.0 | 7.0 | QE1 S12N-TB<br>QE1 S16R-TB | VC… 1103… A283, A284, A315 |
| **93°**   | **QE1 SVJCR 11-TB** | 16.2 | 25.0 | 16.2 | 6.0 | 7.0 | | |

## Spare parts

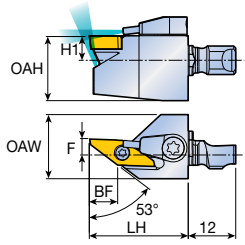
| Designation | Screw | Cooling unit | Wrench | | | |
|---|---|---|---|---|---|---|
| |  |  |  | | | |
| **...11** | SO 25065I | - | T 7 | | | |
| **...11-TB** | SO 25065I | S-CU-TB | T 7 | | | |

# QE1B SVXCR QE1B SVXCR-TB

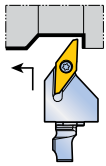
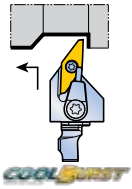
**Screw type modular heads for back turning**




QE1B SVXCR




QE1B SVXCR-TB

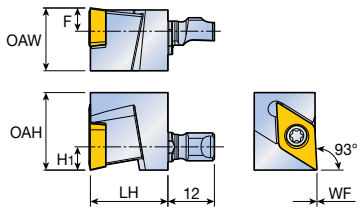
| Approach angle | Designation | Dimension (mm) | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | OAH | LH | OAW | BF | H1 | F | | |
| **53°** | **QE1B SVXCR 11** | 16.2 | 25.0 | 16.2 | 7.2 | 6.0 | 3.0 | QE1 S12N-TB<br>QE1 S16R-TB | BTVC 1103.. A259 |
|  | | | | | | | | | |
| **53°** | **QE1B SVXCR 11-TB** | 16.2 | 25.0 | 16.2 | 7.2 | 6.0 | 3.0 | | |
|  | | | | | | | | | |

## Spare parts

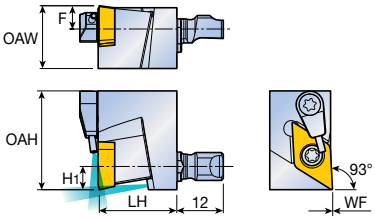
| Designation | Screw | Cooling unit | Wrench | | | |
|---|---|---|---|---|---|---|
| |  |  |  | | | |
| **...11** | SO 25065I | - | T 7 | | | |
| **...11-TB** | SO 25065I | S-CU-TB | T 7 | | | |
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# QE1Y SDJCR QE1Y SDJCR-TB

**Screw type Y-axis modular heads**




**QE1Y SDJCR**




**QE1Y SDJCR-TB**

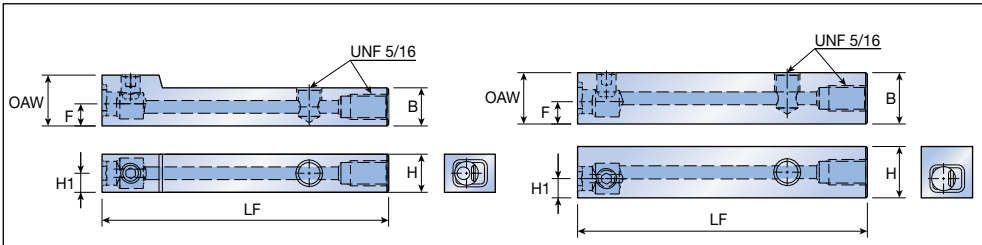
| Approach angle | Designation | Dimension (mm) | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | OAW | OAH | LH | WF | $H_1$ | F | | |
| **93°** | **QE1Y SDJCR 11** | 16.2 | 20.0 | 20.0 | 0.0 | 6.0 | 7.0 | QE1 S12N-TB<br>QE1 S16L-TB | DC.. 11T3..<br>A265-A268, A311 |
| **93°** | **QE1Y SDJCR 11-TB** | 16.2 | 25.5 | 20.0 | 0.0 | 6.0 | 7.0 | | |

## Spare parts

| Designation | Screw | Cooling unit | Wrench | | | |
|---|---|---|---|---|---|---|
| **...11** | SO 35080I | - | T 15 | | | |
| **...11-TB** | SO 35080I | S-CU-TB | T 15 | | | |

# QE1 S12N-TB QE1 S16R/L-TB

**High pressure coolant shanks for WIN-SWISS modular head**




**QE1 12N-TB** **QE1 16R-TB**

| Designation | Dimension (mm) | | | | | | Modular head |
|---|---|---|---|---|---|---|---|
| | H | H1 | B | LF | OAW | F | |
| **QE1 S12N-TB** | 12 | 6 | 12 | 107 | 16 | 7 | QE1...R(-TB)<br>QE1B...R(-TB)<br>QE1Y...R(-TB) A137-A141 |
| **QE1 S16R-TB** | 16 | 6 | 16 | 107 | 16 | 7 | QE1...R(-TB)<br>QE1B...R(-TB) |
| **QE1 S16L-TB** | 16 | 6 | 16 | 107 | 16 | 7 | QE1Y...R(-TB) |

| Head designation | 70 bar flow rate (ℓ/min) | 100 bar flow rate (ℓ/min) | 140 bar flow rate (ℓ/min) |
|---|---|---|---|
| **QE1 SDJCR-TB *** | 9-11 | 11-13 | 14-16 |
| **QE1B SVXCR-TB** | 8-10 | 9-11 | 11-13 |
| **QE1Y SDJCR-TB** | 13-15 | 15-17 | 18-20 |

▸ * QE1 SVJBR, SVJCR, SDJNR same flow rate

## Spare parts

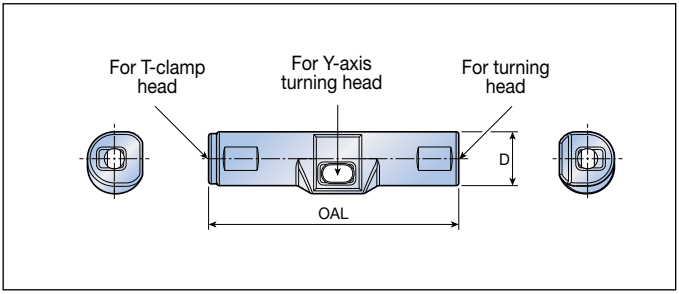
| Designation | Screw | Plug | Wrench | | | |
|---|---|---|---|---|---|---|
| |  |  |  | | | |
| **QE1...-TB** | SS M6F-7 | PLG 5/16 UNF | L-W 3 | L-W 5/32 | | |

▸ Please refer to A135 page for COOL-BURST accessories

# QE1 FIX-20100

**Insert replacement fixture**






| Designation | | Dimensions (mm) | |
|---|---|---|---|
| | | OAL | D |
| **QE1** | **FIX-20100** | 93.0 | 20.0 |
| | | | |
| | | | |
| | | | |
| | | | |

▸ Fixture ordered seperately

# Insert replacement

▸ Due to the WIN-SWISS' small head sizes, replacing the inserts could be difficult.
Please use the fixture to facilitate insert replacement.

▸ Y-axis turning head



▸ T-clamp head



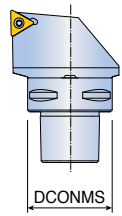
▸ Turning head



# C-ADAPTER Designation System

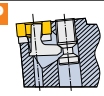
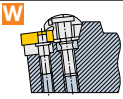
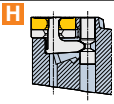
| C4 | - | T | C | L | N | R |
|---|---|---|---|---|---|---|
| 1 | | 2 | 3 | 4 | 5 | 6 |

## 1 Coupling size

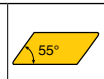
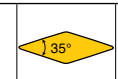



| Symbol | DCONMS(mm) |
|---|---|
| C4 | 40 |
| C5 | 50 |
| C6 | 63 |

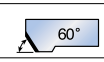
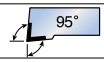
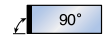
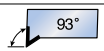
## 2 Clamping system

| P | C | S | M | T | W | H |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
| Lever lock | Top clamp | Screw clamp | Multi lock | T-holder | Wedge clamp | Hook lever |

## 3 Insert shape

|  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| C | D | E | H | K | R | S | T | V | W |

## 4 Approach angle

| Symbol | Shape | Offset | Symbol | Shape | Offset | Symbol | Shape | Offset |
|---|---|---|---|---|---|---|---|---|
| A |  | × | J |  | ○ | V |  | × |
| |  | | K |  | ○ | W |  | ○ |
| B |  | × | L |  | ○ | X | Special angle | |
| | | | M |  | × | C* |  | × |
| D |  | × | N |  | × | H* |  | ○ |
| E |  | × | R |  | ○ | Q* |  | ○ |
| F |  | ○ | S |  | ○ | | | |
| G |  | ○ | T |  | ○ | | | |
| |  | | U |  | ○ | | | |

* TaeguTec standard



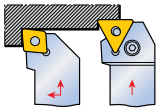
ADVANCE CUTTING TaeguTec

| 27 | 055 | - | 09 | |
|---|---|---|---|---|
| 7 | 8 | | 9 | 10 |

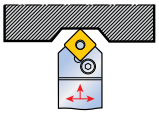
## 5 Insert clearance angle

|  |  |  |  |
|---|---|---|---|
| N | B | C | P |

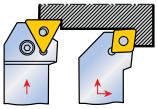
## 6 Hand of tool



R: Right hand

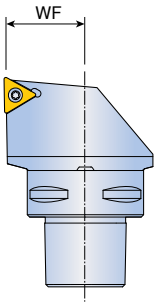


N: Neutral

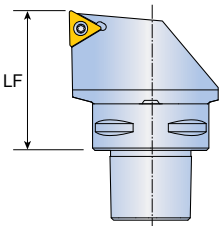


L: Left hand

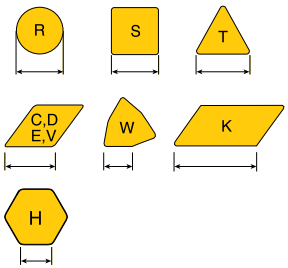
## 7 WF dimension (mm)




## 8 Tool length (mm)




## 9 Cutting edge length



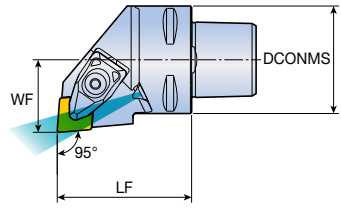

See page A225

## 10 Manufacturer's type designation

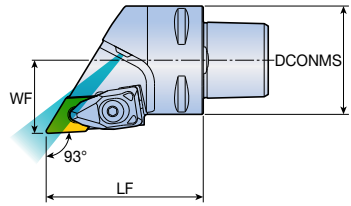
Unique to manufacturer

# C…TCLNR/L C…TDJNR/L

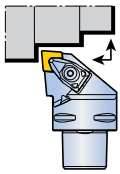
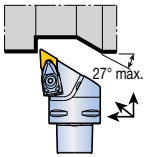
**T-holders with C-ADAPTER**




**C…TCLNR**




**C…TDJNR**

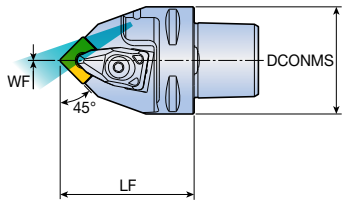
| Approach angle | Designation | Dimension (mm) | | | Insert | |
|---|---|---|---|---|---|---|
| | | DCONMS | WF | LF | | |
| **95°** | **C4-TCLNR/L 27050-12** | 40 | 27 | 50 | CN...1204... | A226, A228-A232, A291, A292, A303 |
|  | **C5-TCLNR/L 35060-12** | 50 | 35 | 60 | | |
| | **C6-TCLNR/L 45065-12** | 63 | 45 | 65 | | |
| | **C4-TCLNR/L 27055-16** | 40 | 27 | 55 | CN...1606... | |
| | **C5-TCLNR/L 35060-19** | 50 | 35 | 60 | CN...1906... | |
| | **C6-TCLNR/L 45065-19** | 63 | 45 | 65 | | |
| **93°** | **C4-TDJNR/L 27058-1504** | 40 | 27 | 58 | DN...1504... | A234-A238, A293, A304 |
|  | **C4-TDJNR/L 27058-1506** | 40 | 27 | 58 | DN...1506... | |
| | **C5-TDJNR/L 35060-1504** | 50 | 35 | 60 | DN...1504... | |
| | **C5-TDJNR/L 35060-1506** | 50 | 35 | 60 | DN...1506... | |
| | **C6-TDJNR/L 45065-1504** | 63 | 45 | 65 | DN...1504... | |
| | **C6-TDJNR/L 45065-1506** | 63 | 45 | 65 | DN...1506... | |

## Spare parts

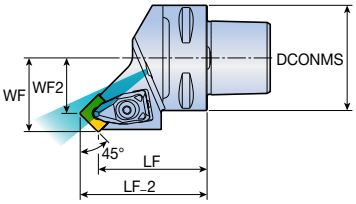
| Designation | Clamp | Clamp screw | Spring | Shim | | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |
| **C4...12** | DLM 4 | DLS 4 | DSP 4 | TSC 44 | - | SO 40050I | NZ 83 | L-W 3 | T 15 |
| **...12** | DLM 4 | DLS 4 | DSP 4 | TSC 44 | - | SO 40050I | NZ 104 | L-W 3 | T 15 |
| **...16** | DLM 5 | DLS 5 | DSP 5 | TSC 54 | - | SO 50090I | NZ 83 | L-W 4 | T 20 |
| **...19** | DLM 6 | DLS 5 | DSP 5 | LSC 63 | - | SO 80180I | NZ 104 | L-W 4 | T 20 |
| **...1504** | DLM 4 | DLS 4 | DSP 4 | - | TSD 44 | SO 40050I | NZ 83 | L-W 3 | T 15 |
| **C4...1506** | DLM 4 | DLS 4 | DSP 4 | - | TSD 43 | SO 40050I | NZ 83 | L-W 3 | T 15 |
| **...1506** | DLM 4 | DLS 4 | DSP 4 | - | TSD 43 | SO 40050I | NZ 104 | L-W 3 | T 15 |

# C…TSDNN C…TSSNR/L

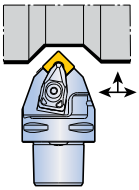
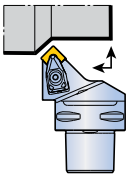
**T-holders with C-ADAPTER**




**C…TSDNN**




**C…TSSNR**

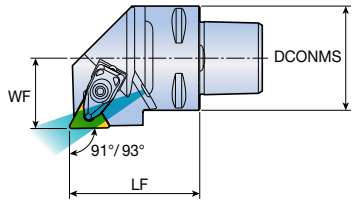
| Approach angle | Designation | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONMS | WF | WF2 | LF | LF_2 | |
| **45°** | **C4-TSDNN 00050-12** | 40 | - | - | 50 | - | SN...1204... A241, A243-A246 |
|  | **C5-TSDNN 00060-12** | 50 | - | - | 60 | - | |
| | **C6-TSDNN 00065-12** | 63 | - | - | 65 | - | |
| **45°** | **C4-TSSNR/L 27042-12** | 40 | 27 | 18.7 | 42 | 50.3 | |
|  | **C5-TSSNR/L 35052-12** | 50 | 35 | 26.7 | 52 | 60.3 | |
| | **C6-TSSNR/L 45056-12** | 63 | 45 | 36.7 | 56 | 64.3 | |

## Spare parts

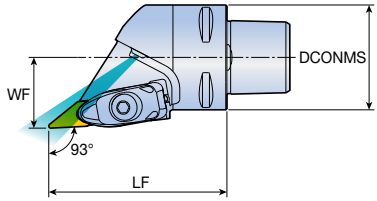
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **C4...12** | DLM 4 | DLS 4 | DSP 4 | TSS 44 | SO 40050I | NZ 83 | L-W 3 | T 15 |
| **...12** | DLM 4 | DLS 4 | DSP 4 | TSS 44 | SO 40050I | NZ 104 | L-W 3 | T 15 |

# C…TTGNR/L C…TTJNR/L C…TVJNR/L

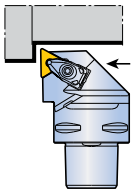
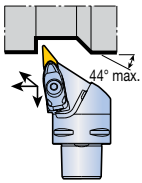
**T-holders with C-ADAPTER**




**C…TTGNR (91°) C…TTJNR (93°)**




**C…TVJNR**

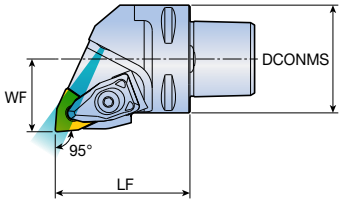
| Approach angle | Designation | Dimension (mm) | | | Insert |
|---|---|---|---|---|---|
| | | DCONMS | WF | LF | |
| **91°/93°** | **C4-TTGNR/L 27050-16** | 40 | 27 | 50 | TN...1604... A247-A250, A299, A307 |
|  | **C5-TTGNR/L 35060-16** | 50 | 35 | 60 | |
| | **C6-TTGNR/L 45065-16** | 63 | 45 | 65 | |
| | **C4-TTJNR/L 27050-16** | 40 | 27 | 50 | |
| | **C5-TTJNR/L 35060-16** | 50 | 35 | 60 | |
| | **C6-TTJNR/L 45065-16** | 63 | 45 | 65 | |
| **93°** | **C4-TVJNR/L 27068-16** | 40 | 27 | 68 | VN...1604... A251-A252, A300, A308 |
|   | **C5-TVJNR/L 35065-16** | 50 | 35 | 65 | |
| | **C6-TVJNR/L 45068-16** | 63 | 45 | 68 | |

## Spare parts

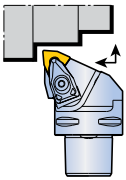
| Designation | Clamp | Clamp screw | Spring | Shim | | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |
| **C4...TT...16** | DLM 3 | DLS 3 | DSP 3 | TST 33 | - | SO 35080I | NZ 83 | L-W 2.5 | T 15 |
| **...TT...16** | DLM 3 | DLS 3 | DSP 3 | TST 33 | - | SO 35080I | NZ 104 | L-W 2.5 | T 15 |
| **C4...TV...16** | DLM 3V | DLS 5 | DSP 5 | - | TSV 33 | SO 35080I | NZ 83 | L-W 4 | T 15 |
| **...TV...16** | DLM 3V | DLS 5 | DSP 5 | - | TSV 33 | SO 35080I | NZ 104 | L-W 4 | T 15 |

# C…TWLNR/L

**T-holders with C-ADAPTER**




**C…TWLNR**

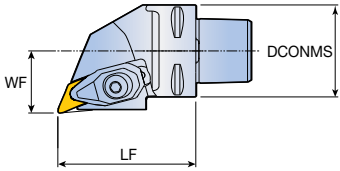
| Approach angle | Designation | Dimension (mm) | | | Insert |
|---|---|---|---|---|---|
| | | DCONMS | WF | LF | |
| **95°** | **C4-TWLNR/L 27050-06** | 40 | 27 | 50 | WN...G 0604... |
|  | **C4-TWLNR/L 27050-08** | 40 | 27 | 50 | WN... 0804... A253-A255, A300, A309 |
| | **C5-TWLNR/L 35060-08** | 50 | 35 | 60 | |
| | **C6-TWLNR/L 45065-08** | 63 | 45 | 65 | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...06** | DLM 3 | DLS 3 | DSP 3 | PSW 32 | SO 40090I | NZ 83 | L-W 2.5 | T 15 |
| **C4...08** | DLM 4 | DLS 4 | DSP 4 | TSW 44 | SO 40050I | NZ 83 | L-W 3 | T 15 |
| **...08** | DLM 4 | DLS 4 | DSP 4 | TSW 44 | SO 40050I | NZ 104 | L-W 3 | T 15 |

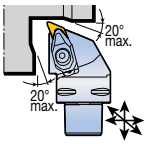
# C…TZQNR/L-TB

## High pressure T-holders with C-ADAPTER

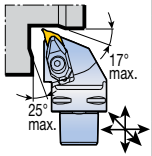


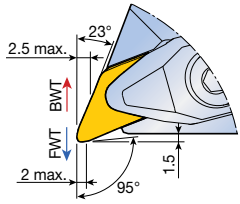

C…TZQNR-TB COOLSHOT

| Approach angle | Designation | Dimension (mm) | | | Insert |
|---|---|---|---|---|---|
| | | DCONMS | WF | LF | |
| **ZNMV 23°(BWT) 95°(FWT)** | **C4-TZQNR/L 27060-1410-TB** | 40 | 27 | 60 | ZNMV 1410… POSITURN A258 |
| | **C5-TZQNR/L 35060-1410-TB** | 50 | 35 | 60 | |
| | **C6-TZQNR/L 45065-1410-TB** | 63 | 45 | 65 | |

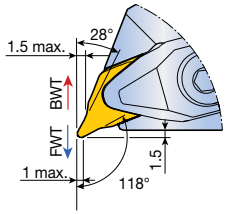



**ZNMV Y-BF 28°(BWT) 118°(FWT)**

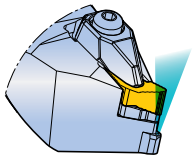



ZNMV




ZNMV Y-BF



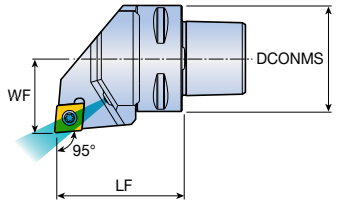
- BWT: Backward turning
- FWT: Forward turning

## Spare parts

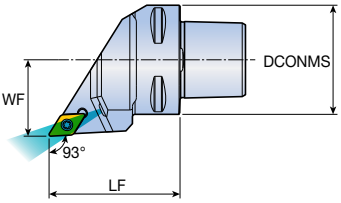
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **C...1410-TB** | DLM 3.3Z-NV | DLS 5 | DSP 5 | TSZ 140310 | TS 35083I/HG | L-W 4 | T 10 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

# C…SCLCR/L C…SDJCR/L

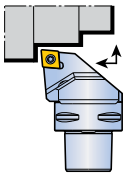
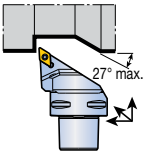
**Screw type holders with C-ADAPTER**




**C…SCLCR**




**C…SDJCR**

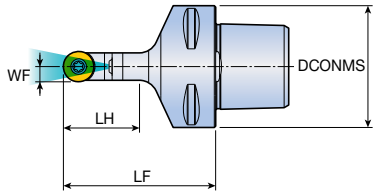
| Approach angle | Designation | Dimension (mm) | | | Insert | |
|---|---|---|---|---|---|---|
| | | DCONMS | WF | LF | | |
| **95°** | **C4-SCLCR/L 27050-09** | 40 | 27 | 50 | CC... 09T3... | A260-A263, A310 |
|  | **C5-SCLCR/L 35060-09** | 50 | 35 | 60 | | |
| | **C6-SCLCR/L 45065-09** | 63 | 45 | 65 | | |
| | **C4-SCLCR/L 27050-12** | 40 | 27 | 50 | CC... 1204... | |
| | **C5-SCLCR/L 35060-12** | 50 | 35 | 60 | | |
| | **C6-SCLCR/L 45065-12** | 63 | 45 | 65 | | |
| **93°** | **C4-SDJCR/L 27050-11** | 40 | 27 | 50 | DC... 11T3... | A265-A268, A311 |
|   | **C5-SDJCR/L 35060-11** | 50 | 35 | 60 | | |
| | **C6-SDJCR/L 45065-11** | 63 | 45 | 65 | | |

## Spare parts

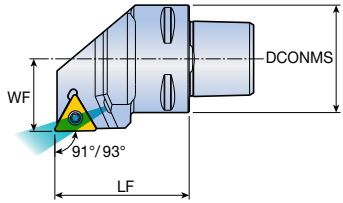
| Designation | Screw | Shim | | Shim screw | Nozzle | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **C4...09** | SO 35124I | SSC 32 | - | SO 50090S | NZ 83 | T 15 | L-W 3.5 | |
| **...09** | SO 35124I | SSC 32 | - | SO 50090S | NZ 104 | T 15 | L-W 3.5 | |
| **C4...11** | SO 35124I | - | SSD 32 | SO 50090S | NZ 83 | T 15 | L-W 3.5 | |
| **...11** | SO 35124I | - | SSD 32 | SO 50090S | NZ 104 | T 15 | L-W 3.5 | |
| **C4...12** | SO 45130I | SSC 43N | - | SO 60105S | NZ 83 | T 20 | L-W 5 | |
| **...12** | SO 45130I | SSC 43N | - | SO 60105S | NZ 104 | T 20 | L-W 5 | |
| | | | | | | | | |
| | | | | | | | | |

# C...SRDCN C...STGCR/L C...STJCR/L

**Screw type holders with C-ADAPTER**




**C...SRDCN**




**C...STGCR (91°) C...STJCR (93°)**

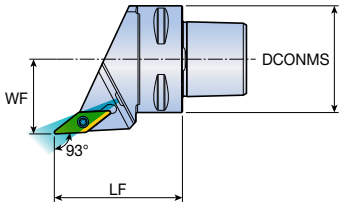
| Approach angle | Designation | Dimension (mm) | | | | Insert |
|---|---|---|---|---|---|---|
| | | DCONMS | WF | LF | LH | |
| **45°** | **C4-SRDCN 00050-10A** | 40 | 5 | 50 | 25 | RC...T 10T3... A271 |
| | **C5-SRDCN 00060-10A** | 50 | 5 | 60 | 25 | |
| | **C6-SRDCN 00065-10A** | 63 | 5 | 65 | 25 | |
| | **C4-SRDCN 00050-12A** | 40 | 6 | 50 | 28 | RC...T 1204... |
| | **C5-SRDCN 00060-12A** | 50 | 6 | 60 | 28 | |
| | **C6-SRDCN 00065-12A** | 63 | 6 | 65 | 28 | |
| **91°/93°** | **C4-STGCR/L 27050-16** | 40 | 27 | 50 | - | TC... 16T3... A275, A313, A314 |
| | **C5-STGCR/L 35060-16** | 50 | 35 | 60 | - | |
| | **C4-STJCR/L 27050-16** | 40 | 27 | 50 | - | |
| | **C5-STJCR/L 35060-16** | 50 | 35 | 60 | - | |

## Spare parts

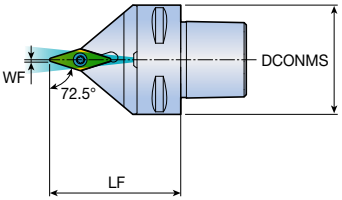
| Designation | Screw | Shim | | Shim screw | Nozzle | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **C4...10A** | TS 40097I | TRC 3-0 | - | SR TC-3 | NZ 62 | T 15 | - | |
| **...10A** | TS 40097I | TRC 3-0 | - | SR TC-3 | NZ 62 | T 15 | - | |
| **C4...12A** | SO 40050I | TRC 4-0 | - | SR TC-4S | NZ 62 | T 15 | - | |
| **...12A** | SO 40050I | TRC 4-0 | - | SR TC-4S | NZ 62 | T 15 | - | |
| **C4...16** | SO 35124I | - | SST 32 | SO 50090S | NZ 83 | T 15 | L-W 3.5 | |
| **...16** | SO 35124I | - | SST 32 | SO 50090S | NZ 104 | T 15 | L-W 3.5 | |

# C...SVJBR/L C...SVVBN

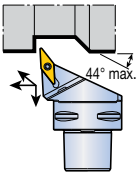
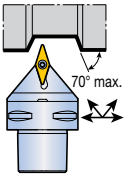
**Screw type holders with C-ADAPTER**




**C...SVJBR**




**C...SVVBN**

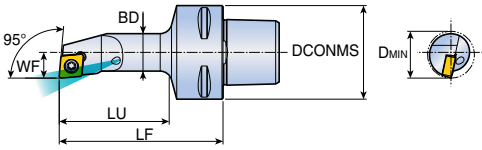
| Approach angle | Designation | Dimension (mm) | | | Insert |
|---|---|---|---|---|---|
| | | DCONMS | WF | LF | |
| **93°** | **C4-SVJBR/L 27050-16** | 40 | 27 | 50 | VB...T 1604... A281, A282, A315 |
|   | **C5-SVJBR/L 35060-16** | 50 | 35 | 60 | |
| | **C6-SVJBR/L 45065-16** | 63 | 45 | 65 | |
| **72.5°** | **C4-SVVBN 00050-16** | 40 | 0.6 | 50 | |
|   | **C5-SVVBN 00060-16** | 50 | 0.6 | 60 | |
| | **C6-SVVBN 00065-16** | 63 | 0.6 | 65 | |

## Spare parts

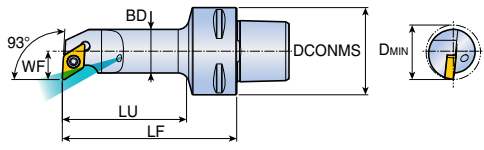
| Designation | Screw | Shim | Shim screw | Nozzle | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| **C4...16** | SO 35124I | SSV 32 | SO 50090S | NZ 83 | T 15 | L-W 3.5 | | |
| **...16** | SO 35124I | SSV 32 | SO 50090S | NZ 104 | T 15 | L-W 3.5 | | |

# C…SCLCR/L C…SDUCR/L

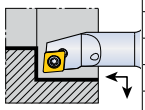
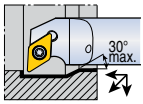
**Screw type boring bar with C-ADAPTER**




C…SCLCR




C…SDUCR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | LU | WF | BD | DMIN | |
| **95°** | **C4-SCLCR/L-11070-09** | 40 | 70 | 47 | 11 | 16 | 20 | CCMT 09T3… A263 |
|  | **C5-SCLCR/L-11070-09** | 50 | 70 | 46 | 11 | 16 | 20 | |
| **93°** | **C4-SDUCR/L-13080-11** | 40 | 80 | 57 | 13 | 20 | 25 | DCMT 11T3… A268 |
|  | **C5-SDUCR/L-13080-11** | 50 | 80 | 56 | 13 | 20 | 25 | |

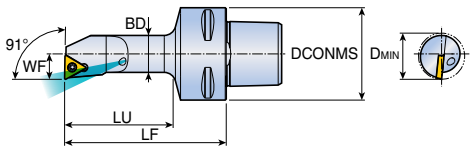


## Spare parts

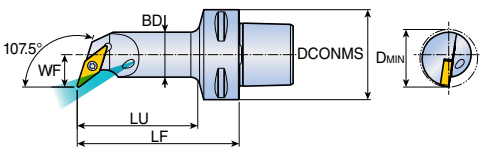
| Designation | Screw | Wrench | | | | |
|---|---|---|---|---|---|---|
| |  |  | | | | |
| **C...SCLCR/L** | SO 35080I | T 15 | | | | |
| **C...SDUCR/L** | SO 35080I | T 15 | | | | |

# C…STFCR/L C…SVQBR/L

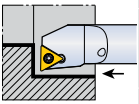
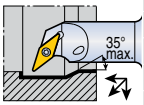
**Screw type boring bar with C-ADAPTER**




C…STFCR




C…SVQBR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | LU | WF | BD | DMIN | |
| **91°** | **C4-STFCR/L-11070-1102** | 40 | 70 | 47 | 11 | 16 | 20 | TC...T 1102… A275, A276, A313-A314 |
|  | **C5-STFCR/L-11070-1102** | 50 | 70 | 46 | 11 | 16 | 20 | |
| **107.5°** | **C4-SVQBR/L-18090-16** | 40 | 90 | 68 | 18 | 25 | 32 | VBMT 1604… A282 |
|  | **C5-SVQBR/L-18090-16** | 50 | 90 | 67 | 18 | 25 | 32 | |

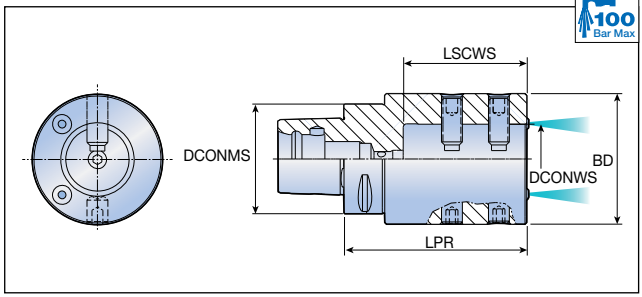
## Spare parts

| Designation | Screw | Wrench | | | | |
|---|---|---|---|---|---|---|
| |  |  | | | | |
| **C...STFCR/L** | SO 25065I | T 7 | | | | |
| **C...SVQBR/L** | SO 35080I | T 15 | | | | |

# C...ABB

**Adapters with C-ADAPTER exchangeable shanks for boring bars with reduction sleeves**






| Designation | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | DCONMS | DCONWS | BD | LPR | LSCWS |
| **C4 ABB 25-60** | 40 | 25 | 63 | 100 | 60 |
| **C5 ABB 25-60** | 50 | 25 | 63 | 100 | 60 |
| **C6 ABB 25-60** | 63 | 25 | 63 | 100 | 60 |
| **ABB 40-70** | 63 | 40 | 75 | 105 | 71 |
| **C8 ABB 25-60** | 80 | 25 | 63 | 100 | 60 |
| **ABB 40-72** | 80 | 40 | 75 | 105 | 71 |

## Spare parts

| Designation | Stopper screw | Screw | | Nozzle | Wrench | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |
| **C...60** | SR M10x6 DIN913[1] | SR M10x20 DIN915[3] | SR M10x12 DIN1835-B[2] | SATZ-M12x1-M6 | HP M12* | L-W 5* |
| **C...70/72** | SR M10x6 DIN913[1] | SR M12x30 DIN915[3] | SR M12x16 DIN1835-B[2] | SATZ-M12x1-M6 | HP M12* | L-W 6* |

▸ *: Optional, should be ordered separately

▸ [1] Rear stopper screw [2] Used on A-type sleeves [3] Used on B-type sleeves

# SC...T...A/B

**Reduction sleeves for bars, used in holders with exchangeable adaptation**



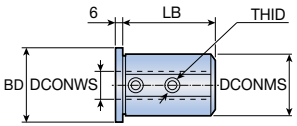



Fig.1

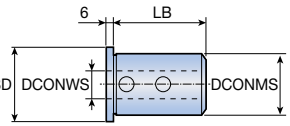



Fig.2

| Designation | Dimension (mm) | | | | | Fig. |
|---|---|---|---|---|---|---|
| | DCONMS | DCONWS | BD | LB | THID | |
| **SC 25T6A** | 25 | 6 | 31 | 56 | M6 | 1 |
| **25T8A** | 25 | 8 | 31 | 56 | M8 | 1 |
| **25T10A** | 25 | 10 | 31 | 56 | M8 | 1 |
| **25T12A** | 25 | 12 | 31 | 56 | M8 | 1 |
| **25T16B** | 25 | 16 | 31 | 56 | - | 2 |
| **25T20B** | 25 | 20 | 31 | 56 | - | 2 |
| **SC 40T6A** | 40 | 6 | 46 | 60 | M6 | 1 |
| **40T8A** | 40 | 8 | 46 | 60 | M8 | 1 |
| **40T10A** | 40 | 10 | 46 | 60 | M8 | 1 |
| **40T12A** | 40 | 12 | 46 | 60 | M8 | 1 |
| **40T16B** | 40 | 16 | 46 | 60 | - | 2 |
| **40T20B** | 40 | 20 | 46 | 60 | - | 2 |
| **40T25B** | 40 | 25 | 46 | 60 | - | 2 |
| **40T32B** | 40 | 32 | 46 | 60 | - | 2 |
| **SC 50T6A** | 50 | 6 | 56 | 70 | M6 | 1 |
| **50T8A** | 50 | 8 | 56 | 70 | M8 | 1 |
| **50T10A** | 50 | 10 | 56 | 70 | M8 | 1 |
| **50T12A** | 50 | 12 | 56 | 70 | M8 | 1 |
| **50T16B** | 50 | 16 | 56 | 80 | - | 2 |
| **50T20B** | 50 | 20 | 56 | 80 | - | 2 |
| **50T25B** | 50 | 25 | 56 | 80 | - | 2 |
| **50T32B** | 50 | 32 | 56 | 80 | - | 2 |

## Spare parts

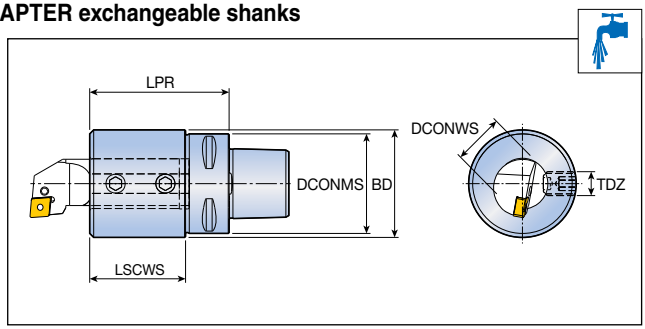
| Designation | Screw | | Wrench | | |
|---|---|---|---|---|---|
| |  |  |  | | |
| **...25T/50T 6A** | SR M6x6 DIN916 | - | L-W 3* | | |
| **...25T 8A/10A/12A** | SR M8x6 DIN916 | - | L-W 4* | | |
| **...50T 8A/10A/12A** | SR M8x6 DIN916 | - | L-W 4* | | |
| **...40T 6A** | - | SR M6x10 DIN1835-B | L-W 3* | | |
| **...40T 8A/10A/12A** | - | SR M8x10 DIN1835-B | L-W 4* | | |
| | | | | | |
| | | | | | |
| | | | | | |

▸ *: Optional, should be ordered separately

# C...ADI

**Holders for boring bars with C-ADAPTER exchangeable shanks**



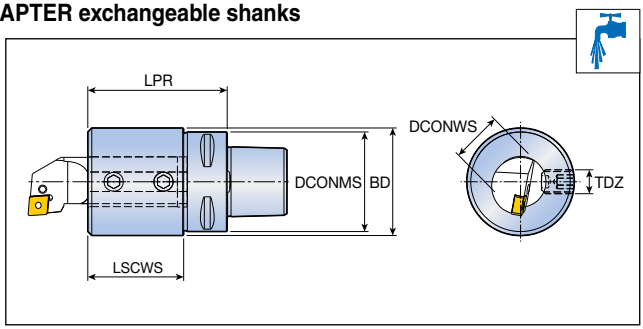



| | Designation | Dimension (mm) | | | | | |
|---|---|---|---|---|---|---|---|
| | | DCONMS | LPR | LSCWS | DCONWS | BD | TDZ |
| **C3** | **ADI 10** | 32 | 50 | 20 | 10 | 36 | M6 |
| | **ADI 12** | 32 | 50 | 21.5 | 12 | 36 | M8 |
| | **ADI 16** | 32 | 50 | 29.5 | 16 | 36 | M8 |
| **C4** | **ADI 10** | 40 | 50 | 20 | 10 | 36 | M6 |
| | **ADI 12** | 40 | 50 | 24 | 12 | 36 | M8 |
| | **ADI 16** | 40 | 50 | 32 | 16 | 36 | M8 |
| | **ADI 20** | 40 | 70 | 49 | 20 | 55 | M12 |
| | **ADI 25** | 40 | 70 | 45 | 25 | 54 | M12 |
| **C5** | **ADI 10** | 50 | 60 | 26 | 10 | 36 | M6 |
| | **ADI 12** | 50 | 60 | 26 | 12 | 36 | M8 |
| | **ADI 16** | 50 | 60 | 32 | 16 | 36 | M8 |
| | **ADI 20** | 50 | 75 | 49 | 20 | 55 | M12 |
| | **ADI 25** | 50 | 85 | 60 | 25 | 60 | M12 |
| | **ADI 32** | 50 | 100 | 76 | 32 | 68 | M12 |
| **C6** | **ADI 12** | 63 | 65 | 36 | 12 | 36 | M8 |
| | **ADI 16** | 63 | 65 | 36 | 16 | 36 | M8 |
| | **ADI 20** | 63 | 65 | 40 | 20 | 36 | M10 |
| | **ADI 25** | 63 | 76 | 51 | 25 | 54 | M12 |
| | **ADI 32** | 63 | 100 | 76 | 32 | 68 | M12 |
| | **ADI 40** | 63 | 100 | 76 | 40 | 98 | M12 |
| | **ADI 50** | 63 | 115 | 76 | 50 | 98 | M12 |

# C...ADI

**Holders for boring bars with C-ADAPTER exchangeable shanks**






| Designation | Dimension (mm) | | | | | |
|---|---|---|---|---|---|---|
| | DCONMS | LPR | LSCWS | DCONWS | BD | TDZ |
| C8 **ADI 12** | 80 | 70 | 36 | 12 | 36 | M8 |
| **ADI 16** | 80 | 70 | 36 | 16 | 36 | M8 |
| **ADI 20** | 80 | 70 | 40 | 20 | 36 | M10 |
| **ADI 25** | 80 | 80 | 51 | 25 | 54 | M12 |
| **ADI 32** | 80 | 110 | 86 | 32 | 68 | M12 |
| **ADI 40** | 80 | 115 | 86 | 40 | 98 | M12 |
| **ADI 50** | 80 | 115 | 86 | 50 | 98 | M12 |

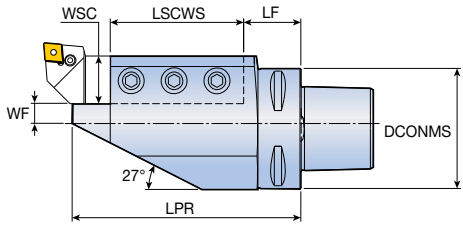
## Spare parts

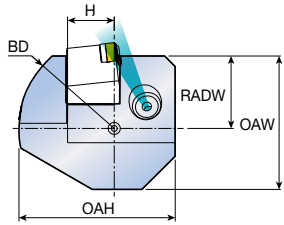
| Designation | Screw | Wrench | | | | |
|---|---|---|---|---|---|---|
| **...10** | SR M6x10 DIN1835-B | L-W 3* | | | | |
| **...12/16** | SR M8x10 DIN1835-B | L-W 4* | | | | |
| **...20** | SR M10x12 DIN1835-B | L-W 5* | | | | |
| **...25/32/40/50** | SR M12x16 DIN1835-B | L-W 6* | | | | |

▸ *: Optional, should be ordered separately

# C...ASHR/L

**Holders with C-ADAPTER exchangeable shanks for external square-shank tools**




Left-hand shown

| Designation | | Dimension (mm) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LPR | LSCWS | LF | WF | H | WSC | OAH | RADW | OAW | BD |
| **C4** | **ASHR/L 16-1** | 40 | 104 | 70 | 34 | 16 | 16 | 16 | 50 | 23 | 43.5 | 60 |
| **C5** | **ASHR/L 20-1** | 50 | 98 | 63.5 | 24.5 | 10 | 20 | 20 | 78 | 30 | 59 | 90 |
| **C6** | **ASHR/L 20-1** | 63 | 100 | 63.5 | 36.5 | 20 | 20 | 20 | 78 | 30 | 59 | 90 |
| | **ASHR/L 25-1** | 63 | 120 | 70 | 30 | 13 | 25 | 25 | 82 | 38 | 70 | 100 |
| **C8** | **ASHR/L 32-1** | 80 | 140 | 95 | 35 | 8 | 32 | 32 | 87 | 40 | 80 | 110 |

## Spare parts

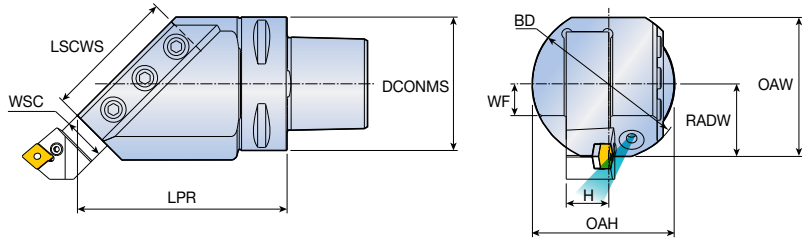
| Designation | Screw | Nozzle | Wrench | |
|---|---|---|---|---|
| **...16-1** | SR M8x16 DIN915 | SATZ-M10x1-M5 | HP M10* | L-W 5* |
| **...20-1** | SR M10x25 DIN915 | SATZ-M10x1-M5 | HP M10* | L-W 5* |
| **...25-1/32-1** | SR M12x30 DIN915 | SATZ-M12x1-M6 | HP M12* | L-W 6* |

▸ *: Optional, should be ordered separately

# C...ASHR/L-45

**Holders with C-ADAPTER shanks carrying square shank tools for 45° mounting on turn-mill machines**

100 Bar Max




A left-hand tool in a right-hand adapter are shown

| Designation | Dimension (mm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | H | WSC | LSCWS | LPR | OAH | RADW | OAW | WF | BD |
| **C5 ASHR/L 20-45** | 50 | 20 | 20 | - | 127 | 62 | 36 | 67.5 | 15 | 72 |
| **C6 ASHR/L 20-45** | 63 | 20 | 20 | 70 | 102 | 62 | 41.6 | 67.5 | 15 | 72 |
| **ASHR/L 25-45** | 63 | 25 | 25 | 70 | 102 | 83 | 41.6 | 79.6 | 15 | 100 |
| **C8 ASHR/L 32-45** | 80 | 32 | 32 | 100 | 140 | 110 | 50 | 110 | 17 | 140 |

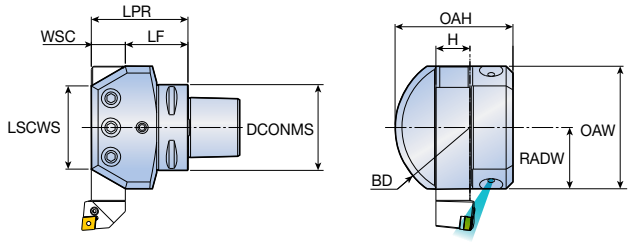
## Spare parts

| Designation | Screw | Nozzle | Wrench | |
|---|---|---|---|---|
| **...20-45** | SR M10x25 DIN915 | SATZ-M10x1-M5 | HP M10* | L-W 5* |
| **...25-45** | SR M12x30 DIN915 | SATZ-M10x1-M5 | HP M10* | L-W 6* |
| **...32-45** | SR M12x30 DIN915 | SATZ-M12x1-M6 | HP M12* | L-W 6* |

▸ *: Optional, should be ordered separately

# C...ASHA

**Perpendicular holders with C-ADAPTER shanks for external square-shank tools**




| Designation | Dimension (mm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | H | WSC | LPR | LSCWS | LF | RADW | OAW | OAH | BD |
| **C5 ASHA 20** | 50 | 20 | 20 | 58 | 46 | 38 | 38 | 76 | 76.5 | 90 |
| **C6 ASHA 20** | 63 | 20 | 20 | 60 | 46 | 40 | 38 | 76 | 76.5 | 90 |
| **ASHA 25** | 63 | 25 | 25 | 71 | 61 | 46 | 45 | 90 | 86.6 | 110 |
| **C8 ASHA 32** | 80 | 32 | 32 | 85 | 80 | 53 | 55 | 100 | 95 | 142 |

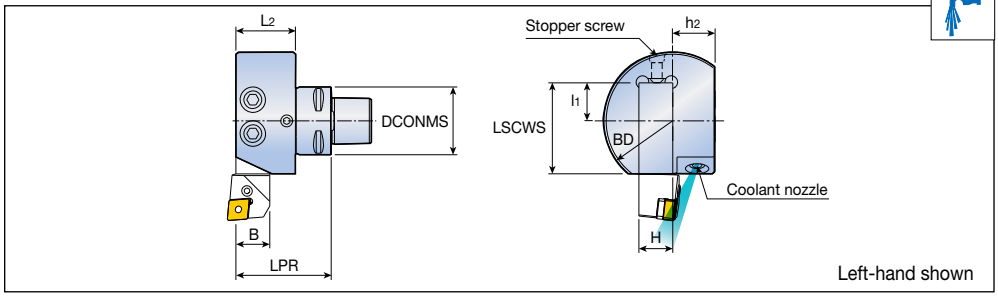
## Spare parts

| Designation | Screw | Nozzle | Wrench | |
|---|---|---|---|---|
| |  |  |  |  |
| **...20** | SR M10x25 DIN915 | SATZ-M10x1-M5 | HP M10* | L-W 5* |
| **...25** | SR M12x30 DIN915 | SATZ-M12x1-M6 | HP M12* | L-W 6* |
| **...32** | SR M12x30 DIN915 | SATZ-M12x1-M6 | HP M12* | L-W 6* |

▸ *: Optional, should be ordered separately

# C...ADE

## Holders with C-ADAPTER exchangeable shanks for external square-shank tools




| Designation | Dimension (mm) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | LPR | $L_2$ | B | BD | LSCWS | $l_1$ | H | $h_2$ |
| **C3 ADE-16R/L** | 32 | 45 | 28.1 | 16 | 65 | 45 | 20 | 16 | 20 |
| **C4 ADE-20R/L** | 40 | 49.2 | 29.1 | 20 | 87 | 57 | 32 | 20 | 26 |
| **C5 ADE-20R/L** | 50 | 55.2 | 35.1 | 20 | 87 | 57 | 32 | 20 | 26 |

## Spare parts

| Designation | Stopper screw | Screw | Nozzle | Wrench |
|---|---|---|---|---|
| **C3...16R/L** | SR M6x8 DIN916(1) | SR M10x20 DIN915 | SATZ-M8x1-M3 | L-W 3*, L-W 5* |
| **C4...20R/L** | SR M8x10 DIN913(1) | SR M10x20 DIN912 | EZ 125 | L-W 4*, L-W 8* |
| **C5...20R/L** | SR M8x10 DIN916(1) | SR M10x16 | EZ 125 | L-W 4*, L-W 8* |

▸ *: Optional, should be ordered separately ▸ (1) Marked: Stopper screw

# Boring Bar Designation System

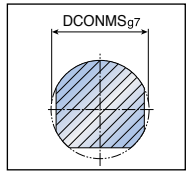
T-TURN

| S | 32 | S | - | C | T | F | P | R | - | 16 | - | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | | 4 | 5 | 6 | 7 | 8 | | 9 | | 10 |

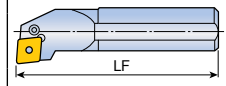
## 1 Boring bar

| | |
|---|---|
| S | Steel shank |
| A | Coolant through steel shank |
| C | Carbide shank |
| E | Coolant through carbide shank |
| X | Special |

## 2 Bar diameter




## 3 Tool length



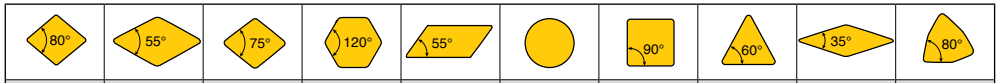

| | | | |
|---|---|---|---|
| K | 125 | U | 350 |
| M | 150 | V | 400 |
| Q | 180 | W | 450 |
| R | 200 | Y | 500 |
| S | 250 | X | Special |
| T | 300 | | |

## 4 Clamping system



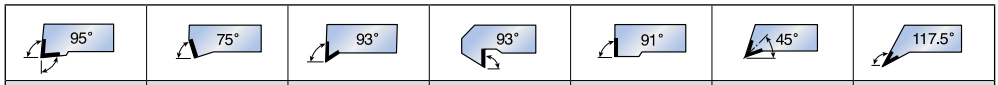

| Lever lock | Top clamp | Screw clamp | Multi lock | T-holder | Wedge clamp | Hook lever |
|---|---|---|---|---|---|---|

## 5 Insert shape



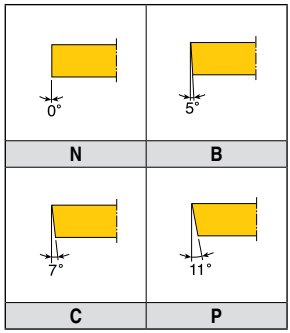

| C | D | E | H | K | R | S | T | V | W |
|---|---|---|---|---|---|---|---|---|---|

## 6 Approach angle



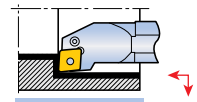
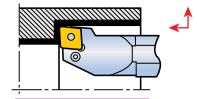

| L | K | U | Z | F | Q | P |
|---|---|---|---|---|---|---|

## 7 Insert clearance angle

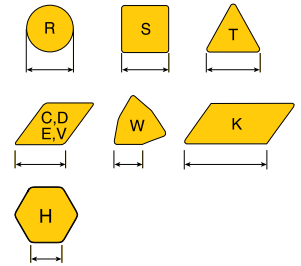



| N | B |
|---|---|
| C | P |

## 8 Hand of tool

| | |
|---|---|
| R |  **Right hand** Left handed insert used |
| L |  **Left hand** Right handed insert used |

## 9 Cutting edge length



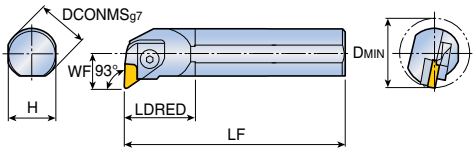

See page A225

## 10 Manufacturer's type designation

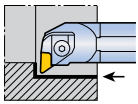
Unique to manufacturer

# S-CKUNR/L

**Top clamp type boring bars**




**S-CKUNR**

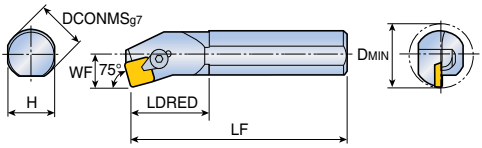
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **93°** | **S32T CKUNR/L16** | 32 | 30 | 300 | 45 | 22 | 44 | KNUX 1604...R/L A239 |
|  | **S40T CKUNR/L16** | 40 | 37 | 300 | 55 | 27 | 54 | |
| | **S40V CKUNR/L16** | 40 | 37 | 400 | 55 | 27 | 54 | |
| | **S50U CKUNR/L16** | 50 | 47 | 350 | 60 | 35 | 67.2 | |

## Spare parts

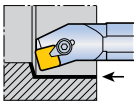
| Designation | Clamp | Screw | Clamp spring | Shim | Shim screw | Pin & spring | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **...16** | CL 16KR/L | CLS 16K | KSP 90 | CSK 1604R/L | FH M3x0.5 x10 | KSP 48 KP 48S | L-W 4 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# S-CSKPR/L

## Top clamp type boring bars




S-CSKPR

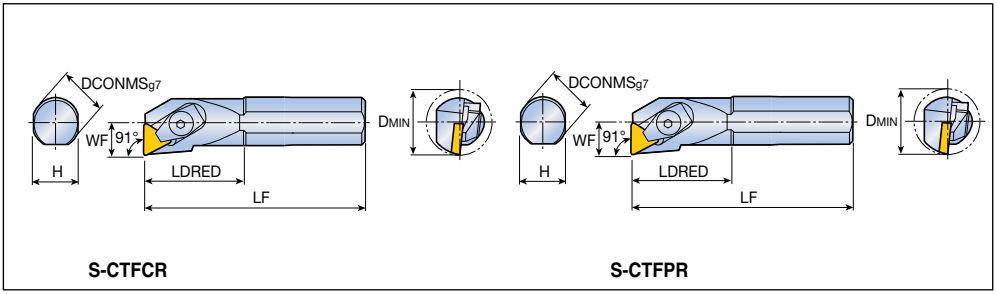
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| 75° | **S16R CSKPR/L09** | 16 | 15 | 200 | 30 | 11 | 20 | SPMR, SP...N 0903... |
|  | **S20S CSKPR/L09** | 20 | 18 | 250 | 32 | 13 | 25 | A273, A302 |
| | **S20R CSKPR/L12** | 20 | 18 | 200 | 34 | 13 | 25 | SPMR, SP...N 1203... |
| | **S25T CSKPR/L12** | 25 | 23 | 300 | 42 | 17 | 32 | |
| | **S32U CSKPR/L12** | 32 | 30 | 350 | 45 | 22 | 40 | |

## Spare parts

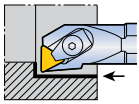
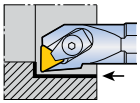
| Designation | Clamp | | Screw | Snap ring | Shim | Shim pin | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **...09** | CL 2C | - | CLS 2C | CSR 2C | - | - | L-W 2.5 | |
| **S20R...12** | CL 3C | - | CLS 3C | CSR 2 | CSS 42 | CSP 3 | L-W 3 | |
| **S25T...12** | - | CL 3 | CLS 3S | WSR 4 | CSS 42 | CSP 3 | L-W 3 | |
| **S32U...12** | - | CL 3 | CLS 3 | WSR 4 | CSS 42 | CSP 3 | L-W 3 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# S-CTFCR/L S-CTFPR/L

## Top clamp type boring bars




S-CTFCR S-CTFPR

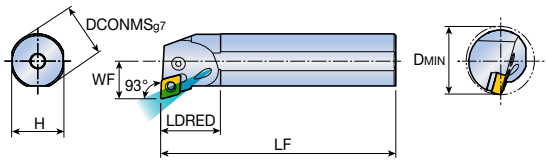
| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| 91° | **S10K CTFCR/L 06** | 10 | 9 | 125 | 25 | 6.5 | 12 | TCGR 0601... | |
|  | | | | | | | | | |
| 91° | **S10K CTFPR/L 06** | 10 | 9 | 125 | 25 | 6.5 | 12 | TP...R 0601... |  A278-A280, A302, A313-A314 |
|  | **S12M CTFPR/L 06** | 12 | 11 | 150 | 30 | 9 | 16 | | |
| | **S12M CTFPR/L 09** | 12 | 11 | 150 | 25 | 9 | 16 | TP...R, TP...N 0902... | |
| | **S12M CTFPR/L 11** | 12 | 11 | 150 | 30 | 9 | 16 | TP...R, TP...N 1103... | |
| | **S16R CTFPR/L 11** | 16 | 15 | 200 | 30 | 11 | 20 | | |
| | **S20S CTFPR/L 11** | 20 | 18 | 250 | 35 | 13 | 25 | | |
| | **S16R CTFPR/L 16** | 16 | 15 | 200 | 40 | 11 | 20 | TP...R, TP...N 1603... | |
| | **S20S CTFPR/L 16** | 20 | 18 | 250 | 50 | 13 | 25 | | |
| | **S25T CTFPR/L 16** | 25 | 23 | 300 | 40 | 17 | 32 | | |
| | **S32T CTFPR/L 16** | 32 | 30 | 300 | 45 | 22 | 40 | | |
| | **S40T CTFPR/L 16** | 40 | 37 | 300 | 41.5 | 27 | 50 | | |
| | **S50U CTFPR/L 16** | 50 | 47 | 350 | 56 | 35 | 63 | | |
| | **S40T CTFPR/L 22** | 40 | 37 | 300 | 41.5 | 27 | 50 | TPMR, TP...N 2204... | |
| | **S50U CTFPR/L 22** | 50 | 47 | 350 | 56 | 35 | 63 | | |

## Spare parts

| Designation | Clamp | | | Screw | Snap ring | Shim | Shim pin | Wrench |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **...06** | CL 1.25 | - | - | CLS 1.25 | CSR 1.25 | - | - | L-W 1.5 |
| **...09** | CL 1.25 | - | - | CLS 1.25 | CSR 1.25 | - | - | L-W 1.5 |
| **...11** | - | CL 2C | - | CLS 2C | CSR 2C | - | - | L-W 2.5 |
| **S16R...16** | - | CL 3C | - | CLS 3C | CSR 2 | - | - | L-W 3 |
| **S20S...16** | - | CL 3C | - | CLS 3C | CSR 2 | - | - | L-W 3 |
| **S25T...16** | - | - | CL 3 | CLS 3S | WSR 4 | - | - | L-W 3 |
| **...16** | - | - | CL 3 | CLS 3 | WSR 4 | CST 32 | CSP 3 | L-W 3 |
| **...22** | - | - | CL 4 | CLS 4 | CSR 4 | CST 43 | CSP 16K | L-W 4 |

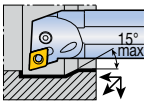
# A-HXUNR/L

## Hook lever type boring bars




**A-HXUNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **93°** | **A32S HXUNR/L 1105** | 32 | 30 | 250 | 35 | 22 | 40 | XN... 1105... |



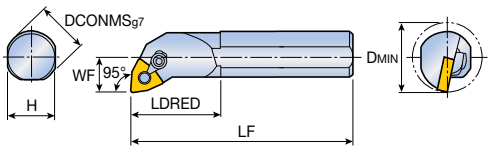

A257

## Spare parts

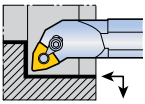
| Designation | Lever | Lever screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...1105** | LCL 11-NX | LCS 4S | LSX 3.52B | LSP 4 | L-W 3 | | | |

# S-MWLNR/L

**Multi lock type boring bars**




**S-MWLNR**

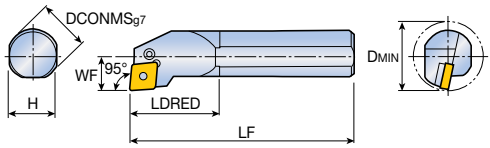
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **95°** | **S25R MWLNR/L 08** | 25 | 23 | 200 | 42 | 17 | 32 | WN... 0804... |
|  | **S32S MWLNR/L 08** | 32 | 30 | 250 | 45 | 22 | 40 |  A253-A255, A300, A309 |

## Spare parts

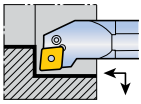
| Designation | Clamp | Screw | Snap ring | Lock pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...08** | CL 2 | CLS 2 | CSR 2 | MLP 4S | L-W 2.5 | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# S-PCLNR/L

## Lever lock type boring bars




**S-PCLNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| **95°** | **S25T PCLNR/L12** | 25 | 23 | 300 | 40 | 17 | 32 | CN...1204... | A226, A228-A232, A233, A291, A292, A303 |
|  | **S32T PCLNR/L12** | 32 | 30 | 300 | 45 | 22 | 40 | | |
| | **S40T PCLNR/L12** | 40 | 37 | 300 | 55 | 27 | 50 | | |
| | **S50U PCLNR/L12** | 50 | 47 | 350 | 70 | 35 | 63 | | |
| | **S50U PCLNR/L16** | 50 | 47 | 350 | 70 | 35 | 63 | CN...1606... | |
| | **S50U PCLNR/L19** | 50 | 47 | 350 | 70 | 35 | 63 | CN...1906... | |

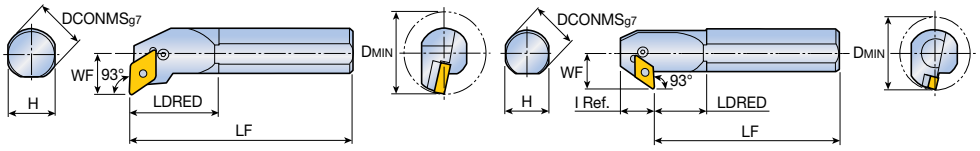
## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Snap ring | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | | |
| **S25T...12** | LCL 4B | LCS 4B | - | - | LSR 4B | L-W 2.5 | | |
| **S32 ...12** | LCL 4 | LCS 4S | LSC 42 | LSP 4 | - | L-W 3 | | |
| **...12** | LCL 4 | LCS 4 | LSC 42 | LSP 4 | - | L-W 3 | | |
| **...16** | LCL 5 | LCS 5 | LSC 53 | LSP 5 | - | L-W 3 | | |
| **...19** | LCL 6D | LCS 6 | LSC 63 | LSP 6 | - | L-W 4 | | |
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# S-PDUNR/L S-PDZNR/L

T-TURN

## Lever lock type boring bars




S-PDUNR S-PDZNR

| Approach angle | Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | l | DMIN | |
| **93°** | **S32T PDUNR/L 15** | 32 | 30 | 300 | 45 | 22 | - | 40 | DN...1506... A234-A238, A293, A304 |
| | **S40T PDUNR/L 15** | 40 | 37 | 300 | 55 | 27 | - | 50 | |
| | **S50U PDUNR/L 15** | 50 | 47 | 350 | 70 | 35 | - | 63 | |
| | **S32T PDUNR/L 15-A** | 32 | 30 | 300 | 35 | 22 | - | 40 | DN...1504... |
| **93°** | **S32T PDZNR/L 15** | 32 | 30 | 300 | 30 | 25 | 26 | 45 | DN...1506... |
| | **S40T PDZNR/L 15** | 40 | 37 | 300 | 35 | 29 | 26 | 50 | |
| | **S50U PDZNR/L 15** | 50 | 47 | 350 | 45 | 35 | 27 | 63 | |

27° max.

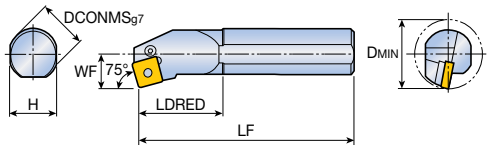
For back boring

## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | | |
|---|---|---|---|---|---|---|---|---|
| **S32T ...15** | LCL 4A | LCS 4S | LSD 42 | LSP 4 | L-W 3 | | | |
| **S40T PDZ...15** | LCL 4A | LCS 4S | LSD 42 | LSP 4 | L-W 3 | | | |
| **...15** | LCL 4A | LCS 4 | LSD 42 | LSP 4 | L-W 3 | | | |
| **...15-A** | LCL 4A | LCS 4S | LSD 42 | LSP 4 | L-W 3 | | | |

# S-PSKNR/L

## Lever lock type boring bars




**S-PSKNR**

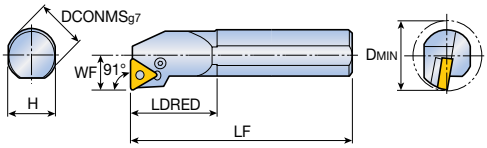
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **75°** | **S25T PSKNR/L12** | 25 | 23 | 300 | 33 | 17 | 32 | SN...1204... |
| | **S32T PSKNR/L12** | 32 | 30 | 300 | 45 | 22 | 40 | A241-A246, A296, A297, A306 |
| | **S40T PSKNR/L12** | 40 | 37 | 300 | 41.5 | 27 | 50 | |
| | **S50U PSKNR/L19** | 50 | 47 | 350 | 56 | 35 | 63 | SN...1906... |

## Spare parts

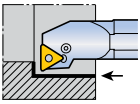
| Designation | Lever | Screw | Shim | Shim pin | Snap ring | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| **S25T...12** | LCL 4B | LCS 4B | - | - | LSR 4B | L-W 2.5 | | |
| **S32T...12** | LCL 4 | LCS 4S | LSS 42 | LSP 4 | - | L-W 3 | | |
| **S40T...12** | LCL 4 | LCS 4 | LSS 42 | LSP 4 | - | L-W 3 | | |
| **...19** | LCL 6 | LCS 6 | LSS 63 | LSP 6 | - | L-W 4 | | |
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# S-PTFNR/L

## Lever lock type boring bars




**S-PTFNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| **91°** | **S20Q PTFNR/L11** | 20 | 18 | 180 | 40 | 13 | 25 | TN... 1103... | |
|  | **S25T PTFNR/L16** | 25 | 23 | 300 | 40 | 17 | 32 | TN... 1604... | A247-A250, A299, A307 |
| | **S32T PTFNR/L16** | 32 | 30 | 300 | 45 | 22 | 40 | | |
| | **S40T PTFNR/L16** | 40 | 37 | 300 | 60 | 27 | 50 | | |
| | **S50U PTFNR/L16** | 50 | 47 | 350 | 56 | 35 | 63 | | |
| | **S40T PTFNR/L22** | 40 | 37 | 300 | 56 | 27 | 50 | TN... 2204... | |
| | **S50U PTFNR 22** | 50 | 47 | 350 | 56 | 35 | 63 | | |

## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Snap ring | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | | |
| **...11** | LCL 2B | LCS 2B | - | - | LSR 2B | L-W 2 | | |
| **S25T ...16** | LCL 3BH | LCS 3B | - | - | LSR 3B | L-W 2 | | |
| **...16** | LCL 3 | LCS 3 | LST 31.8 | LSP 3A | - | L-W 2.5 | | |
| **... 22** | LCL 4 | LCS 4 | LST 42 | LSP 4 | - | L-W 3 | | |
| | | | | | | | | |
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# S-SCLCR/L

## Screw type boring bars

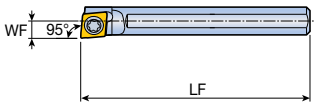



Fig.1

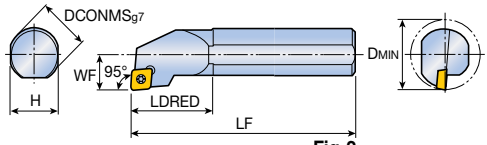



Fig.2

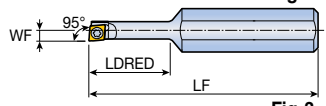
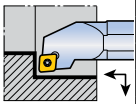



Fig.3

S-SCLCR

| Approach angle | Designation | Dimension (mm) | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| 95° | **S04F SCLCR/L 03-D05** | 4 | 3.75 | 80 | - | 2.5 | 5 | 1 | CC...T 0301... |
|  | **S05G SCLCR/L 03-D06** | 5 | 4.75 | 90 | - | 3 | 6 | 1 | A260-A263, A310 |
| | **S10H SCLCR/L 03-D05** | 10 | 9 | 100 | 15 | 2.5 | 5 | 3 | |
| | **S06H SCLCR/L 04-D07** | 6 | 5.5 | 100 | - | 3.5 | 7 | 1 | CC...T 0401... |
| | **S07J SCLCR/L 04-D08** | 7 | 6.5 | 110 | - | 4 | 8 | 1 | |
| | **S08K SCLCR/L 06** | 8 | 7 | 125 | 18 | 6 | 11 | 2 | CC... 0602... |
| | **S10K SCLCR/L 06** | 10 | 9 | 125 | 20 | 7 | 13 | 2 | |
| | **S12M SCLCR/L 06** | 12 | 11 | 150 | 25 | 9 | 16 | 2 | |
| | **S16R SCLCR/L 06** | 16 | 15 | 200 | 30 | 11 | 20 | 2 | |
| | **S12M SCLCR/L 09** | 12 | 11 | 150 | 23 | 9 | 16 | 2 | CC... 09T3... |
| | **S16R SCLCR/L 09** | 16 | 15 | 200 | 30 | 11 | 20 | 2 | |
| | **S20S SCLCR/L 09** | 20 | 18 | 250 | 32 | 13 | 25 | 2 | |
| | **S25T SCLCR/L 12** | 25 | 23 | 300 | 42 | 17 | 32 | 2 | CC... 1204... |
| | **S32T SCLCR/L 12** | 32 | 30 | 300 | 45 | 22 | 40 | 2 | |
| | **S40T SCLCR/L 12** | 40 | 37 | 300 | 55 | 27 | 50 | 2 | |
| | | | | | | | | | |
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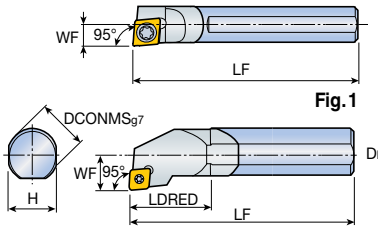
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

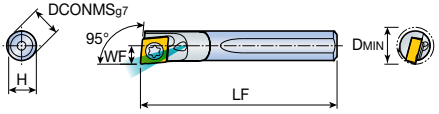
## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...03** | TS 16031I | - | - | T 6 | - | | |
| **...04** | TS 20038I/HG-P | - | - | T 6P | - | | |
| **S...K ...06** | SO 25050I | - | - | T 7 | - | | |
| **...06** | SO 25065I | - | - | T 7 | - | | |
| **...09** | SO 35080I | - | - | T 15 | - | | |
| **S25T...12** | SO 45100I | - | - | T 20 | - | | |
| **...12** | SO 45130I | SSC 43N | SO 60105S | T 20 | L-W 5 | | |
| | | | | | | | |

# C-SCLCR/L E-SCLCR/L

## Screw type boring bars




| Approach angle | Designation | Dimension (mm) | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| 95° | ✓ C04G SCLCR/L 03-D05 | 4 | 3.75 | 90 | - | 2.5 | 5 | 1 | CC...T 0301... |
| | ✓ C05H SCLCR/L 03-D06 | 5 | 4.75 | 100 | - | 3 | 6 | 1 | |
| | ✓ C06J SCLCR/L 04-D07 | 6 | 5.5 | 110 | - | 3.5 | 7 | 1 | CC...T 0401... |
| | ✓ C07K SCLCR/L 04-D08 | 7 | 6.5 | 125 | - | 4 | 8 | 1 | |
| | ✓ C08K SCLCR/L 06 | 8 | 7 | 125 | 15 | 6 | 11 | 2 | CC... 0602... |
| | ✓ C10K SCLCR/L 06 | 10 | 9 | 125 | 15 | 7 | 13 | 2 | |
| | ✓ C12M SCLCR/L 06 | 12 | 11 | 150 | 18 | 9 | 16 | 2 | |
| | ✓ C12M SCLCR/L 09 | 12 | 11 | 150 | 18 | 9 | 16 | 2 | CC... 09T3... |
| | ✓ C16R SCLCR/L 09 | 16 | 15 | 200 | 25 | 11 | 20 | 2 | |
| | ✓ C20S SCLCR/L 09 | 20 | 18 | 250 | 25 | 13 | 25 | 2 | |
| | | | | | | | | | |
| 95° | ✓ E04G SCLCR/L 03-D05 | 4 | 3.75 | 90 | - | 2.5 | 5 | - | CC...T 0301... |
| | ✓ E05H SCLCR/L 03-D06 | 5 | 4.75 | 100 | - | 3 | 6 | - | |
| | ✓ E06J SCLCR/L 04-D07 | 6 | 5.5 | 110 | - | 3.5 | 7 | - | CC...T 0401... |
| | ✓ E07K SCLCR/L 04-D08 | 7 | 6.5 | 125 | - | 4 | 8 | - | |

A260-A263, A310

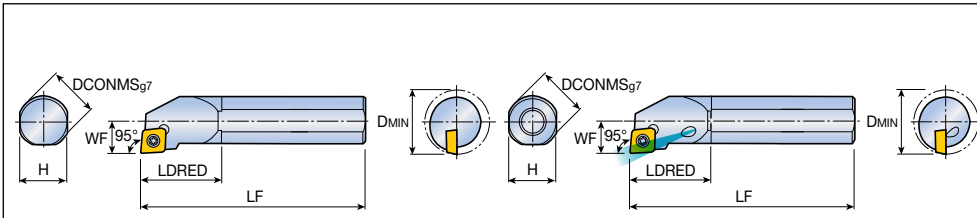
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

| Designation | Screw | Wrench | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| ...03 | TS 16031I | T 6 | | | | | |
| ...04 | TS 20038I/HG-P | T 6P | | | | | |
| C08/C10 ...06 | SO 25050I | T 7 | | | | | |
| C12 ...06 | SO 25065I | T 7 | | | | | |
| ...09 | SO 35080I | T 15 | | | | | |
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# S-SCLPR/L A-SCLPR/L

**Screw type boring bars**




**S-SCLPR** **A-SCLPR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **95°** | **S10K SCLPR/L 08** | 10 | 9 | 125 | 20 | 6 | 12 | CP...T 0802... |
| | **S12M SCLPR/L 08** | 12 | 11 | 150 | 23 | 8 | 16 | |
| | **S16R SCLPR/L 09** | 16 | 15 | 200 | 30 | 10 | 20 | CP...T 0903... |
| | **S20S SCLPR/L 09** | 20 | 18 | 250 | 32 | 12.5 | 25 | |
| **95°** | **A08H SCLPR/L 06** | 8 | 7 | 100 | 15 | 6 | 11 | CP...T 0602... |
| | **A10K SCLPR/L 06** | 10 | 9 | 125 | 15 | 7 | 13 | |
| | **A12M SCLPR/L 0903** | 12 | 11 | 150 | 19 | 9 | 16 | CP...T 0903... |
| | **A16Q SCLPR/L 0903** | 16 | 15 | 180 | 20 | 11 | 20 | |
| | **A20R SCLPR/L 0903** | 20 | 18 | 200 | 22 | 13 | 25 | |
| | **A12M SCLPR/L 09T3** | 12 | 11 | 150 | 19 | 9 | 16 | CP...T 09T3... |
| | **A16Q SCLPR/L 09T3** | 16 | 15 | 180 | 24.5 | 11 | 20 | |
| | **A20R SCLPR/L 09T3** | 20 | 18 | 200 | 22 | 13 | 25 | |

A264

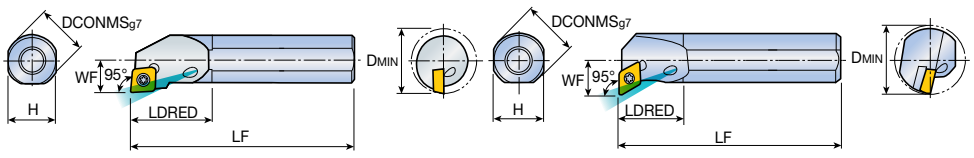
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

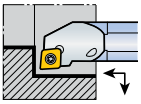
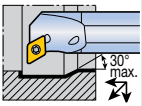
| Designation | Screw | Wrench | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **...06** | SO 25050I | T 7 | | | | | | |
| **...08** | SO 30055I | T 9 | | | | | | |
| **...09** | SO 35080I | T 15 | | | | | | |
| **...0903, 09T3** | TS 35070I/HG | T 15 | | | | | | |
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# E-SCLPR/L A-SDLNR/L

## Screw type boring bars




**E-SCLPR** **A-SDLNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **95°** | ✓ **E08K SCLPR/L 06** | 8 | 7 | 125 | 15 | 6 | 11 | CP...T 0602... A264 |
|  | ✓ **E10K SCLPR/L 06** | 10 | 9 | 125 | 15 | 7 | 13 | |
| | ✓ **E12M SCLPR/L 0903** | 12 | 11 | 150 | 19 | 9 | 16 | CP...T 0903... |
| | ✓ **E16R SCLPR/L 0903** | 16 | 15 | 200 | 22 | 11 | 20 | |
| | ✓ **E12M SCLPR/L 09T3** | 12 | 11 | 150 | 19 | 9 | 16 | CP...T 09T3... |
| | ✓ **E16R SCLPR/L 09T3** | 16 | 15 | 200 | 22 | 11 | 20 | |
| **95°** | **A20S SDLNR/L 11** | 20 | 18 | 250 | 28 | 13 | 24 | DN...1104... A234-A235, A237 |
|  | **A25T SDLNR/L 11** | 25 | 23 | 300 | 42 | 17 | 31 | |

▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

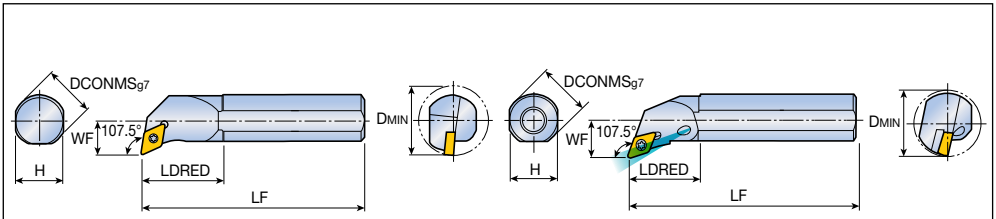
## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | Seal | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | | |
| **...06** | SO 25050I | - | - | T 7 | - | - | | |
| **...09** | TS 35070I/HG | - | - | T 15 | - | - | | |
| **A20S...11** | SO 35120I | - | - | T 10 | - | PL 20 | | |
| **A25T...11** | SO 35120I | SSD 32 | SO 50090S | T 10 | L-W 3.5 | PL 25 | | |
| | | | | | | | | |
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| | | | | | | | | |

# S-SDQCR/L A-SDQNR/L

T-TURN

## Screw type boring bars




**S-SDQCR** **A-SDQNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **107.5°** | **S10K SDQCR/L 07** | 10 | 9 | 125 | 20 | 7 | 13 | DC... 0702... A265-A268, A311 |
| | **S12M SDQCR/L 07** | 12 | 11 | 150 | 22 | 9 | 16 | |
| | **S16R SDQCR/L 07** | 16 | 15 | 200 | 27 | 11 | 20 | |
| | **S20S SDQCR/L 11** | 20 | 18 | 250 | 40 | 13 | 25 | DC... 11T3... |
| | **S25T SDQCR/L 11** | 25 | 23 | 300 | 50 | 17 | 32 | |
| **107.5°** | **A16S SDQNR/L 11** | 16 | 15 | 250 | 30 | 13 | 23 | DN... 1104... A234-A237 |
| | **A20S SDQNR/L 11** | 20 | 18 | 250 | 31 | 15 | 27 | |
| | **A25T SDQNR/L 11** | 25 | 23 | 300 | 35 | 19 | 33 | |
| | **A32T SDQNR/L 11** | 32 | 30 | 300 | 44 | 26 | 44 | |

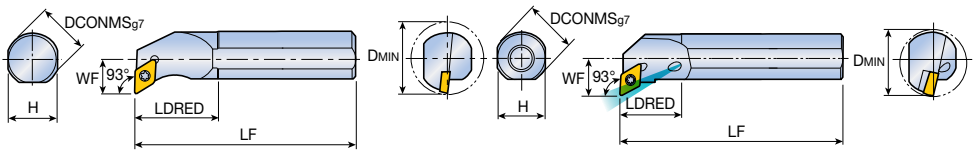
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

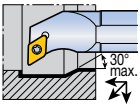
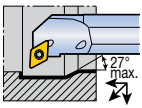
| Designation | Screw | Shim | Shim screw | Wrench | | Seal | | |
|---|---|---|---|---|---|---|---|---|
| **S10 ...07** | SO 25050I | - | - | T 7 | - | - | | |
| **S ...07** | SO 25065I | - | - | T 7 | - | - | | |
| **S ...11** | SO 35080I | - | - | T 15 | - | - | | |
| **A16S...11** | SO 35120I | - | - | T 10 | - | PL 16 | | |
| **A20S...11** | SO 35120I | SSD 32 | SO 50090S | T 10 | L-W 3.5 | PL 20 | | |
| **A25T...11** | SO 35120I | SSD 32 | SO 50090S | T 10 | L-W 3.5 | PL 25 | | |
| **A32T...11** | SO 35120I | SSD 32 | SO 50090S | T 10 | L-W 3.5 | PL 32 | | |
| | | | | | | | | |

# S-SDUCR/L A-SDUNR/L

## Screw type boring bars




S-SDUCR A-SDUNR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| **93°** | **S10K SDUCR/L 07** | 10 | 9 | 125 | 20 | 7 | 13 | DC... 0702... | A265-A268, A311 |
|  | **S12M SDUCR/L 07** | 12 | 11 | 150 | 23 | 9 | 16 | | |
| | **S16R SDUCR/L 07** | 16 | 15 | 200 | 30 | 11 | 20 | | |
| | **S16R SDUCR/L 11** | 16 | 15 | 200 | 27 | 11 | 20 | DC... 11T3... | |
| | **S20S SDUCR/L 11** | 20 | 18 | 250 | 32 | 13 | 25 | | |
| | **S25T SDUCR/L 11** | 25 | 23 | 300 | 42 | 17 | 32 | | |
| | **S32T SDUCR/L 11** | 32 | 30 | 300 | 55 | 22 | 40 | | |
| **93°** | **A20S SDUNR/L 11** | 20 | 18 | 250 | 30 | 15 | 27 | DN... 1104... | A234-A237 |
|  | **A25T SDUNR/L 11** | 25 | 23 | 300 | 30 | 19 | 33 | | |
| | **A32T SDUNR/L 11** | 32 | 30 | 300 | 44 | 26 | 44 | | |

▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

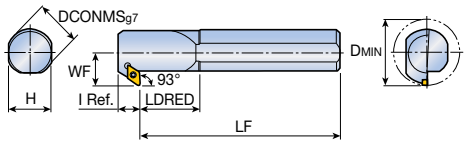
## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | Seal | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | | |
| **S ...07** | SO 25065I | - | - | T 7 | - | - | | |
| **S ...11** | SO 35080I | - | - | T 15 | - | - | | |
| **A20S...11** | SO 35120I | - | - | T 10 | - | PL 20 | | |
| **A25T...11** | SO 35120I | SSD 32 | SO 50090S | T 10 | L-W 3.5 | PL 25 | | |
| **A32T...11** | SO 35120I | SSD 32 | SO 50090S | T 10 | L-W 3.5 | PL 32 | | |
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# S-SDZCR/L

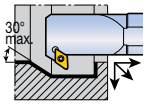
T-TURN

## Screw type back boring bars




**S-SDZCR**

| Approach angle | Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | l | DMIN | |
| **93°** | **S16R SDZCR/L 07** | 16 | 15 | 200 | 23 | 13 | 12 | 22 | DC... 0702... |
| | **S20S SDZCR/L 07** | 20 | 18 | 250 | 28 | 15 | 12 | 30 | A265-A268, A311 |
| | **S25T SDZCR/L 07** | 25 | 23 | 300 | 33 | 18 | 12 | 33 | |
| | **S20S SDZCR/L 11** | 20 | 18 | 250 | 24 | 15 | 16 | 27 | DC... 11T3... |
| | **S32T SDZCR/L 11** | 32 | 30 | 300 | 34 | 22 | 16 | 40 | |




For back boring

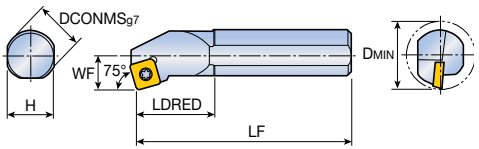
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

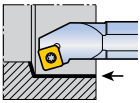
| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...07** | SO 25065I | - | - | T 7 | - | | | |
| **S20S ...11** | SO 35080I | - | - | T 15 | - | | | |
| **S32T ...11** | SO 35124I | SSD 32 | SO 50090S | T 15 | L-W 3.5 | | | |
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# S-SSKCR/L

## Screw type boring bars




**S-SSKCR**

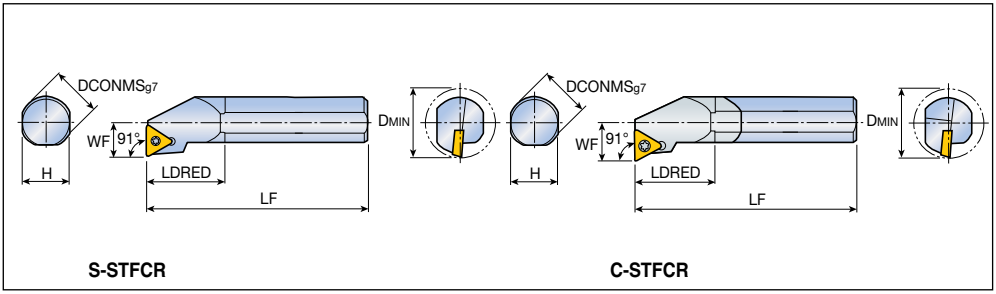
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **75°** | **S16R SSKCR/L 09** | 16 | 15 | 200 | 24.5 | 11 | 20 | SC... 09T3... A272, A312 |
|  | **S20S SSKCR/L 09** | 20 | 18 | 250 | 30 | 13 | 25 | |
| | | | | | | | | |
| | **S25T SSKCR/L 12** | 25 | 23 | 300 | 33.4 | 17 | 32 | SC... 1204... |

## Spare parts

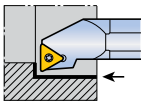
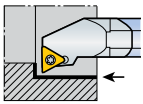
| Designation | Screw | Wrench | | | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  | | | | | | |
| **...09** | SO 35080I | T 15 | | | | | | |
| **...12** | SO 45100I | T 20 | | | | | | |
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# S-STFCR/L C-STFCR/L

**Screw type boring bars**




**S-STFCR** **C-STFCR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **91°** | **S06H STFCR/L 06T1** | 6 | 5.4 | 100 | 12 | 4.5 | 8 | TC...T 06T1... |
|  | **S08K STFCR/L 09** | 8 | 7 | 125 | 20 | 5 | 10 | TC... 0902... A275, A276, A313, A314 |
| | **S10K STFCR/L 09** | 10 | 9 | 125 | 22.5 | 6 | 12 | |
| | **S12M STFCR/L 09** | 12 | 11 | 150 | 30 | 9 | 16 | |
| | **S16R STFCR/L 09** | 16 | 15 | 200 | 35 | 11 | 20 | |
| | **S10K STFCR/L 1102** | 10 | 9 | 125 | 17.7 | 6 | 12 | TC...T 1102... |
| | **S12M STFCR/L 1102** | 12 | 11 | 150 | 25 | 9 | 16 | |
| | **S16R STFCR/L 1102** | 16 | 15 | 200 | 35 | 11 | 20 | |
| | **S20S STFCR/L 1102** | 20 | 18 | 250 | 36 | 13 | 25 | |
| | **S20S STFCR/L 16** | 20 | 18 | 250 | 36 | 13 | 25 | TC... 16T3... |
| | **S25T STFCR/L 16** | 25 | 23 | 300 | 49 | 17 | 32 | |
| | **S32T STFCR/L 16** | 32 | 30 | 300 | 45 | 22 | 40 | |
| | **S40T STFCR/L 16** | 40 | 37 | 300 | 60 | 27 | 50 | |
| **91°** | ✓ **C10K STFCR/L 09** | 10 | 9 | 125 | 15 | 7 | 13 | TC... 0902... |
|  | ✓ **C10K STFCR 1102** | 10 | 9 | 125 | 15 | 7 | 13 | TC...T 1102... |
| | ✓ **C12M STFCR/L 1102** | 12 | 11 | 150 | 20 | 9 | 16 | |
| | ✓ **C16R STFCR/L 1102** | 16 | 15 | 200 | 25 | 11 | 20 | |

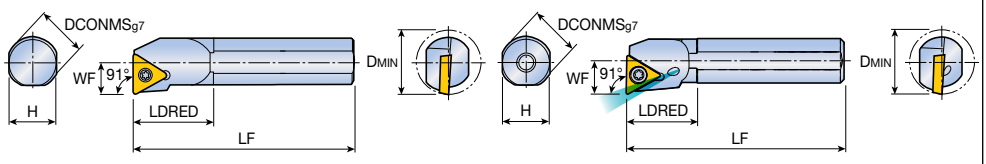
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

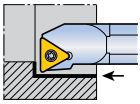
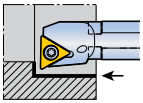
| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...06T1** | TS 20038I | - | - | T 6 | - | | | |
| **S08K...09** | TS 22046I | - | - | T 7 | - | | | |
| **...09** | SO 22050I | - | - | T 7 | - | | | |
| **S10K...1102** | SO 22050I | - | - | T 7 | - | | | |
| **...1102** | SO 25065I | - | - | T 7 | - | | | |
| **S20S...16** | SO 35080I | - | - | T 15 | - | | | |
| **S25T...16** | SO 35080I | - | - | T 15 | - | | | |
| **S32T...16** | SO 35124I | SST 32 | SO 50090S | T 15 | L-W 3.5 | | | |
| **S40T...16** | SO 35124I | SST 32 | SO 50090S | T 15 | L-W 3.5 | | | |

# S-STFPR/L A-STFPR/L

## Screw type boring bars




**S-STFPR** **A-STFPR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **91°** | **S08K STFPR/L 09-X01** | 8 | 7 | 125 | 15 | 5 | 10 | TPGX 0902... |
|  | **S08K STFPR/L 09** | 8 | 7 | 125 | 14 | 5 | 10 | TP...T 0902... |
| | **S10K STFPR/L 1103** | 10 | 9 | 125 | 25 | 6 | 12 | TP... 1103... |
| | **S12M STFPR/L 1103** | 12 | 11 | 150 | 30 | 8 | 16 | |
| | **S16R STFPR/L 1103** | 16 | 15 | 200 | 35 | 10 | 20 | |
| | **S16Q STFPR/L 1103** | 16 | 15 | 180 | 30 | 10 | 20 | |
| | **S16N STFPR/L 16** | 16 | 15 | 160 | 30 | 10 | 20 | TP...T 1604... |
| | **S20S STFPR/L 16** | 20 | 18 | 250 | 36 | 12.5 | 25 | |
| | | | | | | | | |
| | | | | | | | | |
| **91°** | **A08H STFPR/L 09** | 8 | 7 | 100 | 16.7 | 6 | 11 | TP...T 0902... |
|  | **A10K STFPR/L 1102** | 10 | 9 | 125 | 16.4 | 6 | 12 | TP...T 1102... |
| | **A12M STFPR/L 1102** | 12 | 11 | 150 | 19 | 9 | 16 | |
| | **A16Q STFPR/L 1102** | 16 | 15 | 180 | 20 | 11 | 20 | |
| | **A12M STFPR/L 1103** | 12 | 11 | 150 | 19 | 9 | 16 | TP... 1103... |
| | **A16Q STFPR/L 1103** | 16 | 15 | 180 | 20.5 | 11 | 20 | |
| | **A20R STFPR/L 16T3** | 20 | 18 | 200 | 26 | 13 | 25 | TP...T 16T3... |
| | | | | | | | | |
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A277-A280, A302, A313-A314

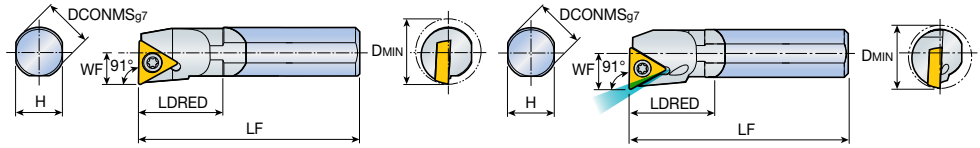
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

| Designation | Screw | Wrench | | | | | |
|---|---|---|---|---|---|---|---|
| |  |  | | | | | |
| **...09-X01** | SO 25055I-MO | T 8 | | | | | |
| **...09** | TS 22046I | T 7 | | | | | |
| **S10 ...1103** | SO 30055I | T 9 | | | | | |
| **S12 ...1103** | SO 30100I | T 9 | | | | | |
| **S16 ...1103** | SO 30040I | T 9 | | | | | |
| **A ...1102** | SO 25050I | T 7 | | | | | |
| **A ...1103** | SO 30100I | T 9 | | | | | |
| **...16T3** | TS 35070I/HG | T 15 | | | | | |
| **...16** | SO 35124I | T 15 | | | | | |

# C-STFPR/L E-STFPR/L

## Screw type boring bars




C-STFPR E-STFPR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| 91° | ✓ **C10K STFPR/L 1103** | 10 | 9 | 125 | 15 | 6 | 12 | TP... 1103... A277-A280, |
| | ✓ **C12M STFPR/L 1103** | 12 | 11 | 150 | 20 | 8 | 16 | |
| | ✓ **C10K STFPR/L 11-FF** | 10 | 9 | 125 | 15 | 6 | 12 | TP...T 1103... A302, |
| | ✓ **C12M STFPR/L 11-FF** | 12 | 11 | 150 | 18 | 8 | 16 | A313-A314 |
| 91° | ✓ **E08K STFPR/L 09** | 8 | 7 | 125 | 15 | 6 | 11 | TP...T 0902... |
| | ✓ **E10K STFPR/L 1102** | 10 | 9 | 125 | 15 | 7 | 13 | TP...T 1102... |
| | ✓ **E12M STFPR/L 1102** | 12 | 11 | 150 | 18 | 9 | 16 | |
| | ✓ **E16R STFPR/L 1102** | 16 | 15 | 200 | 21.5 | 11 | 20 | |
| | ✓ **E12M STFPR/L 1103** | 12 | 11 | 150 | 18 | 9 | 16 | TP... 1103... |
| | ✓ **E16R STFPR/L 1103** | 16 | 15 | 200 | 22 | 11 | 20 | |

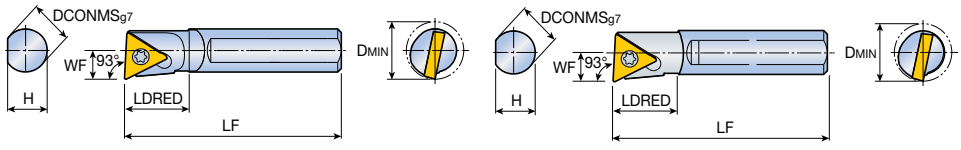
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder
▸ Only -FF/-GF inserts available for 11 size holders

## Spare parts

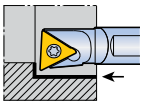
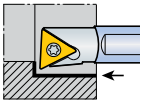
| Designation | Screw | Wrench | | | | | |
|---|---|---|---|---|---|---|---|
| **...09** | TS 22046I | T 7 | | | | | |
| **C ...11-FF** | SO 25065I | T 7 | | | | | |
| **C10K ...1103** | SO 30055I | T 9 | | | | | |
| **C12M...1103** | SO 30100I | T 9 | | | | | |
| **E ...1102** | SO 25050I | T 7 | | | | | |
| **E ...1103** | SO 30100I | T 9 | | | | | |
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# S-STUBR/L C-STUBR/L

## Screw type boring bars




**S-STUBR** **C-STUBR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **93°** | **S06H STUBR/L 06-D08** | 6 | 5.5 | 100 | 8.6 | 4 | 8 | TB...T 0601... A274 |
|  | | | | | | | | |
| **93°** | ✓ **C06J STUBR/L 06-D08** | 6 | 5.5 | 110 | 8.6 | 4 | 8 | |
|  | | | | | | | | |

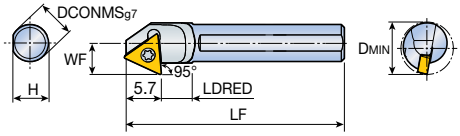
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

| Designation | Screw | Wrench | | | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  | | | | | | |
| **...06-D08** | TS 20043I/HG-P | T 6P | | | | | | |
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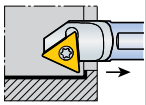
# C-STZBR/L

## Screw type boring bars




**C-STZBR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **95°** | ✓ **C06J STZBR/L 06-D085** | 6 | 5.5 | 110 | 5 | 5.1 | 8.5 | TB...T 0601... A274 |



▸ ✓: Designates carbide shank

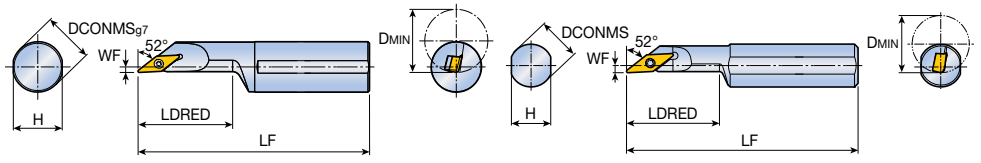
## Spare parts

| Designation | Screw | Wrench | | | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  | | | | | | |
| **...06-D085** | SO 25043I | T 6P | | | | | | |

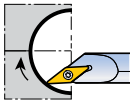
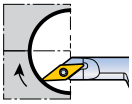
# S-SVJBR/L S-SVJCR/L

T-TURN

## Screw type boring bars




**S-SVJBR** **S-SVJCR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| 52° | **S20R SVJBR/L 11-D25** | 20 | 18 | 200 | 37.5 | 2 | 25 | VB... 1103... | A281, A282, A315 |
|  | **S25S SVJBR/L 11-D30** | 25 | 23 | 250 | 45 | 3.5 | 30 | | |
| | **S32S SVJBR/L 16** | 32 | 30 | 250 | 60 | 3.5 | 40 | VB... 1604... | |
| | **S40T SVJBR/L 16** | 40 | 37 | 300 | 75 | 4.5 | 50 | | |
| 52° | **S12M SVJCR/L 08-D16** | 12 | 11 | 150 | 26 | 2 | 16 | VC... 0802... | A284 |
|  | **S16Q SVJCR/L 08-D20** | 16 | 15 | 180 | 36 | 2 | 20 | | |

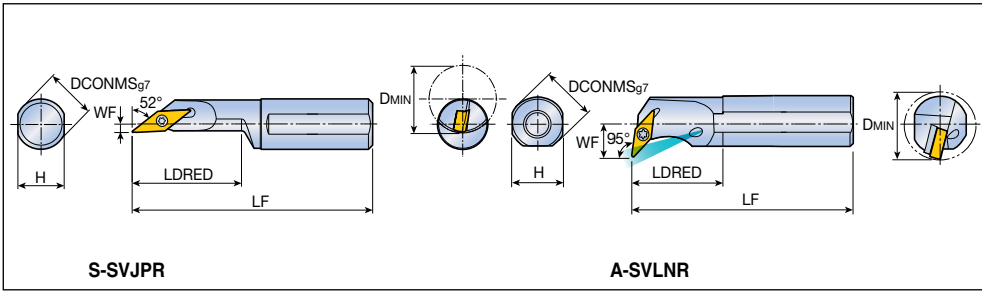
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...08-...** | TS 20038I/HG-P | - | - | T 6P | - | | | |
| **...11-...** | SO 25065I | - | - | T 7 | - | | | |
| **...16** | SO 35124I | SSV32 | SO 50090S | T15 | L-W 3.5 | | | |

# S-SVJPR/L A-SVLNR/L

## Screw type boring bars




S-SVJPR A-SVLNR

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **52°** | **S12M SVJPR/L 08-D16** | 12 | 11 | 150 | 26 | 2 | 16 | VP...T 0802... A285 |
| **95°** | **A25T SVLNR/L 13** | 25 | 23 | 300 | 40 | 16 | 31 | VN... 13... A251-A252 |
| | **A32T SVLNR/L 13** | 32 | 30 | 300 | 45 | 20 | 38 | |

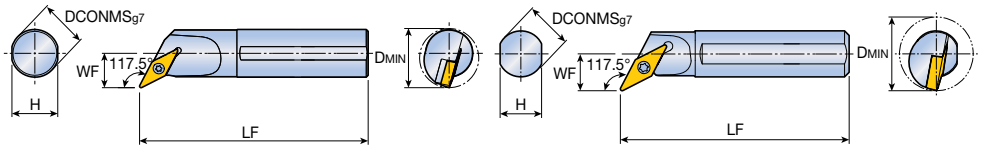
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | Seal | | |
|---|---|---|---|---|---|---|---|---|
| **S...08-D16** | TS 20043I/HG-P | - | - | T 6P | - | - | | |
| **A25T...13** | SO 35120I | SSVN 2.523 | TS 5035062S | T 10 | L-W 3.5 | PL 25 | | |
| **A32T...13** | SO 35120I | SSVN 2.523 | TS 5035062S | T 10 | L-W 3.5 | PL 32 | | |

# S-SVPBR/L S-SVPCR/L

## Screw type boring bars




**S-SVPBR** **S-SVPCR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| **117.5°** | **S16Q SVPBR/L 11-D22** | 16 | 15 | 180 | 35 | 13.5 | 22 | VB... 1103... | A281-A282, A315 |
| | **S20R SVPBR/L 11-D26** | 20 | 18 | 200 | 41 | 15.5 | 26 | | |
| | **S25S SVPBR/L 16** | 25 | 23 | 250 | 51 | 18 | 31 | VB... 1604... | |
| | **S32S SVPBR/L 16** | 32 | 30 | 250 | 54 | 23 | 40 | | |
| **117.5°** | **S10K SVPCR/L 08-D16** | 10 | 9 | 125 | 16 | 8 | 16 | VC...T 0802... | A283-A284, A315 |
| | **S12M SVPCR/L 11-D20** | 12 | 11 | 150 | 19 | 10 | 20 | VC...T 1103... | |

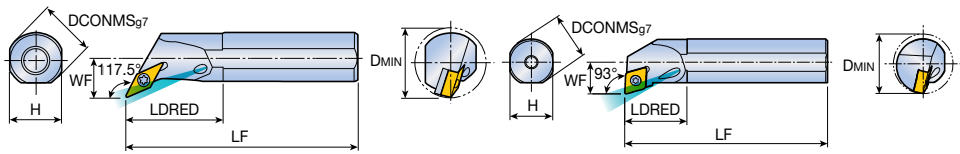
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

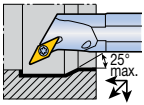
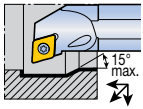
| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| **...08-...** | TS 20038I/HG-P | - | - | T 6P | - | | | |
| **...11-...** | SO 25065I | - | - | T 7 | - | | | |
| **...16** | SO 35124I | SSV32 | SO 50090S | T 15 | L-W 3.5 | | | |

# A-SVPNR/L A-SXUNR/L

## Screw type boring bars




**A-SVPNR** **A-SXUNR**

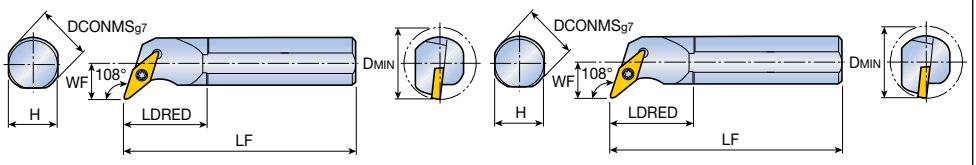
| Approach angle | Designation | Dimension (mm) | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| **117.5°** | **A25T SVPNR/L 13** | 25 | 23 | 300 | 45 | 19 | 33 | VN... 13... | A251-A252 |
|  | **A32T SVPNR/L 13** | 32 | 30 | 300 | 47 | 26 | 44 | | |
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| **93°** | **A25R SXUNR/L 1105** | 25 | 23 | 200 | 33.4 | 17 | 32 | XN... 1105... | A257 |
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## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | Seal | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | | |
| **...1105** | TS 40G110I | - | - | T 15 | - | - | | |
| **A25T...13** | SO 35120I | SSVN 2.523 | TS 5035062S | T 10 | L-W 3.5 | PL 25 | | |
| **A32T...13** | SO 35120I | SSVN 2.523 | TS 5035062S | T 10 | L-W 3.5 | PL 32 | | |
| | | | | | | | | |
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# S-SVQBR/L S-SVQCR/L

## Screw type boring bars




**S-SVQBR** **S-SVQCR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **108°** | **S25T SVQBR/L 16** | 25 | 23 | 300 | 40 | 17 | 32 | VB... 1604... A281-A282, A315 |
| | **S32T SVQBR/L 16** | 32 | 30 | 300 | 45 | 22 | 40 | |
| | **S40T SVQBR/L 16** | 40 | 37 | 300 | 41.5 | 27 | 50 | |
| **108°** | **S32T SVQCR/L 16** | 32 | 30 | 300 | 45 | 22 | 40 | VC...T 1604... A283-A284, A315 |
| | **S40T SVQCR/L 16** | 40 | 37 | 300 | 55 | 27 | 50 | |

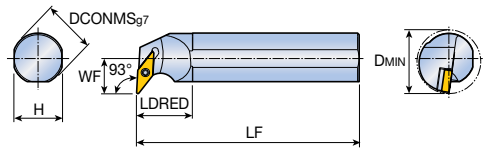
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| **S25T...16** | SO 35080I | - | - | T 15 | - | | | |
| **...16** | SO 35124I | SSV 32 | SO 50090S | T 15 | L-W 3.5 | | | |

# S-SVUBR/L S-SVUCR/L

## Screw type boring bars




S-SVUBR

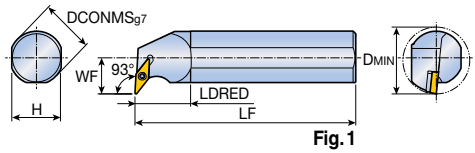



Fig. 1

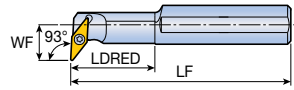
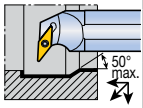
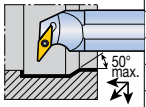



Fig. 2

S-SVUCR

| Approach angle | Designation | Dimension (mm) | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| **93°** | **S32T SVUBR/L 16** | 32 | 30 | 300 | 45 | 22 | 40 | | VB... 1604... A281-A282, A315 |
|  | **S40T SVUBR/L 16** | 40 | 37 | 300 | 55 | 27 | 50 | | |
|  | | | | | | | | | |
| **93°** | **S12M SVUCR/L 08-D16** | 12 | 11 | 150 | 26 | 11 | 16 | 2 | VC...T 0802... A283-A284, A315 |
|  | **S16Q SVUCR/L 11-D20** | 16 | 15 | 180 | 32 | 15.5 | 20 | 2 | VC...T 1103... |
|  | **S20R SVUCR/L 11-D25** | 20 | 18 | 200 | 40 | 17.5 | 25 | 2 | |
| | **S32T SVUCR/L 16** | 32 | 30 | 300 | 35 | 22 | 40 | 1 | VC...T 1604... |
| | **S40T SVUCR/L 16** | 40 | 37 | 300 | 41.5 | 27 | 50 | 1 | |

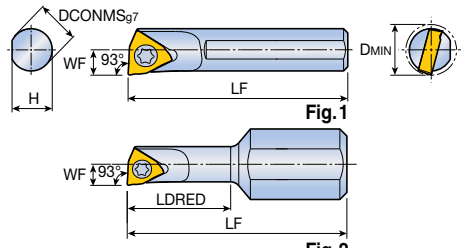
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

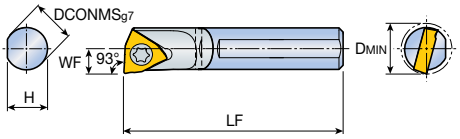
## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | | |
| **...08-...** | TS 20038I/HG-P | - | - | T 6P | - | | | |
| **...11-...** | SO 25065I | - | - | T 7 | - | | | |
| **...16** | SO 35124I | SSV 32 | SO 50090S | T 15 | L-W 3.5 | | | |
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# S-SWUBR/L C-SWUBR/L

## Screw type boring bars




| Approach angle | Designation | Dimension (mm) | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | | |
| 93° | **S05G SWUBR/L 06-D06** | 5 | 4.75 | 90 | - | 3 | 6 | 1 | WB...T 0601... A286 |
| | **S06H SWUBR/L 06-D07** | 6 | 5.5 | 100 | - | 3.5 | 7 | 1 | |
| | **S07J SWUBR/L 06-D08** | 7 | 6.5 | 110 | - | 4 | 8 | 1 | |
| | **S10H SWUBR/L 06-D06** | 10 | 9 | 100 | 18 | 3 | 6 | 2 | |
| 93° | ✓ **C05H SWUBR/L 06-D06** | 5 | 4.75 | 100 | - | 3 | 6 | | |
| | ✓ **C06J SWUBR/L 06-D07** | 6 | 5.5 | 110 | - | 3.5 | 7 | | |
| | ✓ **C07K SWUBR/L 06-D08** | 7 | 6.5 | 125 | - | 4 | 8 | | |

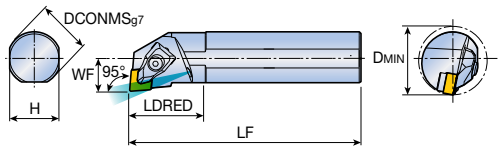
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

| Designation | Screw | Wrench | | | | | | |
|---|---|---|---|---|---|---|---|---|
| |  |  | | | | | | |
| **...06-...** | TS 20038I/HG-P | T 6P | | | | | | |

# A-TCLNR/L

**T-holder type boring bars**




**A-TCLNR**

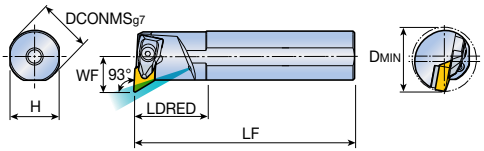
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **95°** | **A25T TCLNR/L 12** | 25 | 23 | 300 | 45 | 17 | 32 | CN... 1204... A226, A228-A232, A233, A291, A292, A303 |
| | **A32T TCLNR/L 12** | 32 | 30 | 300 | 45 | 22 | 40 | |
| | **A40T TCLNR/L 12** | 40 | 37 | 300 | 45 | 27 | 50 | |
| | **A50U TCLNR/L 12** | 50 | 47 | 350 | 45 | 35 | 63 | |

## Spare parts

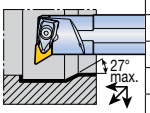
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| **A25T...12** | DLM 4 | DLS 4 | DSP 4 | LSC 42 | TS 50A105I | NZ 62 | L-W 3 | T 20 |
| **A32T...12** | DLM 4 | DLS 4 | DSP 4 | LSC 42 | TS 50A105I | NZ 62 | L-W 3 | T 20 |
| **A40T...12** | DLM 4 | DLS 4 | DSP 4 | TSC 44 | SO 40050I | NZ 104 | L-W 3 | T 15 |
| **A50U...12** | DLM 4 | DLS 4 | DSP 4 | TSC 44 | SO 40050I | NZ 104 | L-W 3 | T 15 |

# A-TDUNR/L

**T-holder type boring bars**




**A-TDUNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **93°** | **A32T TDUNR/L 15** | 32 | 30 | 300 | 45 | 22 | 40 | DN... 1506... A234-A238, A293, A304 |
|  | **A40T TDUNR/L 15** | 40 | 37 | 300 | 45 | 27 | 50 | |
| | **A50U TDUNR/L 15** | 50 | 47 | 350 | 45 | 35 | 63 | |

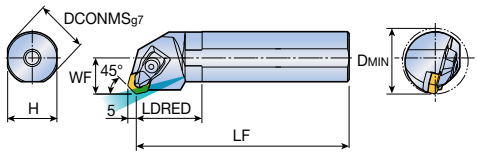


## Spare parts

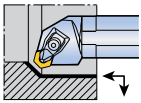
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| **A32T ...15** | DLM 4 | DLS 4 | DSP 4 | LSD 42 | TS 50A105I | NZ 62 | L-W 3 | T 20 |
| **...15** | DLM 4 | DLS 4 | DSP 4 | TSD 43 | SO 40050I | NZ 104 | L-W 3 | T 15 |

# A-THSNR/L

## T-holder type boring bars




**A-THSNR**

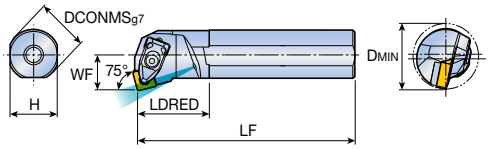
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **45°** | **A32T THSNR/L 05** | 32 | 30 | 300 | 40 | 22 | 40 | HN...G 0504... A239 |
|  | **A40T THSNR/L 05** | 40 | 37 | 300 | 45 | 27 | 50 | |
| | **A50U THSNR/L 05** | 50 | 47 | 350 | 45 | 35 | 63 | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **A32T...05** | DLM 4 | DLS 4 | DSP 4 | TSH 42 | SO 40050I | NZ 62 | L-W 3 | T 15 |
| **...05** | DLM 4 | DLS 4 | DSP 4 | TSH 44 | SO 40050I | NZ 104 | L-W 3 | T 15 |

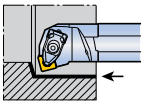
# A-TSKNR/L

## T-holder type boring bars




**A-TSKNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **75°** | **A25T TSKNR/L 12** | 25 | 23 | 300 | 45 | 17 | 32 | SN... 1204... A241-A246, A296, A297, A306 |



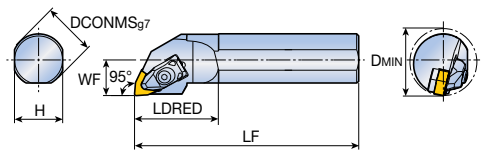
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

## Spare parts

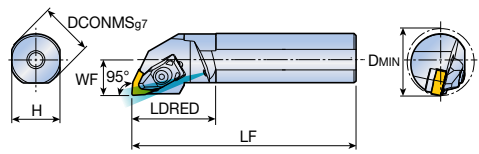
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| **A25T ...12** | DLM 4 | DLS 4 | DSP 4 | LSS 42 | TS 50A105I | NZ 62 | L-W 3 | T 20 |

# S-TWLNR/L A-TWLNR/L

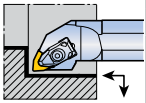
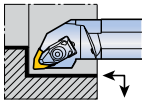
**T-holder type boring bars**




**S-TWLNR**




**A-TWLNR**

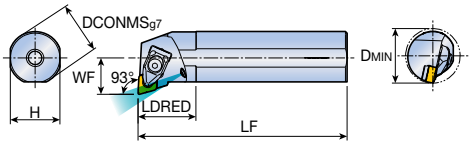
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **95°** | **S25T TWLNR/L 08** | 25 | 23 | 300 | 35 | 17 | 32 | WN... 0804... |
|  | **S32T TWLNR/L 08** | 32 | 30 | 300 | 45 | 22 | 40 | A253-A255, A300, A309 |
| **95°** | **A20S TWLNR/L 06** | 20 | 18 | 250 | 35 | 13 | 25 | WN... 0604... |
|  | **A25T TWLNR/L 06** | 25 | 23 | 300 | 40 | 17 | 32 | |
| | **A32T TWLNR/L 06** | 32 | 30 | 300 | 45 | 22 | 40 | |
| | **A25T TWLNR/L 08** | 25 | 23 | 300 | 40 | 17 | 32 | WN... 0804... |
| | **A32T TWLNR/L 08** | 32 | 30 | 300 | 45 | 22 | 40 | |
| | **A40T TWLNR/L 08** | 40 | 37 | 300 | 45 | 27 | 50 | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **A20S...06** | DLM 3 | DLS 3 | DSP 3 | - | - | NZ 62 | L-W 2.5 | - |
| **...06** | DLM 3 | DLS 3 | DSP 3 | PSW 32 | SO 40090I | NZ 62 | L-W 2.5 | T 15 |
| **...08** | DLM 4 | DLS 4 | DSP 4 | PSW 42 | TS 50A105I | NZ 62 | L-W 3 | T 20 |
| **A40T...08** | DLM 4 | DLS 4 | DSP 4 | TSW 44 | SO 40050I | NZ 104 | L-W 3 | T 15 |

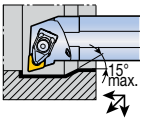
# A-TXUNR/L

## T-holder type boring bars




**A-TXUNR**

| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **93°** | **A32S TXUNR/L 1105** | 32 | 30 | 250 | 35 | 22 | 40 | XN... 1105... |



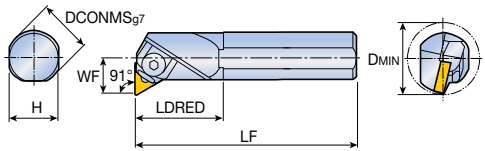

A257

## Spare parts

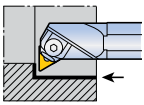
| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Nozzle | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **A32S...1105** | DLM 3.5-NX | DLS 4 | DSP 4 | LSX 3.52B | TS 50A105I | NZ 62 | L-W 3 | T 20 |

# S-WTFNR/L

## Wedge clamp type boring bars




**S-WTFNR**

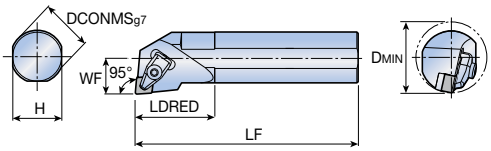
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **91°** | **S25T WTFNR/L 16** | 25 | 23 | 300 | 50 | 17 | 32 | TN... 1604... A247-A250, A299, A307 |
|  | **S32T WTFNR/L 16** | 32 | 30 | 300 | 55 | 22 | 40 | |
| | **S40T WTFNR/L 16** | 40 | 37 | 300 | 60 | 27 | 50 | |
| | **S40T WTFNR/L 22** | 40 | 37 | 300 | 60 | 27 | 50 | TN... 2204... |
| | **S50U WTFNR/L 22** | 50 | 47 | 350 | 65 | 35 | 63 | |

## Spare parts

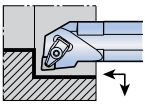
| Designation | Wedge clamp | Screw | Snap ring | Shim | Pin screw | Wrench | |
|---|---|---|---|---|---|---|---|
| **S25T ...16** | WC 33 | WCS 4B | WSR 4 | - | WSS 33-1 | L-W 3 | |
| **...16** | WC 33 | WCS 4 | WSR 4 | WST 33 | WSS 33 | L-W 3 | |
| **...22** | WC 43 | WCS 4 | WSR 4 | WST 43 | WSS 43 | L-W 3 | |

# S-TCLNR/L-CH

**T-holder type boring bars for CH dimple insert**




**S-TCLNR-CH**

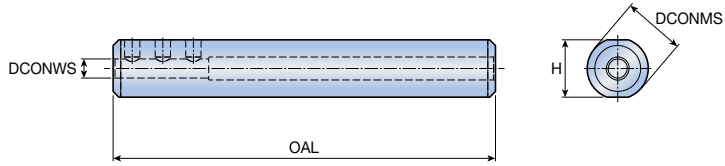
| Approach angle | Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H | LF | LDRED | WF | DMIN | |
| **95°** | **S40T TCLNR/L 1207-CH** | 40 | 37 | 300 | 50 | 27 | 70 | CN...X 1207... A292 |
|  | **S50U TCLNR/L 1207-CH** | 50 | 47 | 350 | 50 | 32 | 70 | |

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **...1207-CH** | CCL 4 | CSC 4 | DSP 5 | TSC 43 | SO 40050I | L-W 4 | T 15 |

# TSL

## Sleeve




TSL

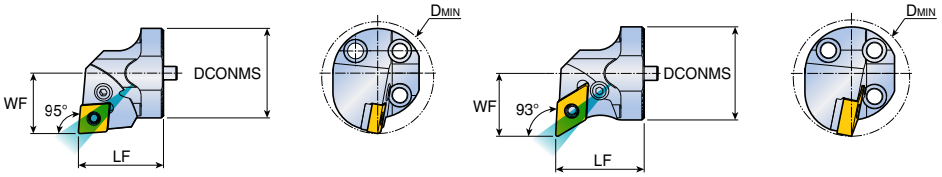
| Designation | Dimension (mm) | | | |
|---|---|---|---|---|
| | DCONWS | H | OAL | DCONMS |
| **TSL 16-04** | 4 | 15 | 100 | 16 |
| **16-05** | 5 | 15 | 100 | 16 |
| **16-06** | 6 | 15 | 100 | 16 |
| **16-07** | 7 | 15 | 100 | 16 |

## Spare parts

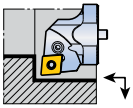
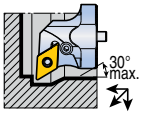
| Designation | Set screw | Wrench | | | | | |
|---|---|---|---|---|---|---|---|
| |  |  | | | | | |
| **TSL...** | SS M4x0.7x4 | L-W 2 | | | | | |

# QH-PCLNR/L QH-PDUNR/L

## Screw type boring heads




**QH-PCLNR** **QH-PDUNR**

| Approach angle | Designation | Dimension (mm) | | | | Insert |
|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | |
| **95°** | **QH32-PCLNR/L-12** | 32 | 32 | 22 | 40 | CN... 1204... |
|  | **QH40-PCLNR/L-12 *** | 40 | 38 | 27 | 50 | A226, A228-A232, A233, A291, A292, A303 |
| **93°** | **QH40-PDUNR/L-1506 *** | 40 | 38 | 27 | 50 | DN... 1506... |
|  | | | | | | A234-A238, A293, A354 |



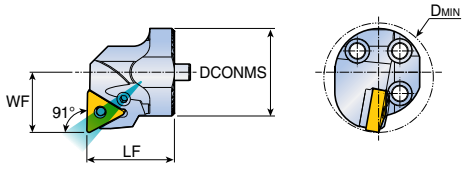
▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

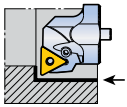
| Designation | Lever | Screw | Shim | | Shim pin | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | |
| **QH...12** | LCL 4 | LCS 4 | LSC 42 | - | LSP 4 | L-W 3 | |
| **QH...1506** | LCL 4A | LCS 4 | - | LSD 42 | LSP 4 | L-W 3 | |
| | | | | | | | |
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# QH-PTFNR/L

## Screw type boring heads




QH-PTFNR

| Approach angle | Designation | Dimension (mm) | | | | Insert |
|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | |
| **91°** | **QH32-PTFNR/L-16** | 32 | 32 | 22 | 40 | TNGA 1604... |
|  | **QH40-PTFNR/L-16 *** | 40 | 38 | 27 | 50 | A247-A250, A299, A307 |

▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

| Designation | Lever | Screw | Shim | Shim pin | Wrench | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **QH...16** | LCL 3 | LCS 3 | LST 31.8 | LSP 3A | L-W 2.5 | | |

# QH-TCLNR/L

## Screw type boring heads

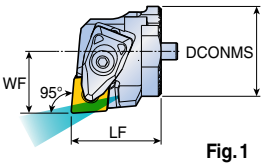
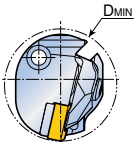



Fig.1




QH-TCLNR

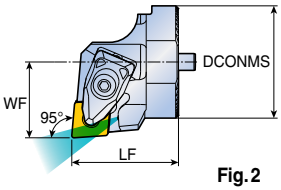
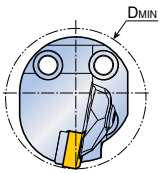
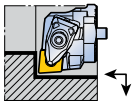



Fig.2




| Approach angle | Designation | Dimension (mm) | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | | |
| **95°** | **QH32-TCLNR/L-12** | 32 | 32 | 22 | 40 | 1 | CN... 1204... |
|  | **QH40-TCLNR/L-12 *** | 40 | 38 | 27 | 50 | 2 | A226, A228-A232, A233, A291, A292, A303 |

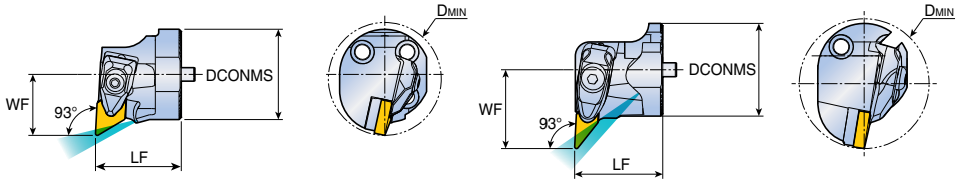
▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

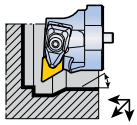
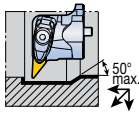
| Designation | Lever | Clamp screw | Spring | Shim | Shim screw | Wrech | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **QH...12** | DLM 4 | DLS 4 | DSP 4 | LSC 42 | TS 50A105I | L-W 3 | T 20 |
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |

# QH-TDUNR/L QH-TVUNR/L

**Screw type boring heads**




**QH-TDUNR** **QH-TVUNR**

| Approach angle | Designation | Dimension (mm) | | | | Insert |
|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | |
| **93°** | **QH40-TDUNR/L-1504 *** | 40 | 38 | 27 | 50 | DN... 1504... |
|  | **QH40-TDUNR/L-1506 *** | 40 | 38 | 27 | 50 | DN... 1506... A234-A238, A293, A304 |
| **93°** | **QH40-TVUNR/L-16 *** | 40 | 38 | 34 | 56 | VN... 16... A251-A252, A300, A308 |
|  | | | | | | |



▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |
| **QH...1504** | DLM 4 | DLS 4 | DSP 4 | LSD 43 | - | SO 50090I | L-W 3 | T 20 |
| **QH...1506** | DLM 4 | DLS 4 | DSP 4 | LSD 42 | - | TS 50A105I | L-W 3 | T 20 |
| **QH...16** | DLM 3V | DLS 5 | DSP 5 | - | TSV 33 | SO 35080I | L-W 4 | T 15 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

# QH-TWLNR/L

## Screw type boring heads

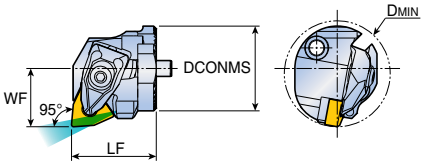



Fig.1

QH-TWLNR

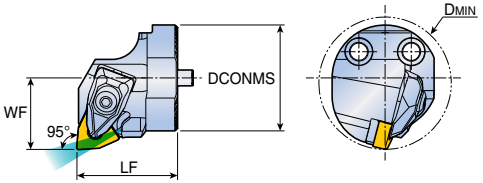
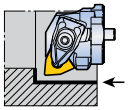



Fig.2

| Approach angle | Designation | Dimension (mm) | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | | |
| **95°** | **QH32-TWLNR/L-08** | 32 | 32 | 22 | 40 | 1 | WNGA 0804... |
|  | **QH40-TWLNR/L-08 *** | 40 | 38 | 27 | 50 | 2 | A300, A309 |

▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

| Designation | Clamp | Clamp screw | Spring | Shim | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **QH...08** | DLM 4 | DLS 4 | DSP 4 | PSW 42 | TS 50A105I | L-W 3 | T 20 |

# QH-SCLCR/L

## Screw type boring heads

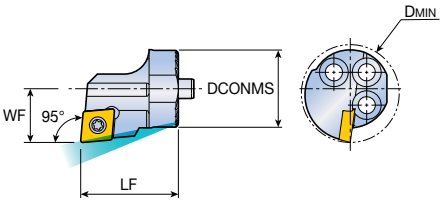



Fig. 1

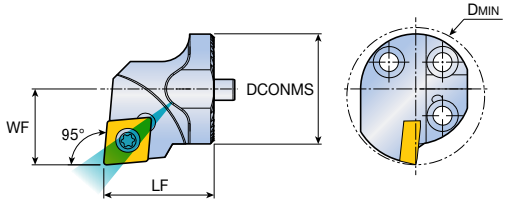
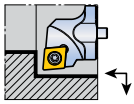



Fig. 2

QH-SCLCR

| Approach angle | Designation | Dimension (mm) | | | | Coolant hole | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | | | |
| **95°** | **QH16-SCLCR/L-06** | 16 | 20 | 11 | 20 | ● | 1 | CC... 0602... |
|  | **QH20-SCLCR/L-09** | 20 | 20 | 13 | 25 | ● | 2 | CC... 09T3... |
| | **QH25-SCLCR/L-09** | 25 | 22 | 17 | 32 | ● | 2 | |
| | **QH32-SCLCR/L-09** | 32 | 32 | 22 | 40 | ● | 2 | |
| | **QH32-SCLCR/L-12** | 32 | 32 | 22 | 40 | ● | 2 | CC... 1204... |
| | **QH40-SCLCR/L-12 *** | 40 | 38 | 27 | 50 | ● | 2 | A260-A263, A310 |

▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...06** | SO 250650I | - | - | T 7 | - | | |
| **...09** | SO 35080I | - | - | T 15 | - | | |
| **QH32...12** | SO 45100I | - | - | T 20 | - | | |
| **QH40...12** | SO 45130I | SSC 43N | SO 60105S | T 20 | L-W 5 | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

# QH-SDUCR/L

## Screw type boring heads

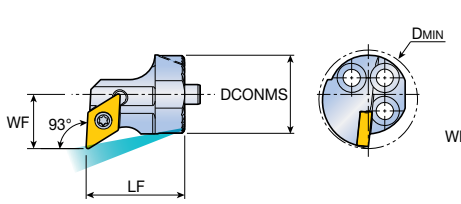



Fig.1

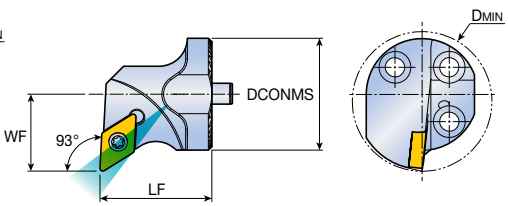
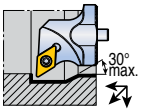



Fig.2

QH-SDUCR

| Approach angle | Designation | Dimension (mm) | | | | Coolant hole | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | | | |
| **93°** | **QH16-SDUCR/L-07** | 16 | 20 | 11 | 20 | ● | 1 | DC... 0702... |
|  | **QH20-SDUCR/L-11** | 20 | 20 | 13 | 25 | ● | 2 | DC... 11T3... |
| | **QH25-SDUCR/L-11** | 25 | 22 | 17 | 32 | ● | 2 | A265-A268, A311 |
| | **QH32-SDUCR/L-11** | 32 | 32 | 22 | 40 | ● | 2 | |
| | **QH40-SDUCR/L-11 *** | 40 | 38 | 27 | 50 | ● | 2 | |



▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...07** | SO 25065I | - | - | T 7 | - | | |
| **...11** | SO 35080I | - | - | T 15 | - | | |
| **QH40...11** | SO 35124I | SSD 32 | SO 50090S | T 15 | L-W 3.5 | | |
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# QH-STFCR/L

## Screw type boring heads

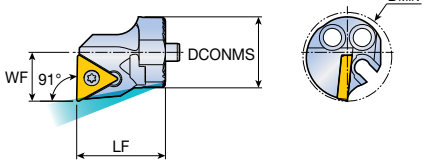



Fig.1

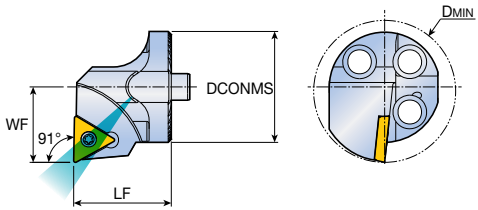
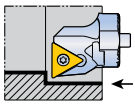



Fig.2

QH-STFCR

| Approach angle | Designation | Dimension (mm) | | | | Coolant hole | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | | | |
| **91°** | **QH16-STFCR/L-1102** | 16 | 20 | 11 | 20 | ● | 1 | TC…T 1102… |
|  | **QH20-STFCR/L-1102** | 20 | 20 | 13 | 25 | ● | 2 | |
| | **QH25-STFCR/L-1102** | 25 | 22 | 17 | 32 | ● | 2 | |
| | **QH32-STFCR/L-16** | 32 | 32 | 22 | 40 | ● | 2 | TC… 16T3… |
| | **QH40-STFCR/L-16 *** | 40 | 38 | 27 | 50 | ● | 2 |  A275, A276, A313, A314 |

▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **...-1102** | SO 25065I | - | - | T 7 | - | | |
| **...-16** | SO 35124I | SST 32 | SO 50090S | T 15 | L-W 3.5 | | |
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# QH-SVUBR/L

## Screw type boring heads

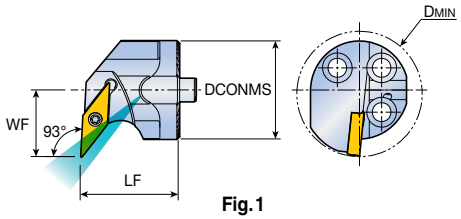



Fig.1

QH-SVUBR

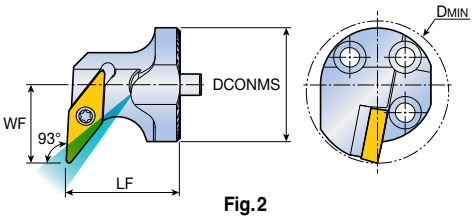
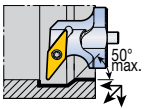



Fig.2

| Approach angle | Designation | Dimension (mm) | | | | Coolant hole | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | | | |
| **93°** | **QH20-SVUBR/L-11** | 20 | 20 | 16 | 27 | ● | 1 | VB... 1103... |
|  | **QH25-SVUBR/L-11** | 25 | 25 | 17 | 31 | ● | 1 | |
| | **QH32-SVUBR/L-16** | 32 | 32 | 22 | 40 | ● | 2 | VB... 1604... |
| | **QH40-SVUBR/L-16 *** | 40 | 32 | 27 | 50 | ● | 2 | A281, A282, A315 |



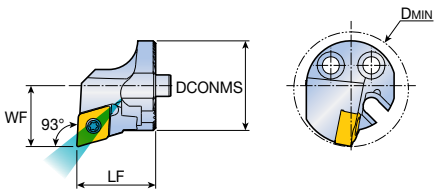
▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

## Spare parts

| Designation | Screw | Shim | Shim screw | Wrench | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  | | |
| **SVUBR/L-11** | SO 25065I | - | - | T 7 | - | | |
| **SVUBR/L-16** | SO 35124I | SSV 32 | SO 50090S | T 15 | L-W 3.5 | | |
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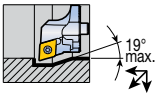
# QH-SXUNR/L

## Screw type boring heads




QH-SXUNR

| Approach angle | Designation | Dimension (mm) | | | | Coolant hole | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | | |
| **93°** | **QH32-SXUNR/L-1105** | 32 | 32 | 22 | 40 | • | XN... 1105... |
| | | | | | | | POSTURN |
| | | | | | | | A257 |



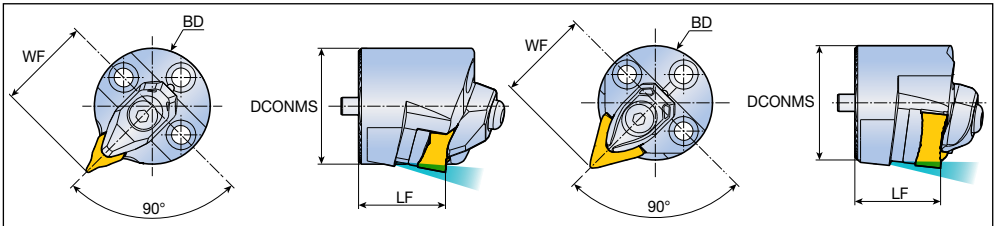

## Spare parts

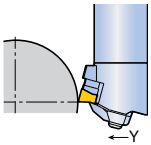
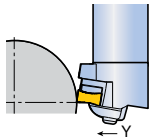
| Designation | Screw | Wrench | | | | | |
|---|---|---|---|---|---|---|---|
| |  |  | | | | | |
| **...1105** | TS 40G110I | T 15 | | | | | |

# QH40Y-TZXNN-TB QH40Y-TTXNN-TB

HUSHBORE ANTI VIBRATION BAR

## Y-axis turning heads




| Approach angle | Designation | Dimension (mm) | | | | Insert |
|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | BD | |
|  | **QH40Y-TZXNN-1410-TB** | 40 | 30 | 32 | 40 | ZNMV 1410...Y-... A258 |
|  | **QH40Y-TTXNN-2109-TB** | 40 | 30 | 32 | 40 | TNMV 2109... A256 |

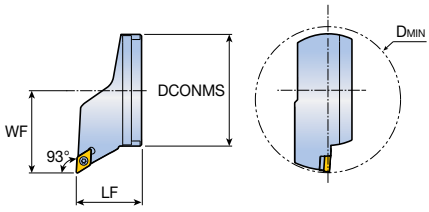
▸ Only ZNMV 1410...Y-BF inserts available

## Spare parts

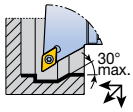
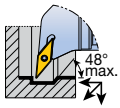
| Designation | Clamp | Clamp screw | Spring | Shim | | Shim screw | Wrench | |
|---|---|---|---|---|---|---|---|---|
| **TZ...1410-TB** | DLM 3.3Z-NV | DLS 5 | DSP 5 | TSZ 140310 | - | TS 35083I/HG | L-W 4 | T 10 |
| **TT...2109-TB** | DLM 4.4T-NV | DLS 5 | DSP 5 | - | TSTV 210510 | TS 35083I/HG | L-W 4 | T 10 |

# QH-SDUCR/L-VH QH-SVLCR/L-VH

## Screw type boring heads




QH-SDUCR QH-SVLCR

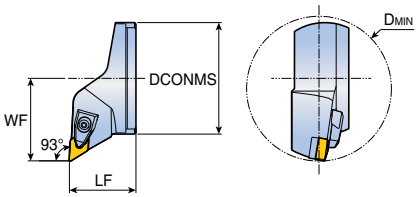
| Approach angle | Designation | Dimension (mm) | | | | Insert |
|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | |
| **93°** | **QH80-SDUCR/L-11-VH** | 77 | 45 | 57 | 100 | DC...T 11T3... A266-A268, A311 |
|   | | | | | | |
| **95°** | **QH80-SVLCR/L-16-VH** | 77 | 45 | 57 | 100 | VC...T 1604... A283 |
|   | | | | | | |

## Spare parts

| Designation | Screw | Shim | | Shim screw | Stopper screw | Wrench | | |
|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  | |
| **SDUCR/L** | SR 16-236 P | TDC 3-1P | - | SR TC-3P | SH M3x0.5x6 | T-15/5 | L-W 4 | L-W 2.5 |
| **SVLCR/L...** | SR 16-236 P | - | TVC 3-1P | SR TC-3P | SH M3x0.5x6 | T-15/5 | L-W 4 | L-W 2.5 |
| | | | | | | | | |
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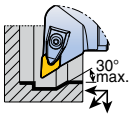
# QH-TDUNR/L-VH

## Screw type boring heads




**QH-TDUNR**

| Approach angle | Designation | Dimension (mm) | | | | Insert |
|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | DMIN | |
| **93°** | **QH80-TDUNR/L-1504-VH** | 77 | 46 | 57 | 100 | DN... 1504... |
| | **QH80-TDUNR/L-1506-VH** | 77 | 46 | 57 | 100 | DN... 1506... A234-A238, A293, A304 |




## Spare parts

| Designation | Shim | Shim screw | Clamp | Clamp Screw | Spring | Wrench | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **-1504-VH** | RDT 443 | CSTB4S | DLM 4 | DLS 4 | DSP 4 | T-15/5 | L-W 3.0 |
| **-1506-VH** | RDT 433 | CSTB4S | DLM 4 | DLS 4 | DSP 4 | T-15/5 | L-W 3.0 |

## Anti-vibration shanks for boring

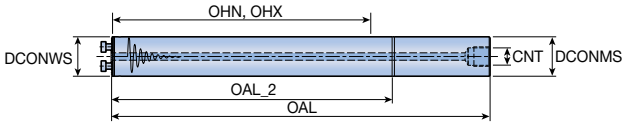



Fig.1

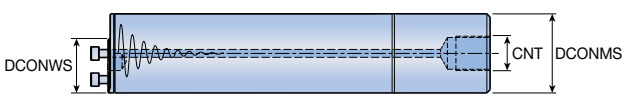



Fig.2

| Designation | Demension (mm) | | | | | | | Coolant hole | Fig. |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | DCONWS | OAL | OAL_2 | OHN | OHX | CNT | | |
| **QS16A-7D** | 16 | 16 | 156.3 | 100 | 55 | 92 | G 1/8 | ● | 1 |
| **QS16E-10D(1)** | 16 | 16 | 204.3 | - | 96 | 140 | - | ● | 1 |
| **QS20A-7D** | 20 | 20 | 200.3 | 125 | 70 | 120 | G 1/4 | ● | 1 |
| **QS20E-10D(1)** | 20 | 20 | 260.3 | - | 120 | 180 | - | ● | 1 |
| **QS25A-7D** | 25 | 25 | 257.5 | 155 | 88 | 155 | G 1/4 | ● | 1 |
| **QS25A-10D** | 25 | 25 | 332.5 | 255 | 155 | 230 | G 1/4 | ● | 1 |
| **QS25E-12D(1)** | 25 | 25 | 380.0 | - | 230 | 280 | G 1/8 | ● | 1 |
| **QS25E-14D(1)** | 25 | 25 | 430.0 | - | 280 | 330 | G 1/8 | ● | 1 |
| **QS32A-7D** | 32 | 32 | 323.0 | 190 | 120 | 192 | G 3/8 | ● | 1 |
| **QS32A-10D** | 32 | 32 | 419.0 | 320 | 192 | 288 | G 3/8 | ● | 1 |
| **QS32E-12D(1)** | 32 | 32 | 480.0 | - | 288 | 352 | G 1/4 | ● | 1 |
| **QS32E-14D(1)** | 32 | 32 | 544.0 | - | 352 | 416 | G 1/4 | ● | 1 |
| **QS40A-7D** | 40 | 40 | 411.0 | 240 | 128 | 251 | G 1/2 | ● | 1 |
| **QS40A-10D** | 40 | 40 | 531.0 | 410 | 248 | 368 | G 1/2 | ● | 1 |
| **QS40E-12D(1)** | 40 | 40 | 608.0 | - | 368 | 448 | G 3/8 | ● | 1 |
| **QS40E-14D(1)** | 40 | 40 | 688.0 | - | 448 | 528 | G 3/8 | ● | 1 |
| **QS50A-7D** | 50 | 40 | 523.0 | 305 | 168 | 318 | G 1/2 | ● | 2 |
| **QS50A-10D** | 50 | 40 | 673.0 | 520 | 318 | 468 | G 1/2 | ● | 2 |
| **QS50E-12D(1)** | 50 | 40 | 768.0 | - | 468 | 568 | G 1/2 | ● | 2 |
| **QS50E-14D(1)** | 50 | 40 | 868.0 | - | 568 | 668 | G 1/2 | ● | 2 |
| **QS60A-7D** | 60 | 40 | 633.0 | 380 | 208 | 388 | G 3/4 | ● | 2 |
| **QS60A-10D** | 60 | 40 | 813.0 | 630 | 388 | 568 | G 3/4 | ● | 2 |
| **QS60E-12D(1)** | 60 | 40 | 920.0 | - | 588 | 688 | G 3/4 | ● | 2 |
| **QS60E-14D(1)** | 60 | 40 | 1040.0 | - | 688 | 808 | G 3/4 | ● | 2 |

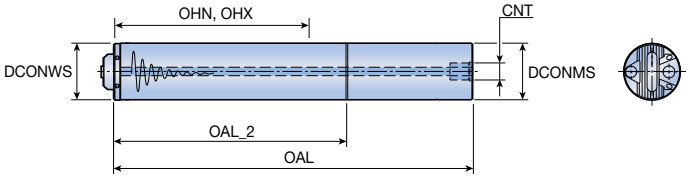
- (1) Carbide shank
- OHN: Minimum overhang
- OHX: Maximum overhang
- OAL_2: Minimum length after shortening(only steel bar can be shortened)

## Spare parts

| Designation | Screw | Wrench | | | | | |
|---|---|---|---|---|---|---|---|
| |  |  | | | | | |
| **QS16** | SH M3x0.5X10 | L-W 2.5 | | | | | |
| **QS20** | SH M3.5x0.6X10 | L-W 2.5 | | | | | |
| **QS25** | SH M4x0.7X12 | L-W 3 | | | | | |
| **QS32** | SH M5x0.8X12 | L-W 4 | | | | | |
| **QS40/50/60** | SH M6x1X16 | L-W 5 | | | | | |

# QS-VH

**Anti-vibration shanks for boring**




| Designation | | Dimension (mm) | | | | | | | Coolant hole |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | DCONWS | OAL | OAL_2 | OHN | OHX | CNT | |
| QS80A- | **QS80A-7D-VH** | 80 | 80 | 880 | 630 | 396 | 515 | G 3/4 | ● |
| | **QS80A-10D-VH** | 80 | 80 | 1200 | 630 | 515 | 755 | G 3/4 | ● |
| | **QS80E-12D-VH**(1) | 80 | 80 | 1240 | - | 755 | 916 | G 3/4 | |
| | **QS80E-14D-VH**(1) | 80 | 80 | 1400 | - | 916 | 1076 | G 3/4 | |

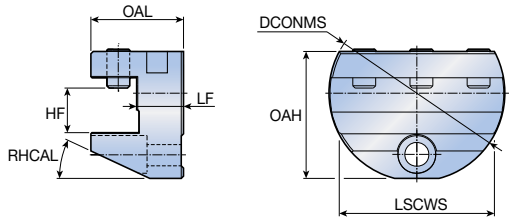
▸ (1) Carbide shank
▸ OHN: Minimum overhang
▸ OHX: Maximum overhang
▸ OAL_2: Minimum length after shortening(only steel bar can be shortened)

## Spare parts

| Designation | Upper Clamp | Lower Clamp | Screw | | Spring | Wrench |
|---|---|---|---|---|---|---|
| |  |  |  | |  |  |
| **QS80** | UCP-M10 | LCP-M10 | SH M10X1.5X25 | SH M3X0.5X6 | DSP 12.5X0.9X18 | L-W 8 |
| | | | | | | |
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# QH80-VH

**Perpendicular adaptor for external square-shank tools**



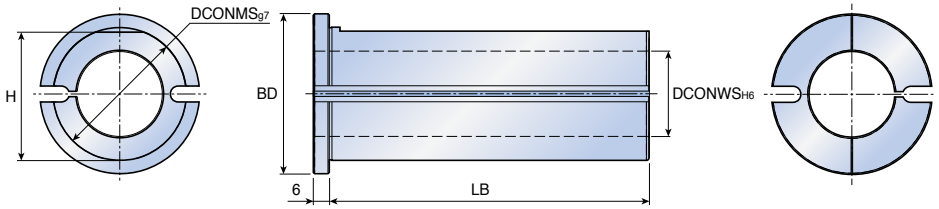

| Designation | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|
| | DCONMS | LF | HF | OAL | OAH | LSCWS | RHCAL |
| **QH80- 2020-VH** | 77.0 | 20.5 | 20.0 | 40.5 | 55.5 | 67.8 | 25.0 |

- Used with external 20x20 square holders
- Since there is a deviation in the DMIN value for each holder, it is recommended to use the boring head after checking for interference with the workpiece.

## Spare parts

| Designation | Screw | Wrench | | | | |
|---|---|---|---|---|---|---|
| |  |  | | | | |
| **QH80** | SR M10x16 DIN913 | L-W 5 | | | | |

## HUSH-BORE sleeve



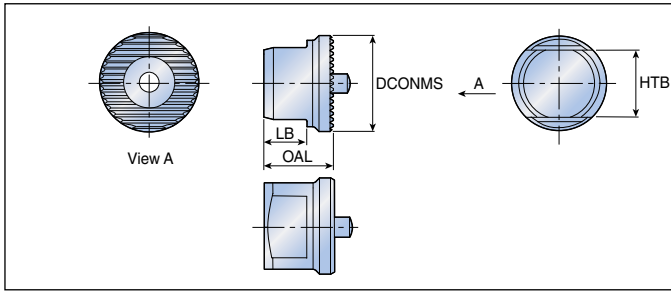

QSL

| Designation | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | DCONMS | DCONWS | BD | LB | H |
| QSL- 32-16-L66 | 32 | 16 | 42 | 60 | 31.0 |
| 32-20-L66 | 32 | 20 | 42 | 60 | 31.0 |
| 32-25-L66 | 32 | 25 | 42 | 60 | 31.0 |
| 40-16-L106 | 40 | 16 | 50 | 100 | 38.5 |
| 40-20-L106 | 40 | 20 | 50 | 100 | 38.5 |
| 40-25-L106 | 40 | 25 | 50 | 100 | 38.5 |
| 40-32-L106 | 40 | 32 | 50 | 100 | 38.5 |
| 50-20-L126 | 50 | 20 | 60 | 120 | 48.5 |
| 50-25-L126 | 50 | 25 | 60 | 120 | 48.5 |
| 50-32-L126 | 50 | 32 | 60 | 120 | 48.5 |
| 50-40-L126 | 50 | 40 | 60 | 120 | 48.5 |
| 60-32-L156 | 60 | 32 | 70 | 150 | 58.5 |
| 60-40-L156 | 60 | 40 | 70 | 150 | 58.5 |
| 60-50-L156 | 60 | 50 | 70 | 150 | 58.5 |

# QH-SET

**Center height set up device for Anti-vibration boring bars**



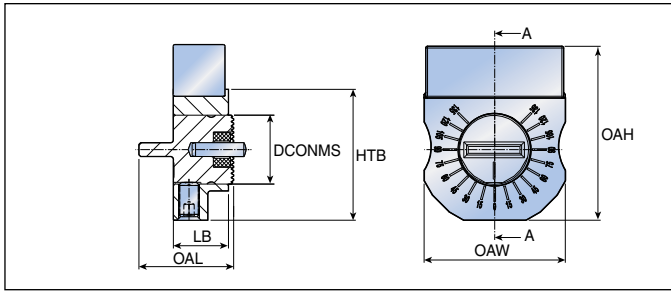



| Designation | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | DCONMS | HTB | OAL | LB | Shank |
| **QH-SET 16-25** | 20 | 15 | 14.5 | 9 | 16, 20, 25 |
| **QH-SET 32-60** | 29 | 16 | 17.5 | 11.5 | 32, 40, 50, 60 |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

# QH-SET-LEV

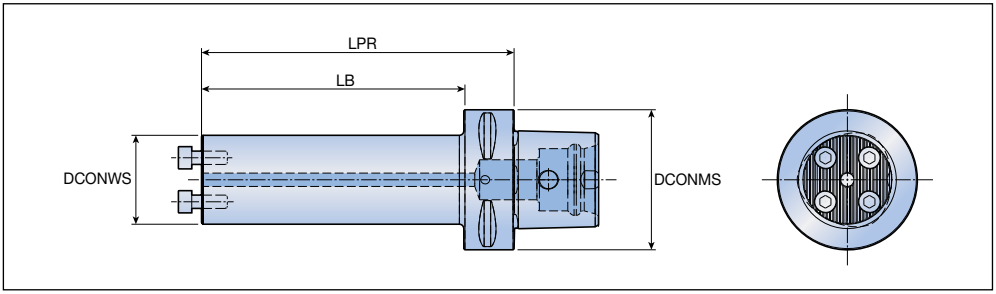
**Center height set up device for Anti-vibration boring bars**






| Designation | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|
| | DCONMS | HTB | OAL | LB | Shank | OAH | OAW |
| **QH-SET 16-25-LEV** | 20 | 38 | 27.5 | 16 | 16, 20, 25 | 50.5 | 41 |
| **QH-SET 32-60-LEV** | 29 | 49 | 28.0 | 16 | 32, 40, 50, 60 | 59.0 | 49 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

## C-ADAPTERs with HUSH-BORE head connection




| Designation | Dimension (mm) | | | | Coolant hole |
|---|---|---|---|---|---|
| | DCONMS | DCONWS | LPR | LB | |
| **C4-CS16A-2.5D** | 40 | 16 | 40 | 20 | ● |
| **C4-CS20A-2.5D** | 40 | 20 | 50 | 30 | ● |
| **C4-CS25A-2.5D** | 40 | 25 | 55 | 35 | ● |
| **C4-CS32A-2.5D** | 40 | 32 | 75 | 55 | ● |
| **C4-CS40A-3D** | 40 | 40 | 80 | 80 | ● |
| **C5-CS16A-2.5D** | 50 | 16 | 40 | 20 | ● |
| **C5-CS20A-2.5D** | 50 | 20 | 50 | 30 | ● |
| **C5-CS25A-2.5D** | 50 | 25 | 55 | 35 | ● |
| **C5-CS32A-2.5D** | 50 | 32 | 75 | 55 | ● |
| **C5-CS40A-3D** | 50 | 40 | 100 | 80 | ● |
| **C6-CS16A-2.5D** | 63 | 16 | 40 | 18 | ● |
| **C6-CS20A-2.5D** | 63 | 20 | 50 | 28 | ● |
| **C6-CS25A-2.5D** | 63 | 25 | 65 | 43 | ● |
| **C6-CS32A-3D** | 63 | 32 | 90 | 68 | ● |
| **C6-CS32A-4D** | 63 | 32 | 125 | 103 | ● |
| **C6-CS40A-3D** | 63 | 40 | 100 | 78 | ● |
| **C6-CS40A-4D** | 63 | 40 | 140 | 118 | ● |
| **C6-CS16E-5D** | 63 | 16 | 80 | 58 | ● |
| **C6-CS20E-5D** | 63 | 20 | 100 | 78 | ● |
| **C6-CS25E-5D** | 63 | 25 | 115 | 93 | ● |
| **C6-CS32E-5D** | 63 | 32 | 150 | 128 | ● |
| **C6-CS40E-5D** | 63 | 40 | 185 | 163 | ● |

▸ 5D: Carbide core type

## Spare parts

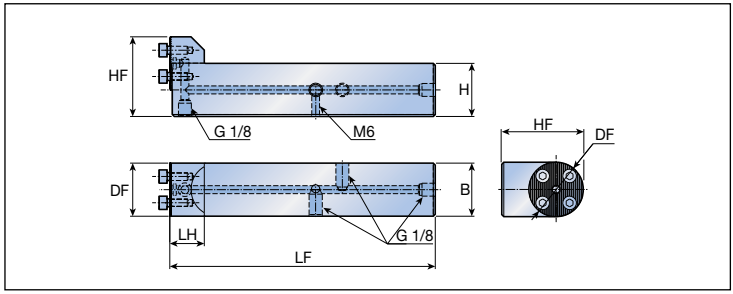
| Designation | Screw | Wrench | | | |
|---|---|---|---|---|---|
| |  |  | | | |
| **CS16** | SH M3x0.5X10 | L-W 2.5 | | | |
| **CS20** | SH M3.5x0.6X10 | L-W 2.5 | | | |
| **CS25** | SH M4x0.7X12 | L-W 3 | | | |
| **CS32** | SH M5x0.8X12 | L-W 4 | | | |
| **CS40** | SH M6x1X16 | L-W 5 | | | |
| | | | | | |

▸ Please refer to A203-A212 pages for HUSH-BORE heads

# QSS

## Head changeable square shank






| Designation | | Dimension (mm) | | | | | | Coolant hole |
|---|---|---|---|---|---|---|---|---|
| | | B | H | LF | LH | HF | DF | |
| QSS- | N2020-D20-TB-MC | 20 | 20 | 92 | 21 | 30 | 20 | ● |
| | N2020-D25-TB-MC | 20 | 20 | 92 | 21 | 32.5 | 25 | ● |
| | N2020-D32-TB-MC | 20 | 20 | 92 | 21 | 36 | 32 | ● |
| | N2525-D25-TB-MC | 25 | 25 | 107 | 21 | 37.5 | 25 | ● |
| | N2525-D32-TB-MC | 25 | 25 | 107 | 21 | 41 | 32 | ● |
| | N2525-D40-TB-MC | 25 | 25 | 107 | 21 | 45 | 40 | ● |
| | N3232-D32-TB-MC | 32 | 32 | 152 | 21 | 48 | 32 | ● |
| | N3232-D40-TB-MC | 32 | 32 | 152 | 26 | 52 | 40 | ● |
| | N4040-D40-TB-MC | 40 | 40 | 200 | 26 | 60 | 40 | ● |

## Spare parts

| Designation | Screw | Plug | | Wrench | |
|---|---|---|---|---|---|
| |  |  |  |  | |
| ...-D20... | SH M3.5x0.6X10 | RSS M6 | PLG G1/8-L6.5 | L-W 2.5 | |
| ...-D25... | SH M4x0.7X12 | RSS M6 | PLG G1/8-L6.5 | L-W 3 | |
| ...N2020/N2525-D32... | SH M5x0.8X12 | RSS M6 | PLG G1/8-L6.5 | L-W 4 | |
| ...N3232-D32... | SH M5x0.8X12 | - | PLG G1/8-L6.5 | L-W 4 | |
| ...N2525-D40... | SH M6x1X16 | RSS M6 | PLG G1/8-L6.5 | L-W 5 | |
| ...N3232/N4040-D40... | SH M6x1X16 | - | PLG G1/8-L6.5 | L-W 5 | |

▸ Please refer to A203-A212 pages for HUSH-BORE heads

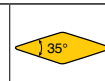
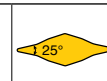
# Turning Inserts



# Insert Designation System

| C | N | M | G |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

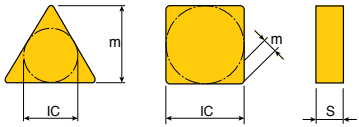
## 1 Shape

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |  |
| C | D | E | H | K | R | S | T | V | W | Y |

## 2 Clearance angle

| | | | |
|---|---|---|---|
|  |  |  |  |
| N | B | C | P |

## 3 Tolerance



| Class | m | S | IC |
|---|---|---|---|
| A | ±0.005 | ±0.025 | ±0.025 |
| F | ±0.005 | ±0.025 | ±0.013 |
| C | ±0.013 | ±0.025 | ±0.025 |
| H | ±0.013 | ±0.025 | ±0.013 |
| E | ±0.025 | ±0.025 | ±0.025 |
| G | ±0.025 | ±0.13 | ±0.025 |
| M | ±0.08~±0.18 | ±0.13 | ±0.05~±0.13 |
| U | ±0.13~±0.38 | ±0.13 | ±0.08~±0.25 |

| Diameter of IC | Tolerance | | | |
|---|---|---|---|---|
| | On m | | On IC | |
| | Class M | Class U | Class M | Class U |
| 6.35 | ±0.08 | ±0.13 | ±0.05 | ±0.08 |
| 9.52 | ±0.08 | ±0.13 | ±0.05 | ±0.08 |
| 12.70 | ±0.13 | ±0.20 | ±0.08 | ±0.13 |
| 15.88 | ±0.15 | ±0.27 | ±0.10 | ±0.18 |
| 19.05 | ±0.15 | ±0.27 | ±0.10 | ±0.18 |
| 25.40 | ±0.18 | ±0.38 | ±0.13 | ±0.25 |
| 31.75 | ±0.18 | ±0.38 | ±0.13 | ±0.25 |

## 4 Type

| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| A | G | M | R | B, W | T, H |

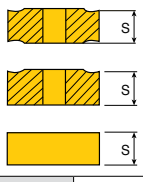
# Insert Designation System

| 12 | 04 | 08 | ( R ) | MP |
|---|---|---|---|---|
| 5 | 6 | 7 | 8 | 9 |

## 5 Cutting edge length

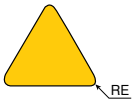
| I.C(mm) | C | D | E | R | S | T | V,Y | W | K | H |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.97 | 03 | 04 | | | 03 | 06 | | 02 | | |
| 4.76 | 04 | 05 | | | 04 | 08 | 08 | | | |
| 5.56 | 05 | 06 | | | 05 | 09 | 09 | 03 | | |
| 6.35 | 06 | 07 | | | 06 | 11 | 11 | | | |
| 7.94 | 08 | 09 | | | 07 | 13 | 13 | 05 | | |
| 8.0 | | | | 08 | | | | | | |
| 9.52 | 09 | 11 | | 09 | 09 | 16 | 16 | 06 | 16 | |
| 10.0 | | | | 10 | | | | | | |
| 11.11 | | 13 | | | | | | | | |
| 12.0 | | | | 12 | | | | | | |
| 12.7 | 12 | 15 | 13 | | 12 | 22 | 22 | 08 | | 05 |
| 15.88 | 16 | 19 | | 15 | 15 | 27 | 27 | 10 | | |
| 16.0 | | | | 16 | | | | | | |
| 19.05 | 19 | 23 | | 19 | 19 | 33 | 33 | 13 | | 10 |
| 20.0 | | | | 20 | | | | | | |
| 25.0 | | | | 25 | | | | | | |
| 25.4 | 25 | 31 | | 25 | 25 | 44 | 44 | 17 | | |
| 31.75 | 32 | 38 | | | 31 | 54 | 54 | 21 | | |
| 32.0 | | | | 32 | | | | | | |

## 6 Thickness



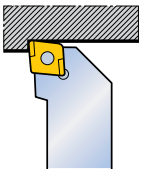

| | |
|---|---|
| 01 | 1.59mm |
| T1 | 1.98mm |
| 02 | 2.38mm |
| T2 | 2.78mm |
| 03 | 3.18mm |
| T3 | 3.97mm |
| 04 | 4.76mm |
| 05 | 5.56mm |
| 06 | 6.35mm |
| 07 | 7.94mm |
| 09 | 9.52mm |

## 7 Corner radius

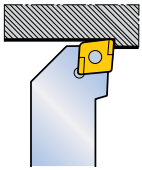



| | |
|---|---|
| 01 | 0.1mm |
| 02 | 0.2mm |
| 04 | 0.4mm |
| 05 | 0.5mm |
| 08 | 0.8mm |
| 12 | 1.2mm |
| 16 | 1.6mm |
| 20 | 2.0mm |
| 24 | 2.4mm |
| 32 | 3.2mm |

## 8 Hand of insert



R: Right hand



L: Left hand

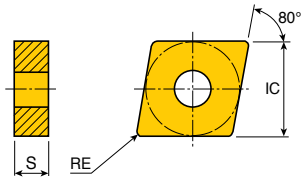
## 9 Chip breaker

For chip breakers, see page A31-A42

# CNGG CNMA

T-TURN

## Negative 80° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.1-1.6 |
| **16** | 15.88 | 6.35 | 1.2-1.6 |
| **19** | 19.05 | 6.35 | 0.8-1.6 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **CNGG 120401 ML** | 0.1-3.5 | 0.03-0.10 | | | | | | | | | | | | | | | | ● | | ● | | | | |
| | **120402 ML** | 0.2-3.5 | 0.05-0.15 | | | | | | | | | | | | | | | | ● | | ● | | | | ● |
| | **120404 ML** | 0.8-3.5 | 0.10-0.30 | | | | | | | | | | | | | | | | ● | | ● | | | | ● |
| | **120408 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | | | | | | | | | ● | | ● | | | | ● |
|  Roughing | **CNMA 120404** | 1.0-5.0 | 0.15-0.50 | | | | ● | ● | ● | | | | | | | | | | | | | | | | ● |
| | **120408** | 1.0-6.0 | 0.15-0.60 | | | | ● | ● | ● | | | | | | | | | | | | | | | | ● |
| | **120412** | 1.5-6.0 | 0.15-0.70 | | | | ● | ● | ● | | ● | | | | | | | | | | | | | | |
| | **120416** | 2.0-6.0 | 0.20-0.80 | | | | ● | ● | ● | | | | | | | | | | | | | | | | |
| | **160612** | 2.0-8.0 | 0.15-0.70 | | | | ● | ● | ● | | | | | | | | | | | | | | | | |
| | **160616** | 2.0-8.0 | 0.20-0.80 | | | | | ● | | | | | | | | | | | | | | | | | |
| | **190608** | 2.0-10.0 | 0.15-0.70 | | | | | | ● | | | | | | | | | | | | | | | | |
| | **190612** | 2.0-10.0 | 0.15-0.70 | | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **190616** | 3.0-10.0 | 0.15-1.00 | | | | ● | ● | ● | | | | | | | | | | | | | | | | |
| wiper  Roughing | **CNMA 120408 WT** | 0.7-5.0 | 0.15-0.80 | | | | ● | | | | | | | | | | | | | | | | | | |



A58-A59, A100-A101, A146, A170, A194, A203, A205

●: Standard items

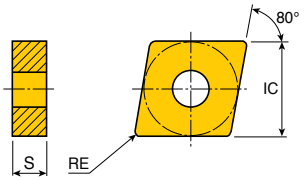


ADVANCE CUTTING TaeguTec

# CNMD

T-TURN

**Negative 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **19** | 19.05 | 6.35 | 2.4 |
| **25** | 25.4 | 9.52 | 2.4 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **CNMD 250924 HD** | | | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | Roughing | 4.0-15.0 | 0.55-1.50 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **CNMD 190624 HT** | | | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | Roughing | 4.0-9.0 | 0.35-0.90 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | **250924 HT** | | | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | Roughing | 5.0-12.0 | 0.55-1.30 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **CNMD 190624 HY** | | | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | Roughing | 4.0-12.0 | 0.50-1.10 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | **250924 HY** | | | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | Roughing | 4.0-15.0 | 0.55-1.50 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **CNMD 250924 HZ** | | | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | Roughing | 4.0-15.0 | 0.55-1.50 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | | | | | | | | | | | | | | | | | | | | | | | | | |

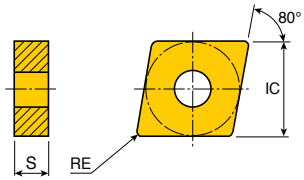


A58

●: Standard items

# CNMG

## Negative 80° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| **16** | 15.88 | 4.76 | 0.4-1.6 |
| **19** | 19.05 | 6.35 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **CNMG 120404** | 1.0-5.0 | 0.17-0.45 | | | | ● | ● | | | ● | ● | ● | | | | ● | | | ● | | | | | ● |
| | **120408** | 1.5-5.0 | 0.23-0.60 | | | | ● | ● | ● | | ● | ● | ● | | | | ● | | ● | ● | | | | | |
| | **120412** | 2.0-5.0 | 0.25-0.60 | | | | ● | ● | | | ● | ● | | | | | ● | | | | | | | | |
| | **160604** | 2.0-6.5 | 0.20-0.45 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **160608** | 2.0-6.5 | 0.25-0.60 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160612** | 2.0-6.5 | 0.27-0.60 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **160616** | 2.0-6.5 | 0.29-0.60 | | | | | | | | ● | | | | | | | | | | | | | | |
| | **190604** | 3.0-8.0 | 0.20-0.45 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **190608** | 3.0-8.0 | 0.25-0.60 | | | | ● | ● | | | ● | ● | ● | | | | ● | | | | | | | | |
| | **190612** | 3.0-8.0 | 0.30-0.60 | | | | ● | ● | | | ● | ● | ● | | | | ● | ● | | | | | | | |
| | **190616** | 3.0-8.0 | 0.35-0.70 | | | | | | | | ● | ● | ● | | | | ● | | | | | | | | |
|  Finishing | **CNMG 120404 EA** | 0.15-1.5 | 0.05-0.30 | | | | | | | | | | | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| | **120408 EA** | 0.15-1.5 | 0.07-0.40 | | | | | | | | | | | ● | ● | ● | ● | | ● | | ● | ● | ● | | |
|  Medium | **CNMG 120404 EM** | 0.5-5.0 | 0.11-0.50 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **120408 EM** | 0.5-5.0 | 0.13-0.50 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **120412 EM** | 0.5-5.0 | 0.15-0.55 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **120416 EM** | 0.5-5.0 | 0.17-0.60 | | | | | | | | | | | | ● | | | | ● | | | | | | |
| | **160608 EM** | 0.5-6.5 | 0.13-0.50 | | | | | | | | | | | | | | | | ● | | | | | | |
| | **160612 EM** | 0.5-6.5 | 0.15-0.55 | | | | | | | | | | | | | | | | ● | | | | | | |
| | **190608 EM** | 0.5-8.0 | 0.13-0.50 | | | | | | | | | | | | | | | | ● | | | | | | |
| | **190612 EM** | 0.5-8.0 | 0.15-0.55 | | | | | | | | | | | | ● | | | | ● | | ● | | | | ● |
| | **190616 EM** | 0.5-8.0 | 0.17-0.60 | | | | | | | | | | | | | | | | ● | | | | | | |
|  Roughing | **CNMG 120408 ET** | 1.2-5.5 | 0.17-0.55 | | | | | | | | | | | ● | ● | ● | ● | | ● | | ● | ● | ● | | |
| | **120412 ET** | 1.2-5.5 | 0.20-0.60 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | ● | ● | | |
| | **160608 ET** | 2.5-7.0 | 0.20-0.60 | | | | | | | | | | | | | | | | ● | | | | | | |
| | **160612 ET** | 2.5-7.0 | 0.25-0.60 | | | | | | | | | | | | ● | | | | ● | | ● | | | | |
| | **190608 ET** | 3.0-9.0 | 0.20-0.60 | | | | | | | | | | | | | | | | ● | | | | | | |
| | **190612 ET** | 3.0-9.0 | 0.25-0.60 | | | | | | | | | | | | ● | ● | | | ● | | ● | | | | |
| | **190616 ET** | 3.0-9.0 | 0.30-0.65 | | | | | | | | | | | | | | | | ● | | | | | | |



A58-A59, A100-A101, A146, A170, A194, A203, A205

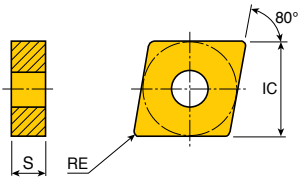
●: Standard items



ADVANCE CUTTING TaeguTec

# CNMG

**Negative 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| **16** | 15.88 | 6.35 | 1.2-1.6 |
| **19** | 19.05 | 6.35 | 1.2-1.6 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **CNMG 120404 FA** | 0.2-2.0 | 0.05-0.20 | | | | | | | | ● | ● | | | | | ● | | | | | | | |
| | **120408 FA** | 0.3-2.0 | 0.05-0.25 | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Finishing | **CNMG 120404 FC** | 0.2-2.5 | 0.05-0.30 | | | | | | | ● | ● | ● | | ● | ● | | ● | | | | | | | |
| | **120408 FC** | 0.3-2.5 | 0.08-0.35 | | | | | | | ● | ● | ● | | ● | ● | | ● | | | | | | | |
| | **120412 FC** | 0.3-2.5 | 0.10-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Finishing | **CNMG 120404 FG** | 0.2-2.5 | 0.05-0.30 | ● | ● | | | | | | ● | ● | | | | | ● | | | | | | | |
| | **120408 FG** | 0.3-2.5 | 0.08-0.35 | ● | ● | | | | | | ● | ● | | | | | ● | | | | | | | |
|  Finishing | **CNMG 120404 FLP** | 0.2-2.0 | 0.08-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **120408 FLP** | 0.3-2.0 | 0.10-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Roughing | **CNMG 120408 KT** | 0.38-7.0 | 0.19-0.53 | | | | ● | ● | ● | | | | | | | | | | | | | | | |
| | **120412 KT** | 0.50-7.0 | 0.25-0.70 | | | | ● | ● | ● | | | | | | | | | | | | | | | |
| | **120416 KT** | 0.75-7.0 | 0.28-0.85 | | | | ● | ● | ● | | | | | | | | | | | | | | | |
| | **160612 KT** | 0.8-9.0 | 0.25-0.75 | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **160616 KT** | 1.0-9.0 | 0.30-0.85 | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **190612 KT** | 1.0-14.0 | 0.25-0.75 | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **190616 KT** | 1.5-14.0 | 0.30-0.85 | | | | ● | ● | | | | | | | | | | | | | | | | |
|  Medium | **CNMG 120404 MC** | 0.5-3.5 | 0.10-0.30 | | | | | ● | | ● | ● | ● | | | | | ● | ● | | ● | | | | |
| | **120408 MC** | 0.7-3.5 | 0.12-0.35 | | | | | | | | ● | ● | | | | | ● | | | | | | | |
| | **120412 MC** | 0.7-3.5 | 0.15-0.40 | | | | | | | ● | | | | | | | | | | | | | | |
|  Medium | **CNMG 120408 MGP** | 0.5-5.0 | 0.15-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **120412 MGP** | 0.6-5.0 | 0.17-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | |



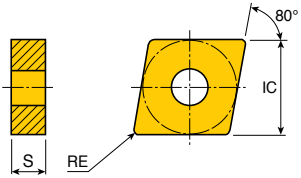
A58-A59, A100-A101, A146, A170, A194, A203, A205

●: Standard items

# CNMG

T-TURN

## Negative 80° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.2 |
| **16** | 15.88 | 6.35 | 0.8-1.2 |
| **19** | 19.05 | 6.35 | 0.8-1.6 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **CNMG 120408 MGS** | 1.0-4.0 | 0.15-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
| | **120412 MGS** | 1.5-4.0 | 0.17-0.50 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
|  Medium | **CNMG 120404 ML** | 0.8-3.5 | 0.10-0.30 | | | | | | | | ● | ● | | ● | ● | | ● | | ● | ● | | | | | ● |
| | **120408 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | ● | ● | | ● | ● | | ● | | ● | ● | ● | | | | ● |
| | **120412 ML** | 1.3-3.5 | 0.15-0.35 | | | | | | | | | | | | | | ● | | ● | | | | | | |
|  Medium | **CNMG 120408 MLP** | 0.5-3.5 | 0.10-0.40 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
| | **120412 MLP** | 0.6-3.5 | 0.15-0.50 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
|  Type B Medium | **CNMG 120404 MP** | 0.8-4.0 | 0.10-0.30 | | | | | | | | ● | ● | | ● | ● | ● | ● | | ● | ● | | | | | |
| | **120408 MP** | 1.0-4.0 | 0.12-0.40 | | | | | | | | ● | ● | | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | **120412 MP** | 1.5-4.0 | 0.15-0.50 | | | | | | | | ● | ● | | ● | ● | | ● | | ● | ● | | | | | |
| | **160612 MP** ✓ | 2.5-6.0 | 0.15-0.50 | | | | | | | | | ● | | | | | | | | | | | | | |
|  Type B Medium | **CNMG 120404 MT** | 1.0-5.0 | 0.15-0.40 | | ● | | ● | ● | ● | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **120408 MT** | 1.2-5.0 | 0.17-0.55 | ● | ● | | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | |
| | **120412 MT** | 1.5-5.0 | 0.20-0.55 | | | | ● | ● | | | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | **160608 MT** ✓ | 2.0-6.5 | 0.20-0.55 | | | | ● | | | | | ● | | | | | | | | | | | | | |
| | **160612 MT** ✓ | 2.0-6.5 | 0.25-0.55 | | | | ● | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160616 MT** | 2.0-6.5 | 0.30-0.55 | | | | | | | | ● | | | | | | | | | | | | | | |
| | **190608 MT** | 3.0-8.0 | 0.23-0.55 | | | | ● | | | | ● | ● | | ● | ● | ● | ● | | ● | ● | | | | | |
| | **190612 MT** | 3.0-8.0 | 0.25-0.55 | | | | | | | | ● | ● | ● | | ● | ● | ● | | ● | ● | | | | | |
| | **190616 MT** | 3.0-8.0 | 0.30-0.55 | | | | | | | | | ● | | | | | | | | | | | | | |



A58-A59, A100-A101, A146, A170, A194, A203, A205

▸ ✓: Type B chip breaker

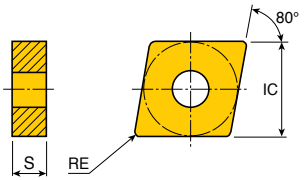
●: Standard items



ADVANCE CUTTING TaeguTec

# CNMG

## Negative 80° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| **16** | 15.88 | 6.35 | 0.8-1.6 |
| **19** | 19.05 | 6.35 | 0.8-1.6 |
| **25** | 25.4 | 9.52 | 2.4 |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **CNMG 120404 PC** | 0.4-5.0 | 0.10-0.40 | | | | | | | ● | ● | ● | | ● | ● | ● | ● | | | | | | | | |
| | **120408 PC** | 0.5-5.0 | 0.15-0.50 | | | | | | | ● | ● | ● | ● | ● | ● | ● | ● | | | | ● | | | | |
| | **120412 PC** | 0.6-5.0 | 0.17-0.55 | | | | | | | ● | ● | ● | | | ● | ● | | | | | ● | | | | |
| | **120416 PC** | 0.8-5.0 | 0.20-0.60 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160608 PC** | 2.0-6.5 | 0.20-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **160612 PC** | 2.0-6.5 | 0.25-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **160616 PC** | 2.0-6.5 | 0.30-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **190608 PC** | 3.0-8.0 | 0.23-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **190612 PC** | 3.0-8.0 | 0.25-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **190616 PC** | 3.0-8.0 | 0.30-0.55 | | | | | | | | | ● | | | | | | | | | | | | | |
|  Roughing | **CNMG 120408 RGP** | 2.5-6.0 | 0.25-0.70 | | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **120412 RGP** | 2.5-6.0 | 0.25-0.70 | | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **120416 RGP** | 2.5-6.0 | 0.30-0.70 | | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **190616 RGP** | 3.0-9.0 | 0.30-0.85 | | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Type B Roughing | **CNMG 120408 RT** | 2.5-6.0 | 0.25-0.70 | | | | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | | | | | |
| | **120412 RT** ✓ | 2.5-6.0 | 0.25-0.70 | | | | ● | ● | ● | | ● | ● | ● | | ● | ● | ● | ● | | | | | | | |
| | **120416 RT** | 2.5-6.0 | 0.30-0.70 | | | | | ● | | ● | ● | | | | | | | | | | | | | | |
| | **160612 RT** | 3.0-7.0 | 0.25-0.70 | | | | ● | ● | | | ● | ● | ● | | | | ● | ● | ● | | | | | | |
| | **160616 RT** | 3.0-7.0 | 0.30-0.85 | | | | ● | ● | | | ● | ● | | | | | | | | | | | | | |
| | **190608 RT** | 3.0-9.0 | 0.25-0.70 | | | | | | | ● | | ● | ● | | | | ● | | | | | | | | |
| | **190612 RT** | 3.0-9.0 | 0.25-0.70 | | | | ● | ● | | ● | ● | ● | ● | | ● | | ● | ● | ● | | | | | | |
| | **190616 RT** | 3.0-9.0 | 0.30-0.85 | | | | ● | ● | | | ● | ● | ● | | | | ● | ● | | ● | | | | | |
| | **250924 RT** | 5.0-12.0 | 0.45-1.00 | | | | | | | | ● | ● | | | | | | ● | | | | | | | |
|  Finishing | **CNMG 120404 SF** | 0.5-1.5 | 0.08-0.25 | | | | | | | | | | | | | | ● | | ● | ● | | | | | |
| | **120408 SF** | 0.7-1.5 | 0.10-0.30 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |



A58-A59, A100-A101, A146, A170, A194, A203, A205

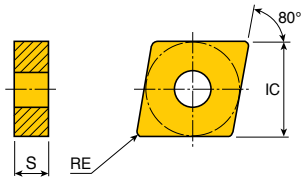
▸ ✓: Type B chip breaker

●: Standard items

# CNMG CNMM

T-TURN

## Negative 80° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.2 |
| **19** | 19.05 | 6.35 | 1.2-2.4 |
| **25** | 25.4 | 9.52 | 2.4-3.2 |
| | | | |
| | | | |
| | | | |

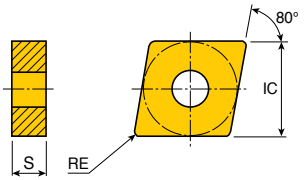
| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
| wiper | **CNMG** | **120404 WS** | 0.5-2.0 | 0.05-0.35 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| Finishing | | | | | | | | | | | | | | | | | | | | | | | | | | |
| wiper | **CNMG** | **120408 WT** | 1.0-5.0 | 0.15-0.60 | | | | ● | ● | | | ● | ● | | | | | ● | | | | | | | | |
| | | **120412 WT** | 1.0-5.0 | 0.20-0.80 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| Medium | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CNMM** | **250924 EH** | 2.5-15.0 | 0.45-1.20 | | | | | | | | | | | ● | ● | ● | | | | | | | | | |
| Roughing | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CNMM** | **190612 HT** | 4.0-9.0 | 0.35-0.90 | | | | | | | | ● | | | | | | ● | | | | | | | | |
| | | **190616 HT** | 4.0-9.0 | 0.45-1.00 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | **190624 HT** | 4.0-9.0 | 0.55-1.20 | | | | | | | | ● | ● | | | | | | ● | | | | | | | |
| | | **250724 HT** | 5.0-12.0 | 0.55-1.30 | | | | | | | | | | | | | | ● | ● | | | | | | | |
| | | **250924 HT** | 5.0-12.0 | 0.55-1.30 | | | | | | | | | | | | | | | ● | | | | | | | |
| Roughing | | **250932 HT** | 5.0-13.0 | 0.65-1.30 | | | | | | | | | | | | | | | ● | | | | | | | |
| | **CNMM** | **190624 HY** | 4.0-12.0 | 0.50-1.10 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | **250924 HY** | 4.0-15.0 | 0.55-1.50 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| Roughing | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | **CNMM** | **250924 HZ** | 4.0-15.0 | 0.55-1.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| Roughing | | | | | | | | | | | | | | | | | | | | | | | | | | |

A58-A59, A100-A101, A146, A170, A194, A203, A205

●: Standard items

# CNMM

**Negative 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76-5.56 | 0.8-1.2 |
| **16** | 15.88 | 6.35-7.94 | 0.8-2.4 |
| **19** | 19.05 | 6.35 | 0.8-2.4 |
| **25** | 25.4 | 7.94-9.52 | 2.4 |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **CNMM 120408 RH** | 2.5-6.0 | 0.30-0.70 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **120412 RH** | 2.5-6.0 | 0.30-0.80 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160608 RH** | 3.0-8.0 | 0.30-0.70 | | | | | | | | | ● | | | | | | | | | ● | | | | |
| | **160612 RH** | 3.0-8.0 | 0.30-0.80 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160616 RH** | 4.0-8.0 | 0.45-1.00 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **190612 RH** | 4.0-9.0 | 0.35-0.80 | | | | | | | | ● | ● | | | | | ● | ● | | | | | | | |
| | **190616 RH** | 4.0-9.0 | 0.45-1.00 | | | | | | | | ● | ● | | | ● | | ● | | | | | | | | |
| | **190624 RH** | 4.0-9.0 | 0.55-1.20 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **250924 RH *** | 5.0-12.0 | 0.55-1.20 | | | | | | | | | ● | | | | | | | | | | | | | |
|  Roughing | **CNMM 120408 RX** | 0.7-7.0 | 0.20-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **120412 RX** | 1.0-7.0 | 0.25-0.70 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **160612 RX** | 1.0-9.0 | 0.25-0.70 | | | | | | | | ● | | | | | | ● | | | | | | | | |
| | **160616 RX** | 1.5-9.0 | 0.30-0.90 | | | | | | | | ● | ● | ● | | ● | ● | | | | | | | | | |
| | **160624 RX** | 2.0-9.0 | 0.35-1.20 | | | | | | | ● | | ● | | | | | | | | | | | | | |
| | **190608 RX** | 0.7-10.0 | 0.20-0.55 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **190612 RX** | 1.0-10.0 | 0.25-0.70 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **190616 RX** | 1.5-10.0 | 0.30-0.90 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **190624 RX** | 2.0-10.0 | 0.35-1.10 | | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **250724 RX** | 2.0-12.0 | 0.35-1.20 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **250924 RX** | 2.0-12.0 | 0.35-1.20 | | | | | | | | | ● | | | | | | | | | | | | | |



A58-A59, A100-A102, A146, A170, A194

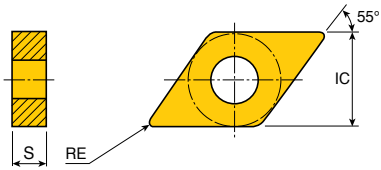
▸ *: Chip breaker shape is not the same as shown in the catalogue

●: Standard items

# DNGG DNMA DNMG

T-TURN

**Negative 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 9.52 | 4.76 | 0.8 |
| **15** | 12.7 | 4.76-6.35 | 0.1-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | K10 |
|  Medium | **DNGG 150401 ML** | 0.1-1.0 | 0.03-0.10 | | | | | | | | | | | | | | | | ● | | | | | | ● |
| | **150402 ML** | 0.2-1.2 | 0.05-0.15 | | | | | | | | | | | | | | | | ● | | | | | | ● |
| | **150404 ML** | 0.8-3.5 | 0.10-0.30 | | | | | | | | | | | | | | | | ● | | | | | | ● |
| | **150408 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | | | | | | | | | ● | | | | | | ● |
|  Roughing | **DNMA 150408** | 0.8-4.0 | 0.15-0.65 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **150608** | 0.8-4.0 | 0.15-0.65 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **150412** | 1.2-4.0 | 0.15-0.65 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **150612** | 1.2-4.0 | 0.15-0.65 | | | | | ● | | | | | | | | | | | | | | | | | |
|  Medium | **DNMG 150404** | 1.0-4.0 | 0.17-0.45 | | | | | ● | | | | ● | | | | | | | | | | | | | |
| | **150604** | 1.0-4.0 | 0.17-0.45 | | | | ● | ● | | | ● | ● | | | | | ● | | | | | | | | |
| | **150408** | 1.5-4.0 | 0.17-0.55 | | | | | | | | ● | | | | | | | | | | | | | | |
| | **150608** | 1.5-4.0 | 0.17-0.55 | | | | ● | ● | ● | | ● | ● | ● | | | | ● | | | | | | | | ● |
| | **150412** | 1.5-4.0 | 0.25-0.55 | | | | ● | | | | ● | | | | | | | | | | | | | | |
| | **150612** | 1.5-4.0 | 0.25-0.55 | | | | ● | | ● | | ● | ● | | | | | ● | | | | | | | | |
| | **150416** | 2.5-4.0 | 0.25-0.65 | | | | | | | | | | | | | | ● | | | | | | | | |
| | **150616** | 2.5-4.0 | 0.25-0.65 | | | | | | | | ● | | | | | | | | | | | | | | |
|  Finishing | **DNMG 150404 EA** | 0.1-1.5 | 0.05-0.2 | | | | | | | | | | | | ● | | | | | | | | | | |
| | **150408 EA** | 0.1-1.5 | 0.10-0.4 | | | | | | | | | | | ● | | | | | | | | | | | |
| | **150604 EA** | 0.1-1.5 | 0.05-0.2 | | | | | | | | | | | | ● | | | | ● | | ● | ● | ● | | |
| | **150608 EA** | 0.1-1.5 | 0.10-0.4 | | | | | | | | | | | ● | | | | | ● | | ● | ● | ● | | |
|  Medium | **DNMG 110408 EM #** | 0.5-4.0 | 0.13-0.50 | | | | | | | | | | | ● | ● | ● | | | | | | | | | |
| | **150408 EM** | 0.5-5.0 | 0.13-0.50 | | | | | | | | | | | ● | ● | ● | | | | | | | | | |
| | **150608 EM** | 0.5-5.0 | 0.13-0.50 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **150412 EM** | 0.5-5.0 | 0.15-0.55 | | | | | | | | | | | ● | ● | ● | | | | | | | | | |
| | **150612 EM** | 0.5-5.0 | 0.15-0.55 | | | | | | | | | | | ● | ● | ● | | | | | | | | | |
|  Roughing | **DNMG 150408 ET** | 1.0-6.0 | 0.20-0.60 | | | | | | | | | | | ● | ● | ● | | | ● | | | | | ● | |
| | **150412 ET** | 1.0-6.0 | 0.25-0.60 | | | | | | | | | | | ● | ● | ● | | | ● | | | | | ● | |
| | **150608 ET** | 1.0-6.0 | 0.20-0.60 | | | | | | | | | | | ● | | ● | | | ● | | | ● | ● | ● | |
| | **150612 ET** | 1.0-6.0 | 0.25-0.60 | | | | | | | | | | | ● | | ● | | | ● | | | ● | ● | ● | |



A52, A53, A60-A61, A74, A102, A146, A171, A177-A179, A195, A203, A206, A215

▸ #: Insert with screw hole

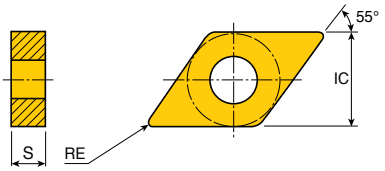
●: Standard items



ADVANCE CUTTING TaeguTec

# DNMG

**Negative 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 9.52 | 4.76 | 0.4-0.8 |
| **15** | 12.7 | 4.76-6.35 | 0.4-1.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **DNMG 150408 FA** | 0.2-2.0 | 0.05-0.20 | | | | | | | | ● | | | | | | ● | | | | | | | |
| | **150608 FA** | 0.2-2.0 | 0.05-0.20 | | | | | | | | ● | | | | | | ● | | | | | | | |
|  Finishing | **DNMG 110404 FC #** | 0.5-2.0 | 0.07-0.20 | | | | | | | | | | | | | | ● | | | | | | | |
| | **110408 FC #** | 0.7-2.0 | 0.10-0.25 | | | | | | | | ● | ● | | | ● | | ● | | | | | | | |
| | **150404 FC** | 0.2-2.5 | 0.05-0.30 | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **150604 FC** | 0.2-2.5 | 0.05-0.30 | | | | | | | | ● | | | | ● | | | | | | | | | |
| | **150408 FC** | 0.3-2.5 | 0.08-0.35 | | | | | | | ● | ● | ● | | | | | ● | | | | | | | |
| | **150608 FC** | 0.3-2.5 | 0.08-0.35 | | | | | | | ● | ● | ● | | | | | ● | | | | | | | |
| | **150412 FC** | 0.5-2.5 | 0.08-0.35 | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **150612 FC** | 0.5-2.5 | 0.08-0.35 | | | | | | | | | ● | | | | | | | | | | | | |
|  Type B Finishing | **DNMG 110404 FG #** | 0.5-2.0 | 0.07-0.20 | ● | ● | | | | | | ● | ● | | | ● | | ● | | | | | | | |
| | **110408 FG #** | 0.7-2.0 | 0.10-0.25 | ● | ● | | | | | | ● | | | | | | ● | | | | | | | |
| | **150404 FG** | 0.5-2.0 | 0.07-0.20 | ● | ● | | | | | ● | ● | ● | | | | | ● | | | | | | | |
| | **150604 FG** | 0.5-2.0 | 0.07-0.20 | ● | ● | | | | | ● | ● | ● | | | | | ● | | | | | | | |
| | **150408 FG ✓** | 0.7-2.0 | 0.10-0.25 | ● | ● | | | | | ● | ● | ● | | | | | ● | | | | | | | |
| | **150412 FG ✓** | 1.0-2.0 | 0.12-0.25 | | | | | | | | ● | | | | | | | | | | | | | |
| | **150608 FG ✓** | 0.7-2.0 | 0.10-0.25 | ● | ● | | | | | ● | ● | ● | | | | | ● | | | | | | | |
|  Finishing | **DNMG 150604 FLP** | 0.2-2.0 | 0.08-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **150608 FLP** | 0.3-2.0 | 0.10-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Roughing | **DNMG 150408 KT** | 0.38-7.0 | 0.17-0.47 | | | | ● | ● | ● | | | | | | | | | | | | | | | |
| | **150608 KT** | 0.38-7.0 | 0.17-0.47 | | | | ● | ● | ● | | | | | | | | | | | | | | | |
| | **150412 KT** | 0.5-7.0 | 0.23-0.63 | | | | ● | ● | ● | | | | | | | | | | | | | | | |
| | **150612 KT** | 0.5-7.0 | 0.23-0.63 | | | | ● | ● | ● | | | | | | | | | | | | | | | |



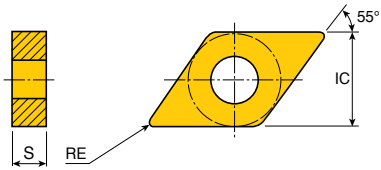
A52, A53, A60-A61, A74, A102, A146, A171, A177-A179, A195, A203, A206, A215

▸ #: Insert with screw hole
▸ ✓: Type B chip breaker

●: Standard items

# DNMG

## Negative 55° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **15** | 12.7 | 4.76-6.35 | 0.4-1.2 |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **DNMG 150604 MC** | 0.5-3.5 | 0.10-0.30 | | | | | | | ● | ● | ● | | | | | ● | | | | | | | | |
| | **150408 MC** | 0.7-3.5 | 0.12-0.35 | | | | | | | ● | | ● | ● | | | | | | | | | | | | |
| | **150608 MC** | 0.7-3.5 | 0.12-0.35 | | | | | | | | ● | ● | ● | | | | ● | ● | | ● | | | | | |
| | **150412 MC** | 1.0-3.5 | 0.15-0.35 | | | | | | | ● | | | | | | | ● | | | | | | | | |
| | **150612 MC** | 1.0-3.5 | 0.15-0.35 | | | | | | | | ● | | | | | | ● | | | | | | | | |
|  Medium | **DNMG 150608 MGP** | 0.5-4.0 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **150612 MGP** | 0.6-4.0 | 0.17-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Medium | **DNMG 150408 MGS** | 1.0-4.0 | 0.15-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
| | **150608 MGS** | 1.0-4.0 | 0.15-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
| | **150612 MGS** | 1.0-4.0 | 0.17-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
|  Medium | **DNMG 150404 ML** | 0.8-3.5 | 0.10-0.30 | | | | | | | | | ● | | | | | ● | | ● | | | | | | |
| | **150604 ML** | 0.8-3.5 | 0.10-0.30 | | | | | | | | ● | ● | | | | | ● | | ● | | | | | | ● |
| | **150408 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | | ● | | | | | ● | | ● | | | | | | ● |
| | **150608 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | ● | ● | | | ● | | ● | ● | ● | ● | | | | | ● |
|  Medium | **DNMG 150608 MLP** | 0.3-3.5 | 0.10-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **150612 MLP** | 0.35-3.5 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Type B Medium | **DNMG 150404 MP** | 0.8-4.0 | 0.10-0.30 | | | | | | | | ● | | | | ● | | ● | | ● | | | | | | |
| | **150604 MP** | 0.8-4.0 | 0.10-0.30 | | | | | | | | ● | ● | | | ● | | ● | | ● | | | | | | |
| | **150408 MP** | 1.0-4.0 | 0.12-0.40 | | | | | | | | ● | | | | | | ● | | ● | ● | | | | | |
| | **150608 MP** | 1.0-4.0 | 0.12-0.40 | | | | | | | | ● | ● | | | ● | ● | ● | | ● | ● | ● | | | | |
| | **150612 MP** ✓ | 1.0-4.0 | 0.15-0.40 | | | | | | | | ● | | | ● | ● | ● | ● | | ● | | | | | | |

A52, A53, A60-A61, A74, A102, A146, A171, A177-A179, A195, A203, A206, A215

▸ ✓: Type B chip breaker

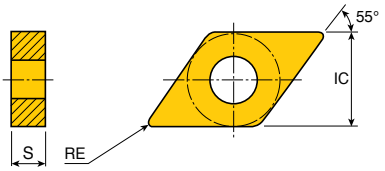
●: Standard items



ADVANCE CUTTING TaeguTec

# DNMG

**Negative 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 9.52 | 4.76 | 0.8-1.2 |
| **15** | 12.7 | 4.76-6.35 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **DNMG 110408 MT #** | 1.0-3.0 | 0.17-0.40 | | ● | | ● | ● | | | ● | ● | | | | | ● | | ● | | | | | | |
| | **110412 MT #** | 1.0-3.0 | 0.20-0.45 | | | | ● | ● | | | ● | | | | | | | | | | | | | | |
| | **150404 MT** | 0.8-4.0 | 0.15-0.40 | | ● | | | ● | ● | | ● | ● | | | | | ● | | | | | | | | |
| | **150604 MT** | 0.8-4.0 | 0.15-0.40 | | ● | | ● | ● | ● | | ● | ● | | | | | ● | | ● | | | | | | |
| | **150408 MT** | 1.0-4.0 | 0.17-0.50 | | ● | | | ● | ● | | ● | ● | | ● | ● | | ● | | ● | ● | | | | | |
| | **150608 MT** | 1.0-4.0 | 0.17-0.50 | | ● | | ● | ● | ● | | ● | ● | | ● | ● | ● | ● | ● | ● | ● | | | | | |
| | **150412 MT** | 1.3-4.0 | 0.20-0.50 | | | | | ● | | | ● | | | | | | ● | | | | | | | | |
| | **150612 MT** | 1.3-4.0 | 0.20-0.50 | | | | ● | ● | ● | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Medium | **DNMG 110408 PC #** | 0.5-3.0 | 0.17-0.40 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
| | **150404 PC** | 0.4-4.0 | 0.10-0.40 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
| | **150604 PC** | 0.4-4.0 | 0.10-0.40 | | | | | | | | ● | ● | | ● | ● | | ● | | | | | | | | |
| | **150408 PC** | 0.5-4.0 | 0.15-0.50 | | | | | | | ● | ● | ● | | | | | ● | | | | | | | | |
| | **150608 PC** | 0.5-4.0 | 0.15-0.50 | | | | | | | ● | ● | ● | | ● | ● | ● | ● | | | | | | | | |
| | **150412 PC** | 0.6-4.0 | 0.17-0.55 | | | | | | | ● | ● | ● | | | | | ● | | | | | | | | |
| | **150612 PC** | 0.6-4.0 | 0.17-0.55 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
|  Roughing | **DNMG 150408 RT** | 2.0-4.0 | 0.25-0.65 | | | | | ● | ● | ● | ● | | | | | | | | | | | | | | |
| | **150608 RT** | 2.0-4.0 | 0.25-0.65 | | | | ● | ● | ● | | ● | ● | | | | | ● | | | | | | | | |
| | **150412 RT** | 2.5-4.0 | 0.25-0.65 | | | | | ● | | | | ● | | | | | | | | | | | | | |
| | **150612 RT** | 2.5-4.0 | 0.25-0.65 | | | | ● | ● | ● | | | ● | | | | | ● | | | | | | | | |
| | **150616 RT** | 2.5-5.5 | 0.25-0.70 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
|  Right hand Medium | **DNMG 150404 L-VF** | 0.7-4.5 | 0.10-0.35 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **150404 R-VF** | 0.7-4.5 | 0.10-0.35 | | ● | | | | | | | ● | | | | | ● | | | | | | | | |
| | **150604 L-VF** | 0.7-4.5 | 0.10-0.35 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **150604 R-VF** | 0.7-4.5 | 0.10-0.35 | | ● | | | | | | ● | ● | | | | | ● | ● | | | | | | | |
| | **150408 L-VF** | 1.0-4.5 | 0.12-0.45 | | | | | | | | ● | ● | | | | | | | ● | | ● | | | | |
| | **150408 R-VF** | 1.0-4.5 | 0.12-0.45 | | | | | | | | ● | ● | | | | | | | ● | | ● | | | | |
| | **150608 L-VF** | 1.0-4.5 | 0.12-0.45 | | | | | | | | ● | ● | | | | | ● | ● | | | | | | | |
| | **150608 R-VF** | 1.0-4.5 | 0.12-0.45 | | ● | | | | | | ● | ● | | | | | | | | | | | | | |



A52, A53, A60-A61, A74, A102, A146, A171, A177-A179, A195, A203, A206, A215

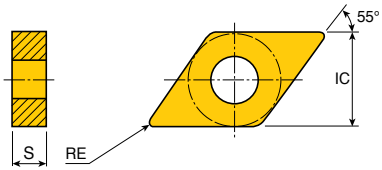
▸ #: Insert with screw hole

●: Standard items

# DNMG DNMM

T-TURN

## Negative 55° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **15** | 12.7 | 4.76-6.35 | 0.8-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
| wiper<br>  <br>Finishing | **DNMG 150408 WS *** | 0.8-4.0 | 0.10-0.30 | | | | | ● | | | | | | | ● | | | | | | | | | |
| | **150608 WS *** | 0.8-4.0 | 0.10-0.30 | | | | | ● | | | ● | | | | | | | | | | | | | |
| wiper<br>  <br>Medium | **DNMG 150412 WT *** | 1.0-5.0 | 0.15-0.60 | | | | | | | | | | | | | | ● | | | | | | | |
| | **150612 WT *** | 1.0-5.0 | 0.15-0.60 | | | | | | | | ● | | | | | | ● | | | | | | | |
|  <br>Roughing | **DNMM 150612 RX** | 2.5-4.5 | 0.30-0.65 | | | | | | | | | ● | | | | | | | | | | | | |
| | **150616 RX** | 2.5-6.0 | 0.30-0.70 | | | | | | | | ● | | | | | | | | | | | | | |



A52, A53, A60-A61, A74, A102, A146, A171, A177-A179, A195, A203, A206, A215

▸ *: Wiper inserts should be applied to □DJNR/L..., □DUNR/L..., □DZNR/L...

●: Standard items

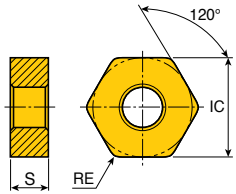


ADVANCE CUTTING TaeguTec

# HNMG

T-TURN

## Negative 120° hexagonal inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 12.7 | 4.76 | 0.8 |
| **10** | 19.05 | 6.35 | 1.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **HNMG 050408 GU** | 0.5-3.5 | 0.15-0.60 | | | | ● | ● | | | | ● | | | | | ● | | | | | | | |
| | **100612 GU** | 1.0-5.0 | 0.25-0.70 | | | | ● | ● | | | | ● | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
|  Medium | **HNMG 050408 SU** | 0.5-3.5 | 0.15-0.50 | | | | | | | | | | | ● | | | ● | | ● | | | | | | |
| | **100612 SU** | 1.0-5.0 | 0.25-0.70 | | | | | | | | | | | | | | | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |



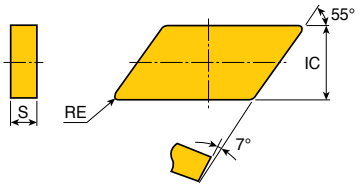
A103, A196

●: Standard items

# KNUX

T-TURN

## Negative 55° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **16** | 9.52 | 4.76 | 0.5-1.0 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Right hand Medium | **KNUX 160405 L11** | 1.5-5.0 | 0.15-0.35 | | | | | | | | ● | ● | | | ● | | ● | | | | | | | | ● |
| | **160405 R11** | 1.5-5.0 | 0.15-0.35 | | | | ● | | | | ● | ● | ● | | ● | | ● | ● | | ● | | | | | |
| | **160410 L11** | 2.0-5.0 | 0.21-0.45 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160410 R11** | 2.0-5.0 | 0.21-0.45 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Right hand Medium | **KNUX 160405 L12** | 2.0-5.0 | 0.24-0.50 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160405 R12** | 2.0-5.0 | 0.24-0.50 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160410 L12** | 2.5-6.0 | 0.30-0.60 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **160410 R12** | 2.5-6.0 | 0.30-0.60 | | | | | | | | | ● | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

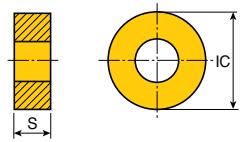


A47, A165

●: Standard items

# RNMG

## Negative round inserts




| Size | Dimension (mm) | |
|---|---|---|
| | IC | S |
| **12** | 12.7 | 4.76 |
| **15** | 15.88 | 6.35 |
| **19** | 19.05 | 6.35 |
| **25** | 25.4 | 9.52 |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **RNMG 120400** | 2.0-5.0 | 0.30-0.60 | | | | | | | ● | | ● | | | | | ● | | | | | | | |
| | **150600** | 3.5-7.0 | 0.35-0.70 | | | | | | | | | ● | | | | | | | | | | | | |
| | **190600** | 4.5-9.0 | 0.45-0.80 | | | | | | | | | ● | | | | | | | | | | | | |
| | **250900** | 4.0-12.0 | 0.55-1.20 | | | | | | | | | ● | | | | | | ● | | | | | | |

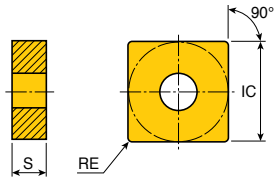


●: Standard items

# SNMA SNMD

T-TURN

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.8-1.6 |
| **15** | 15.88 | 6.35 | 1.2-1.6 |
| **19** | 19.05 | 6.35 | 1.2-1.6 |
| **25** | 25.4 | 7.94-9.52 | 2.4 |
| **31** | 31.75 | 9.52 | 2.4 |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **SNMA 120408** | 1.0-6.0 | 0.15-0.70 | | | | ● | ● | | | | | | | | | | | | | | | | ● |
| | **120412** | 1.5-6.0 | 0.20-0.80 | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **120416** | 2.0-6.0 | 0.30-1.00 | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **150612** | 2.0-8.0 | 0.20-0.80 | | | | ● | | | | | | | | | | | | | | | | | |
| | **150616** | 2.0-8.0 | 0.30-1.00 | | | | | ● | | | | | | | | | | | | | | | | |
| | **190612** | 2.0-10.0 | 0.20-0.80 | | | | ● | ● | | | | | | | | | | | | | | | | ● |
| | **190616** | 2.0-10.0 | 0.30-1.00 | | | | | ● | | | | | | | | | | | | | | | | |
| | **250724** | 3.0-13.0 | 0.40-1.20 | | | | | ● | | | ● | | | | | | | | | | | | | |
|  Roughing | **SNMD 250924 HD** | | | | | | | | | | ● | ● | ● | | | | | | | | | | | |
| | Roughing | 4.0-15.0 | 0.55-1.50 | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **SNMD 310924 HD** | | | | | | | | | | ● | ● | | | | | | ● | | | | | | |
| | Roughing | 7.0-25.0 | 0.60-1.50 | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | |



A51, A65, A66,
A104, A105, A147,
A172, A197

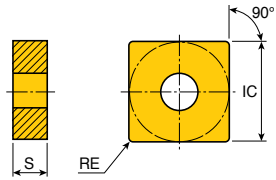
●: Standard items



TaeguTec

# SNMD

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **19** | 19.05 | 6.35 | 2.4 |
| **25** | 25.4 | 9.52 | 2.4 |
| **31** | 31.75 | 9.52 | 2.4 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **SNMD 190624 HT** | | | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | Roughing | 4.0-9.0 | 0.55-1.20 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | **250924 HT** | | | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | Roughing | 5.0-12.0 | 0.55-1.30 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **SNMD 310924 HT** | | | | | | | | | | ● | ● | | | | | | ● | | | | | | | |
| | Roughing | 6.0-22.0 | 0.50-1.40 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **SNMD 190624 HY** | | | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | Roughing | 4.0-12.0 | 0.50-1.10 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | **250924 HY** | | | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | Roughing | 4.0-15.0 | 0.55-1.50 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **SNMD 250924 HZ** | | | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | Roughing | 4.0-15.0 | 0.55-1.50 | | | | | | | | | | | | | | | | | | | | | | |
| | Finishing | 2.0-5.0 | 0.40-0.80 | | | | | | | | | | | | | | | | | | | | | | |
|  Finishing | | | | | | | | | | | | | | | | | | | | | | | | | |



A51, A65, A66, A172

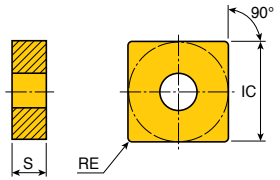
●: Standard items



ADVANCE CUTTING TaeguTec

# SNMG

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| **15** | 15.88 | 6.35 | 0.8-1.6 |
| **19** | 19.05 | 6.35 | 0.4-1.6 |
| **25** | 25.4 | 7.94-9.52 | 1.6-2.4 |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **SNMG 120404** | 1.0-5.0 | 0.17-0.45 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **120408** | 1.5-5.0 | 0.23-0.60 | | | | ● | ● | ● | | ● | ● | ● | | | | ● | | | | | | | | |
| | **120412** | 2.0-5.0 | 0.25-0.60 | | | | | ● | | | | ● | | | | | ● | | | | | | | | |
| | **120416** | 2.0-5.0 | 0.35-0.70 | | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **150608** | 1.5-6.0 | 0.25-0.60 | | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **150612** | 2.0-6.0 | 0.25-0.60 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **150616** | 2.0-6.0 | 0.35-0.70 | | | | | | | | ● | | | | | | ● | | | | | | | | |
| | **190604** | 3.0-8.0 | 0.17-0.45 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **190608** | 3.0-8.0 | 0.25-0.60 | | | | ● | | | | ● | ● | | | | | ● | | ● | | | | | | |
| | **190612** | 3.0-8.0 | 0.30-0.60 | | | | ● | ● | | | ● | ● | ● | | | | ● | | | | | | | | |
| | **190616** | 3.0-8.0 | 0.35-0.70 | | | | | | | | ● | ● | ● | | | | ● | | | | | | | | |
| | **250716** | 4.0-12.0 | 0.35-0.70 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **250724** | 5.0-12.0 | 0.50-1.00 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **250924** | 5.0-12.0 | 0.50-1.00 | | | | | | | | | ● | | | | | | | | | | | | | |
|  Finishing | **SNMG 120404 EA** | 0.1-1.5 | 0.05-0.20 | | | | | | | | | | | ● | ● | | | | ● | | | | | | |
| | **120408 EA** | 0.1-1.5 | 0.10-0.40 | | | | | | | | | | | ● | ● | | | | ● | | | | | | |
|  Medium | **SNMG 120408 EM** | 0.8-5.0 | 0.13-0.50 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **120412 EM** | 0.8-5.0 | 0.15-0.55 | | | | | | | | | | | ● | ● | ● | | | ● | | | | | | |
| | **150612 EM** | 0.8-6.5 | 0.15-0.55 | | | | | | | | | | | ● | ● | ● | | | ● | ● | | | | | |
| | **150616 EM** | 0.8-6.5 | 0.17-0.60 | | | | | | | | | | | ● | ● | ● | | | ● | ● | | | | | |
| | **190612 EM** | 0.8-8.0 | 0.15-0.55 | | | | | | | | | | | ● | ● | ● | | | ● | | | | | | |
| | **190616 EM** | 0.8-8.0 | 0.17-0.60 | | | | | | | | | | | ● | ● | ● | | | ● | | | | | | |
|  Roughing | **SNMG 120408 ET** | 2.0-7.0 | 0.25-0.70 | | | | | | | | | | | ● | ● | ● | | | ● | | | ● | ● | | |
| | **120412 ET** | 2.0-7.0 | 0.30-0.70 | | | | | | | | | | | ● | ● | ● | | | ● | | | ● | ● | | |
| | **190608 ET** | 3.0-9.0 | 0.30-0.75 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **190612 ET** | 3.0-9.0 | 0.35-0.75 | | | | | | | | | | | ● | ● | ● | | | ● | | | | | | |

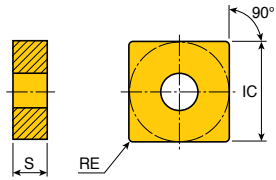


A65, A66, A104, A105, A147, A172, A197

●: Standard items

# SNMG

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| **15** | 15.88 | 6.35 | 1.2-1.6 |
| **19** | 19.05 | 6.35 | 1.6 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **SNMG 120404 FC** | 0.2-2.5 | 0.05-0.30 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **120408 FC** | 0.2-2.5 | 0.08-0.35 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **120412 FC** | 0.3-2.5 | 0.10-0.40 | | | | | | | | | ● | | | | | | | | | | | | | |
|  Finishing | **SNMG 120404 FG** | 0.5-3.0 | 0.07-0.20 | | ● | | | | | | | ● | | | | | | | ● | | | | | | |
| | **120408 FG** | 0.7-3.0 | 0.10-0.25 | ● | ● | | | | | | ● | ● | | | | | | | | | | | | | |
|  Roughing | **SNMG 120408 KT** | 0.38-7.0 | 0.19-0.53 | | | | ● | ● | ● | | | | | | | | | | | | | | | | |
| | **120412 KT** | 0.50-7.0 | 0.28-0.70 | | | | ● | ● | ● | | | | | | | | | | | | | | | | |
| | **120416 KT** | 0.75-7.0 | 0.30-0.75 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **150612 KT** | 0.6-8.5 | 0.30-0.75 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **150616 KT** | 0.9-8.5 | 0.30-0.85 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **190616 KT** | 1.3-12.0 | 0.30-0.85 | | | | ● | ● | | | | | | | | | | | | | | | | | |
|  Medium | **SNMG 120408 MC** | 0.7-3.5 | 0.12-0.35 | | | | | | | | ● | ● | | | | | ● | | | ● | | | | | |
| | **120412 MC** | 0.7-3.5 | 0.15-0.40 | | | | | | | | ● | | | | | | ● | | | | | | | | |
|  Medium | **SNMG 120408 MGP** | 0.5-5.0 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Medium | **SNMG 120408 MGS** | 1.0-4.0 | 0.15-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
| | **120412 MGS** | 1.3-4.0 | 0.17-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
| | **190616 MGS** | 1.5-8.0 | 0.17-0.60 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
|  Medium | **SNMG 120408 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | ● | ● | | | | | ● | | | ● | | | | | ● |
| | **120412 ML** | 1.0-3.5 | 0.15-0.35 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |



A65, A66, A104, A105, A147, A172, A197

●: Standard items

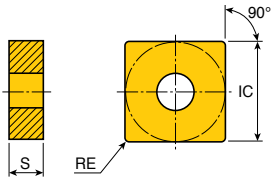


ADVANCE CUTTING TaeguTec

# SNMG SNMM

T-TURN

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.2 |
| **15** | 15.88 | 6.35 | 0.8 |
| **19** | 19.05 | 6.35 | 1.2-2.4 |
| **25** | 25.4 | 7.94-9.52 | 2.4-3.2 |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Type B Medium | **SNMG 120404 MP** ✓ | 0.8-4.0 | 0.10-0.30 | | | | | | | | ● | ● | | | | | ● | | | ● | | | | |
| | **120408 MP** | 1.0-4.0 | 0.12-0.40 | | | | | | | | ● | ● | | | ● | | ● | | ● | ● | ● | | | |
| | **120412 MP** | 1.3-4.0 | 0.15-0.40 | | | | | | | | | ● | | | | | ● | | | | | | | |
| | **150608 MP** | 1.5-6.0 | 0.25-0.60 | | | | | | | | ● | | | | | | | | | | | | | |
|  Type B Medium | **SNMG 120404 MT** ✓ | 1.0-5.0 | 0.12-0.40 | ● | | | | | | | | ● | | | | | ● | | | | | | | |
| | **120408 MT** | 1.2-5.0 | 0.17-0.55 | ● | | | ● | ● | ● | | ● | ● | | ● | ● | ● | ● | | ● | ● | | | | |
| | **120412 MT** | 1.5-5.0 | 0.20-0.55 | | | | ● | | | | ● | ● | | | ● | | ● | | ● | ● | | | | |
| | **150612 MT** ✓ | 2.0-7.0 | 0.30-0.65 | | | | | | | | | ● | ● | | | | | | | | | | | |
| | **190608 MT** | 3.0-8.0 | 0.17-0.55 | | | | | | | | | ● | | | ● | | | | | | | | | |
| | **190612 MT** | 3.0-8.0 | 0.20-0.55 | | | | | | | | | ● | | | ● | ● | ● | | | ● | | | | |
|  Medium | **SNMG 120404 PC** | 0.4-5.0 | 0.12-0.40 | | | | | | | | | ● | | | | | | | | | | | | |
| | **120408 PC** | 0.5-5.0 | 0.15-0.50 | | | | | | | | ● | ● | | | ● | | ● | | | | ● | | | |
| | **120412 PC** | 0.6-5.0 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Type B Roughing | **SNMG 120408 RT** | 2.5-6.0 | 0.25-0.70 | | | | ● | ● | | | ● | ● | | | | | ● | | | | | | | |
| | **120412 RT** | 2.5-6.0 | 0.30-0.70 | | | | ● | ● | | ● | ● | ● | | | | ● | | | | | | | | |
| | **120416 RT** | 2.5-6.0 | 0.40-0.70 | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **150612 RT** | 3.0-7.0 | 0.30-0.70 | | | | | ● | | ● | | | | | | | | | | ● | | | | |
| | **190612 RT** | 3.0-9.0 | 0.30-0.75 | | | | | | | ● | ● | ● | ● | | ● | | ● | | ● | | | | | |
| | **190616 RT** ✓ | 3.0-9.0 | 0.40-0.90 | | | | | | | ● | ● | ● | | | ● | | ● | | ● | ● | | | | |
| | **250924 RT** | 5.0-12.0 | 0.40-1.00 | | | | | | | | | | ● | | | | | | | | | | | |
|  Roughing | **SNMM 250924 EH** | 2.8-18.0 | 0.45-1.20 | | | | | | | | | | | ● | ● | ● | | | | | | | | |
|  Roughing | **SNMM 190612 HT** | 4.0-9.0 | 0.35-0.90 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **190616 HT** | 4.0-9.0 | 0.45-1.00 | | | | | | | | ● | ● | | | | | | ● | | | | | | |
| | **190624 HT** | 4.0-9.0 | 0.55-1.20 | | | | | | | | ● | | | | | | | | | | | | | |
| | **250724 HT** | 5.0-12.0 | 0.55-1.30 | | | | | | | | ● | ● | | | ● | | ● | ● | | | | | | |
| | **250924 HT** | 5.0-12.0 | 0.55-1.30 | | | | | | | | ● | | | | | | | ● | | | | | | |
| | **250932 HT** | 5.0-13.0 | 0.65-1.30 | | | | | | | | | ● | | | | | | | | | | | | |



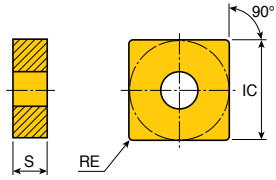
A65, A66, A104, A105, A147, A172, A197

▸ ✓: Type B chip breaker

●: Standard items

# SNMM

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.8-1.2 |
| **15** | 15.88 | 6.35-7.94 | 1.2 |
| **19** | 19.05 | 6.35 | 0.8-2.4 |
| **25** | 25.4 | 7.94-9.52 | 1.6-2.4 |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **SNMM 190624 HY** | 4.0-12.0 | 0.50-1.10 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **250924 HY** | 4.0-15.0 | 0.55-1.50 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Roughing | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **SNMM 250924 HZ** | 4.0-15.0 | 0.55-1.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
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|  Roughing | **SNMM 120408 RH** | 2.5-6.0 | 0.30-0.70 | | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **120412 RH** | 2.5-6.0 | 0.30-0.80 | | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **150612 RH** | 3.0-7.0 | 0.30-0.80 | | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **190608 RH*** | 3.0-9.0 | 0.30-0.70 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **190612 RH** | 4.0-9.0 | 0.30-0.80 | | | | | | | | | ● | ● | | | | | ● | | | | | | | |
| | **190616 RH** | 4.0-9.0 | 0.45-1.00 | | | | | | | | | ● | | | ● | | ● | | | ● | | | | | |
| | **190624 RH** | 4.0-9.0 | 0.55-1.20 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **250716 RH*** | 5.0-12.0 | 0.55-1.00 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **250724 RH*** | 5.0-12.0 | 0.55-1.20 | | | | | | | | | ● | ● | | | | ● | | | | | | | | |
| | **250924 RH*** | 5.0-12.0 | 0.55-1.20 | | | | | | | | | ● | | | | | | | | | | | | | |
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|  Roughing | **SNMM 120408 RX** | 0.7-7.0 | 0.20-0.55 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **120412 RX** | 1.0-7.0 | 0.25-0.70 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **150612 RX** | 1.0-9.0 | 0.25-0.70 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **190612 RX** | 1.0-10.0 | 0.25-0.70 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **190616 RX** | 1.5-10.0 | 0.30-0.90 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **190624 RX** | 2.0-10.0 | 0.35-1.10 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **250724 RX** | 2.0-12.0 | 0.35-1.20 | | | | | | | | ● | | | | | | | | | | | | | | |
| | **250924 RX** | 2.0-12.0 | 0.35-1.20 | | | | | | | | ● | ● | | | | | | | | | | | | | |
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A65, A66, A104, A105, A147, A172, A197

▸ *: Chip breaker shape is not the same as shown in the catalogue

●: Standard items

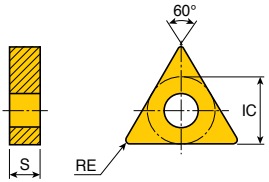


ADVANCE CUTTING TaeguTec

# TNGG TNMA TNMG

T-TURN

## Negative triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.4-0.8 |
| **16** | 9.52 | 4.76 | 0.4-1.6 |
| **22** | 12.7 | 4.76 | 0.4-1.6 |
| **27** | 15.88 | 6.35 | 0.8-1.6 |
| **33** | 19.05 | 7.94-9.52 | 1.6-2.4 |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Left hand Medium | **TNGG** | **160404 L** | 1.0-3.5 | 0.12-0.30 | ● | | | | | | | | ● | | | | | | | | | | | | | |
| | | **160404 R** | 1.0-3.5 | 0.12-0.30 | ● | | | | | | | | ● | | | | | ● | | | | | | | | |
| | | **160408 L** | 1.3-3.5 | 0.15-0.35 | ● | | | | | | | | | | | | | | | | | | | | | |
| | | **160408 R** | 1.3-3.5 | 0.15-0.35 | ● | | | | | | | | ● | | | | | | | | | | | | | |
| | | **220404 L** | 1.0-5.0 | 0.12-0.30 | ● | | | | | | | | | | | | | ● | | | | | | | | |
| | | **220404 R** | 1.0-5.0 | 0.12-0.30 | ● | | | | | | | | ● | | | | | ● | | | | | | | | |
| | | **220408 L** | 1.3-5.0 | 0.15-0.35 | ● | | | | | | | | | | | | | ● | | | | | | | | |
| | | **220408 R** | 1.3-5.0 | 0.15-0.35 | ● | | | | | | | | | | | | | ● | | | | | | | | |
|  Roughing | **TNMA** | **160404** | 1.0-4.0 | 0.15-0.30 | | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | | **160408** | 1.0-4.0 | 0.15-0.40 | | | ● | ● | ● | | | | | | | | | | | | | | | | | |
| | | **160412** | 1.5-4.5 | 0.20-0.50 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | | **160416** | 1.0-4.5 | 0.20-0.50 | | | ● | | | | | | | | | | | | | | | | | | | |
| | | **220408** | 1.5-5.0 | 0.15-0.40 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | | **220412** | 1.5-5.0 | 0.20-0.50 | | | ● | ● | | | | | | | | | | | | | | | | | | |
| | | **220416** | 2.0-5.0 | 0.20-0.61 | | | ● | ● | | | | | | | | | | | | | | | | | | |
|  Medium | **TNMG** | **110304** | 1.2-3.0 | 0.15-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | **110308** | 1.5-3.0 | 0.17-0.40 | | | | | | | | ● | | | | | | | | | | | | | | |
| | | **160404** | 1.5-3.5 | 0.17-0.45 | | | ● | ● | ● | | | ● | ● | | | | | ● | | | ● | | | | | ● |
| | | **160408** | 2.0-3.5 | 0.17-0.55 | | | ● | ● | ● | | | ● | ● | | | | | ● | | | ● | | | | | ● |
| | | **160412** | 2.0-3.5 | 0.25-0.55 | | | | | | | | ● | | | | | | ● | | | | | | | | |
| | | **220404** | 1.5-5.0 | 0.17-0.45 | | | ● | | | | | ● | ● | | | | | ● | | | | | | | | |
| | | **220408** | 2.0-5.0 | 0.17-0.55 | | | ● | ● | | | | ● | ● | | | | | ● | ● | | | | | | | |
| | | **220412** | 2.0-5.0 | 0.25-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | **220416** | 2.0-5.0 | 0.30-0.60 | | | | | | | | | ● | | | | | | | | | | | | | |
| | | **270608** | 2.0-5.0 | 0.17-0.55 | | | | | | | | | ● | ● | | | | | | | | | | | | |
| | | **270612** | 3.0-7.0 | 0.25-0.55 | | | | | | | | | ● | | | | | | | | | | | | | |
| | | **270616** | 3.0-7.0 | 0.30-0.60 | | | | | | | | | ● | | | | | | | | | | | | | |
| | | **330716** | 3.0-9.0 | 0.35-0.70 | | | | | | | | | ● | ● | | | | | ● | | | | | | | |
| | | **330924** | 3.0-9.0 | 0.40-0.80 | | | | | | | | | | ● | | | | | | | | | | | | |

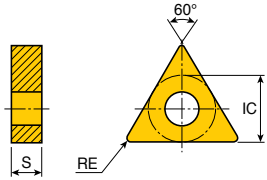


A54, A67, A68, A106, A114, A115, A148, A173, A200, A204

●: Standard items

# TNMG

## Negative triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.4 |
| **16** | 9.52 | 4.76 | 0.4-1.2 |
| **22** | 12.7 | 4.76 | 0.8-1.2 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **TNMG 160404 EA** | 0.1-1.5 | 0.05-0.20 | | | | | | | | | | | ● | ● | | | | ● | | ● | | | | |
| | **160408 EA** | 0.1-1.5 | 0.10-0.40 | | | | | | | | | | | | | | | | ● | | ● | | | | |
|  Medium | **TNMG 160408 EM** | 0.8-4.5 | 0.13-0.50 | | | | | | | | | | | ● | ● | | | | ● | | ● | | | | |
| | **160412 EM** | 0.8-4.5 | 0.15-0.55 | | | | | | | | | | | | | | | | ● | | ● | | | | |
| | **220408 EM** | 0.8-6.0 | 0.13-0.50 | | | | | | | | | | | ● | ● | ● | | | | | ● | | | | |
| | **220412 EM** | 0.8-6.0 | 0.15-0.55 | | | | | | | | | | | ● | | | | | | | ● | | | | |
|  Roughing | **TNMG 160408 ET** | 2.0-5.0 | 0.25-0.65 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **220408 ET** | 2.5-7.0 | 0.25-0.65 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **220412 ET** | 2.5-7.0 | 0.25-0.65 | | | | | | | | | | | ● | | ● | | | ● | | ● | | | | |
|  Finishing | **TNMG 160404 FC** | 0.2-2.5 | 0.05-0.30 | | | | | | | ● | ● | ● | | | ● | | ● | | ● | | | | | | |
| | **160408 FC** | 0.2-2.5 | 0.08-0.35 | | | | | | | ● | ● | ● | | | ● | ● | ● | | | | | | | | |
| | **160412 FC** | 0.3-2.5 | 0.10-0.40 | | | | | | | ● | ● | | | | | | | | | | | | | | |
|  Finishing | **TNMG 110304 FG** | 0.5-1.5 | 0.07-0.20 | ● | | | | | | | | | | | | | ● | | | | | | | | |
| | **160404 FG** | 0.5-2.0 | 0.07-0.20 | ● | ● | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160408 FG** | 0.7-2.0 | 0.10-0.25 | ● | ● | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160412 FG** | 0.7-2.0 | 0.13-0.30 | | ● | | | | | | | | | | | | | | | | | | | | |
| | **220408 FG** | 0.7-2.0 | 0.10-0.25 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Finishing | **TNMG 160404 FLP** | 0.2-2.0 | 0.08-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **160408 FLP** | 0.3-2.0 | 0.10-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Right hand Medium | **TNMG 160404 L-FS** | 0.8-3.0 | 0.15-0.30 | | ● | | | | | | | ● | | | | | ● | | | | | | | | |
| | **160404 R-FS** | 0.8-3.0 | 0.15-0.30 | | ● | | | | | | | ● | | | | | ● | | | ● | | | | | |
| | **160408 L-FS** | 1.0-3.5 | 0.20-0.40 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **160408 R-FS** | 1.0-3.5 | 0.20-0.40 | | | | | | | | | ● | | | | | ● | | | ● | | | | | |



A54, A67, A68, A106, A114, A115, A148, A173, A200, A204

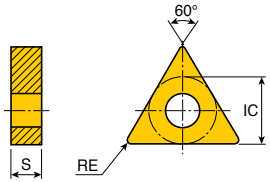
●: Standard items



ADVANCE CUTTING TaeguTec

# TNMG

**Negative triangular inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.8 |
| **16** | 9.52 | 4.76 | 0.4-1.2 |
| **22** | 12.7 | 4.76 | 0.4-1.2 |
| **27** | 15.88 | 6.35 | 1.2 |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **TNMG 160408 KT** | 0.34-6.2 | 0.17-0.42 | | | | ● | ● | ● | | | | | | | | | | | | | | | |
| | **160412 KT** | 0.45-6.3 | 0.20-0.56 | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **220408 KT** | 0.38-7.0 | 0.19-0.53 | | | | ● | ● | | | | | | | | | | | | | | | | |
| | **220412 KT** | 0.5-7.0 | 0.25-0.70 | | | | ● | ● | | | | | | | | | | | | | | | | |
|  Medium | **TNMG 160408 MC** | 0.7-3.5 | 0.17-0.40 | | | | | | | | ● | ● | | | | | ● | | | | | | | |
|  Medium | **TNMG 160408 MGP** | 0.5-4.5 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **160412 MGP** | 0.6-4.5 | 0.17-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Medium | **TNMG 160404 ML** | 0.8-3.5 | 0.10-0.30 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | |
| | **160408 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | ● | ● | ● | | | | ● | | ● | ● | | | | |
| | **160412 ML** | 1.5-3.5 | 0.15-0.35 | | | | | | | | | | | | | | ● | | | | | | | |
| | **220404 ML** | 1.0-4.0 | 0.10-0.30 | | | | | | | | | | | | | | ● | | | | | | | ● |
| | **220408 ML** | 1.0-4.0 | 0.12-0.35 | | | | | | | | | ● | | | | | ● | | | | | | | ● |
|  Medium | **TNMG 160404 MLP** | 0.25-2.5 | 0.07-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **160408 MLP** | 0.30-2.5 | 0.10-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **160412 MLP** | 0.35-2.5 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | |
|  Medium | **TNMG 160404 MP** | 0.8-3.5 | 0.10-0.30 | | | | | | | | | ● | | | ● | | ● | | ● | ● | ● | ● | ● | |
| | **160408 MP** | 1.0-3.5 | 0.12-0.40 | | | | | | | | ● | ● | | | ● | ● | ● | | ● | ● | | ● | ● | |
| | **160412 MP** | 1.5-3.5 | 0.15-0.40 | | | | | | | | ● | | | | | | ● | | ● | | | ● | ● | |
| | **220404 MP** | 1.0-3.5 | 0.12-0.35 | | | | | | | | | | | | | | | | ● | | | | | |
| | **220408 MP** | 1.0-4.0 | 0.12-0.40 | | | | | | | | ● | ● | | | ● | | | | ● | ● | | | | |
|  Type B Medium | **TNMG 110308 MT** | 1.0-3.0 | 0.17-0.40 | | | | | | | | ● | ● | | | | | ● | | | | | | | |
| | **160404 MT** | 1.0-3.5 | 0.17-0.40 | | ● | | ● | ● | | | ● | ● | | | | | ● | | ● | ● | | | | |
| | **160408 MT** | 1.2-3.5 | 0.17-0.50 | | ● | | ● | ● | ● | | ● | ● | | | ● | | ● | | ● | ● | | | | |
| | **160412 MT** | 1.5-3.5 | 0.20-0.50 | | | | ● | | | | ● | ● | | | | | ● | | | | | | | |
| | **220404 MT** | 1.2-5.0 | 0.15-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **220408 MT** | 1.2-5.0 | 0.17-0.50 | | | | ● | | | | ● | ● | | | | | ● | | | ● | | | | |
| | **220412 MT** ✓ | 1.5-5.0 | 0.20-0.50 | | | | | | | | ● | ● | | | | | ● | | | ● | | | | |
| | **270612 MT** ✓ | 3.0-7.0 | 0.20-0.50 | | | | | ● | | | | | ● | | | | ● | | ● | | | | | |



A54, A67, A68, A106, A114, A115, A148, A173, A200, A204

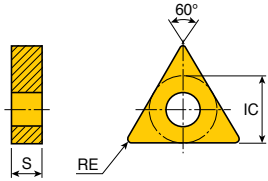
▸ ✓: Type B chip breaker

●: Standard items

# TNMG TNMM

T-TURN

## Negative triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **16** | 9.52 | 4.76 | 0.4-1.2 |
| **22** | 12.7 | 4.76 | 0.8-1.6 |
| **27** | 15.88 | 6.35 | 1.2 |
| **33** | 19.05 | 9.52 | 2.4 |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **TNMG 160404 PC** | 1.0-3.5 | 0.15-0.40 | | | | | | | ● | ● | ● | | | ● | | | | | | | | | | |
| | **160408 PC** | 0.5-4.5 | 0.15-0.50 | | | | | | | ● | ● | ● | | ● | ● | ● | ● | | | | ● | | | | |
| | **160412 PC** | 0.6-4.5 | 0.17-0.55 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
| | **220408 PC** | 1.2-5.0 | 0.17-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **220412 PC** | 1.5-5.0 | 0.20-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Roughing | **TNMG 160408 RT** | 2.0-5.0 | 0.25-0.65 | | | | ● | ● | ● | | | ● | | | | | | | | | | | | | |
| | **160412 RT** | 2.0-5.0 | 0.25-0.65 | | | | ● | ● | ● | | | ● | | | | | | | | | | | | | |
| | **220408 RT** | 2.0-7.0 | 0.25-0.65 | | | | | | | | | ● | ● | | | | ● | | | | | | | | |
| | **220412 RT** | 2.5-7.0 | 0.25-0.65 | | | | | ● | | | | | | | | | | | | | | | | | |
| | **330924 RT** | 3.0-9.0 | 0.35-0.70 | | | | | | | | | ● | ● | | | | | ● | | | | | | | |
|  Finishing | **TNMG 160408 SF** | 0.7-1.5 | 0.10-0.30 | | | | | | | | | | | | | | ● | | ● | | | | | | |
|  Right hand Medium | **TNMG 160404 L-VF** | 0.7-3.5 | 0.10-0.30 | | ● | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160404 R-VF** | 0.7-3.5 | 0.10-0.30 | ● | ● | | | | | | ● | ● | | | | | ● | | | ● | | | | | |
| | **160408 L-VF** | 1.0-3.5 | 0.12-0.35 | | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **160408 R-VF** | 1.0-3.5 | 0.12-0.35 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
|  Type B Roughing | **TNMM 160408 RH** | 2.0-7.0 | 0.30-0.70 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **220408 RH** | 2.0-7.0 | 0.30-0.70 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
| | **220412 RH** | 2.5-7.0 | 0.30-0.70 | | | | | | | | | ● | | | | | ● | ● | | | | | | | |
| | **270612 RH** ✓ | 3.0-8.0 | 0.30-0.80 | | | | | | | | ● | | | | | | | | | | | | | | |
|  Roughing | **TNMM 160408 RX** | 0.7-6.0 | 0.20-0.55 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **160412 RX** | 1.0-7.0 | 0.25-0.70 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **220408 RX** | 0.7-7.5 | 0.20-0.55 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **220412 RX** | 1.0-7.5 | 0.25-0.70 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **220416 RX** | 1.5-7.5 | 0.30-0.90 | | | | | | | | ● | ● | ● | | | | | | | | | | | | |



A54, A67, A68, A106, A114, A115, A148, A173, A200, A204

▸ ✓: Type B chip breaker

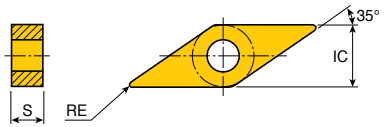
●: Standard items



ADVANCE CUTTING TaeguTec

# VNGG VNMG

**Negative 35° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **13** | 7.94 | 4.76 | 0.4-0.8 |
| **16** | 9.52 | 4.76 | 0.1-1.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | PVD coated | | | | | | | | K10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | |
|  Medium | **VNGG 160401 ML** | 0.1-1.0 | 0.03-0.10 | | | | | | | | | | | | | | | | | | | | | ● |
| | **160402 ML** | 0.2-1.2 | 0.05-0.15 | | | | | | | | | | | | | | ● | | | | | | | ● |
| | **160404 ML** | 0.8-3.0 | 0.10-0.27 | | | | | | | | | | | | | | ● | | | | | | | ● |
| | **160408 ML** | 0.8-3.5 | 0.10-0.30 | | | | | | | | | | | | | | ● | | | | | | | ● |
|  Medium | **VNMG 160404** | 1.0-3.0 | 0.17-0.40 | | | | ● | ● | ● | ● | | | | | ● | | | | | | | | | |
| | **160408** | 1.5-3.0 | 0.17-0.50 | | | | ● | ● | ● | ● | | | | | ● | | | | | | | | | |
| | **160412** | 1.5-3.0 | 0.20-0.50 | | | | ● | ● | | ● | | | | | | | | | | | | | | |
|  Finishing | **VNMG 160404 EA** | 0.1-1.5 | 0.05-0.20 | | | | | | | | | ● | ● | | | | ● | | ● | ● | ● | | | |
| | **160408 EA** | 0.2-2.5 | 0.08-0.30 | | | | | | ● | | | ● | | | | | ● | | | ● | ● | | | |
|  Medium | **VNMG 160408 EM** | 0.8-3.5 | 0.13-0.50 | | | | | | | | | ● | | | | | | | ● | | | | | |
|  Finishing | **VNMG 160408 FA** | 0.3-2.0 | 0.05-0.25 | | | | | | ● | | | | | | ● | | ● | | | | | | | |
|  Finishing | **VNMG 130404 FC #** | 0.5-1.5 | 0.08-0.20 | | | | | | ● | ● | | | ● | | | | | | | | | | | |
| | **130408 FC #** | 0.5-2.0 | 0.10-0.23 | | | | | | | ● | | | | | | | | | | | | | | |
| | **160404 FC** | 0.3-2.5 | 0.05-0.30 | | | | | | ● | ● | | | ● | | | | | | | | | | | |
| | **160408 FC** | 0.3-2.5 | 0.08-0.35 | | | | | | ● | ● | | | ● | | | | | | | | | | | |
|  Finishing | **VNMG 130404 FG #** | 0.5-1.5 | 0.08-0.20 | | ● | | | | | | ● | ● | | | | | ● | | ● | | | | | |
| | **130408 FG #** | 0.5-2.0 | 0.10-0.23 | | ● | | | | | | ● | ● | | | | | | | | | | | | |
| | **160404 FG** | 0.5-2.0 | 0.08-0.20 | ● | ● | | | | | ● | ● | ● | | | ● | | ● | | ● | ● | | | | |
| | **160408 FG** | 0.5-2.0 | 0.10-0.23 | ● | ● | | | | | ● | ● | ● | | | | | ● | | ● | | | | | |
|  Finishing | **VNMG 160404 FLP** | 0.2-1.5 | 0.08-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **160408 FLP** | 0.3-1.5 | 0.10-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |
| | **160412 FLP** | 0.4-1.5 | 0.12-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | |



A55, A56, A87, A108, A148, A188, A190, A206

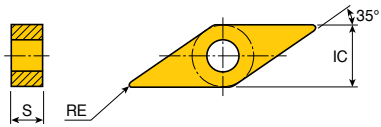
▸ #: Insert with screw hole

●: Standard items

# VNMG VNMM

T-TURN

## Negative 35° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **13** | 7.94 | 4.76 | 0.4-0.8 |
| **16** | 9.52 | 4.76 | 0.4-1.2 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **VNMG 160404 FX** | 0.2-2.0 | 0.05-0.20 | | ● | | | | | | ● | ● | | | | | | | | | | | | | |
| | **160408 FX** | 0.2-2.0 | 0.07-0.20 | | ● | | | | | ● | ● | ● | | | | | | | | | | | | | |
| | **160412 FX** | 0.2-2.0 | 0.10-0.23 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Medium | **VNMG 160408 MGP** | 0.5-3.0 | 0.17-0.36 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Type B Medium | **VNMG 130404 MT #** | 0.8-2.5 | 0.15-0.36 | | ● | | | ● | ● | | ● | | | | | | ● | | | | | | | | |
| | **130408 MT #** | 1.0-2.5 | 0.17-0.36 | | ● | | ● | | | | ● | ● | | | | | ● | | | | | | | | |
| | **160404 MT ✓** | 0.8-3.0 | 0.15-0.36 | | ● | | | | ● | | ● | ● | | | ● | | ● | | ● | | | | | | |
| | **160408 MT** | 1.0-2.5 | 0.17-0.36 | | ● | | ● | ● | ● | | ● | ● | | | ● | ● | ● | | ● | ● | | | | | |
|  Medium | **VNMG 160404 PC** | 0.4-3.0 | 0.15-0.36 | | | | | | | ● | ● | ● | | ● | | | | | | | | | | | |
| | **160408 PC** | 0.5-3.0 | 0.17-0.36 | | | | | | | ● | ● | ● | | | | | | | | | | | | | |
|  Medium | **VNMM 160404 ML** | 0.8-3.0 | 0.10-0.27 | | | | | | | | | | | | | | | | | | | | | | ● |
| | **160408 ML** | 1.0-3.0 | 0.12-0.32 | | | | | | | | | | | | | | ● | | | | | | | | ● |



A55, A56, A87, A108, A148, A188, A190

▸ ✓: Type B chip breaker
▸ #: Insert with screw hole

●: Standard items

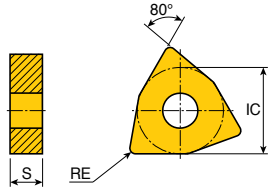


ADVANCE CUTTING TaeguTec

# WNMA WNMG

T-TURN

## Negative 80° trigon inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 9.52 | 4.76 | 0.4-1.2 |
| **08** | 12.7 | 4.76 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | K10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | |
|  Roughing | **WNMA 060408** | 1.0-4.0 | 0.15-0.70 | | | | | ● | | | | | | | | | | | | | | | | | |
| | **060412** | 1.5-4.0 | 0.20-0.80 | | | | ● | | | | | | | | | | | | | | | | | | |
| | **080408** | 1.0-5.0 | 0.15-0.70 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **080412** | 1.5-5.0 | 0.20-0.80 | | | | ● | ● | | | | | | | | | | | | | | | | | |
| | **080416** | 1.5-5.0 | 0.20-0.80 | | | | ● | ● | | | | | | | | | | | | | | | | | |
|  Finishing | **WNMG 080404 EA** | 0.1-1.5 | 0.05-0.20 | | | | | | | | | | | | | | | | ● | | ● | | | | |
| | **080408 EA** | 0.1-1.5 | 0.10-0.40 | | | | | | | | | | | ● | ● | ● | | | ● | | | | | | |
|  Medium | **WNMG 060408 EM** | 0.8-3.0 | 0.13-0.50 | | | | | | | | | | | | ● | | | | ● | | ● | | | | |
| | **060412 EM** | 0.8-3.0 | 0.15-0.55 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **080404 EM** | 0.8-4.0 | 0.10-0.45 | | | | | | | | | | | ● | ● | ● | | | | | ● | | | | |
| | **080408 EM** | 0.8-4.0 | 0.12-0.45 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **080412 EM** | 0.8-4.0 | 0.12-0.45 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
|  Roughing | **WNMG 060408 ET** | 0.8-4.0 | 0.15-0.50 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **060412 ET** | 0.8-4.0 | 0.15-0.50 | | | | | | | | | | | ● | ● | ● | | | ● | | ● | | | | |
| | **080408 ET** | 0.8-4.5 | 0.15-0.55 | | | | | | | | | | | | ● | ● | | | ● | | | | | | |
| | **080412 ET** | 0.8-4.5 | 0.20-0.50 | | | | | | | | | | | | ● | ● | | | ● | | | | | | |
|  Finishing | **WNMG 060404 FC** | 0.5-2.0 | 0.07-0.20 | | | | | | | | ● | ● | | | ● | | | | | | | | | | |
| | **080404 FC** | 0.5-2.0 | 0.07-0.20 | | | | | | | ● | | ● | | | | | | | | | | | | | |
| | **080408 FC** | 0.5-2.0 | 0.07-0.20 | | | | | | | ● | ● | ● | | ● | ● | ● | | | | | | | | | |
| | **080412 FC** | 0.5-2.0 | 0.10-0.25 | | | | | | | | ● | | | | | | | | | | | | | | |
|  Finishing | **WNMG 060404 FG** | 0.5-2.0 | 0.07-0.20 | ● | ● | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **060408 FG** | 0.7-2.0 | 0.10-0.25 | ● | ● | | | | | | ● | | | | | | | | | | | | | | |
| | **080404 FG** | 0.5-2.0 | 0.07-0.20 | ● | ● | | | | | ● | ● | ● | | | | | ● | | ● | | | | | | |
| | **080408 FG** | 0.7-2.0 | 0.10-0.25 | ● | ● | | | | | | ● | ● | | | | | ● | | | | | | | | |



A57, A69, A109,
A149, A169,
A198, A207

●: Standard items

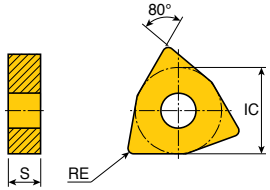


TaeguTec

# WNMG

T-TURN

## Negative 80° trigon inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 9.52 | 4.76 | 0.4-1.2 |
| **08** | 12.7 | 4.76 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **WNMG 080408 FLP** | 0.3-2.0 | 0.10-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Roughing | **WNMG 080408 KT** | 0.29-5.5 | 0.17-0.47 | | | | ● | ● | ● | | | | | | | | | | | | | | | | |
| | **080412 KT** | 0.39-5.5 | 0.23-0.63 | | | | ● | ● | ● | | | | | | | | | | | | | | | | |
| | **080416 KT** | 0.5-5.5 | 0.25-0.60 | | | | ● | ● | | | | | | | | | | | | | | | | | |
|  Medium | **WNMG 060404 MC** | 0.5-2.5 | 0.10-0.30 | | | | | | | | ● | | | | | | ● | | | | | | | | |
| | **060408 MC** | 0.7-3.0 | 0.12-0.35 | | | | | | | | ● | | | | | | | | | | | | | | |
| | **080408 MC** | 0.7-3.5 | 0.12-0.35 | | | | | | | | ● | ● | ● | | | | ● | | | | | | | | |
| | **080412 MC** | 0.7-3.5 | 0.15-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Medium | **WNMG 080408 MGP** | 0.5-4.0 | 0.15-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **080412 MGP** | 0.6-4.0 | 0.17-0.55 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **080416 MGP** | 0.8-4.0 | 0.20-0.60 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Medium | **WNMG 080408 MGS** | 1.0-4.0 | 0.15-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
| | **080412 MGS** | 1.3-4.0 | 0.17-0.40 | | | ● | | | | | | | | | | | | | | | | ● | ● | | ● |
|  Medium | **WNMG 080408 ML** | 1.0-3.5 | 0.12-0.35 | | | | | | | | | ● | | ● | ● | | ● | | ● | ● | | | | | ● |
| | **080412 ML** | 1.3-3.5 | 0.15-0.35 | | | | | | | | | | | | | | | | ● | | | | | | |
|  Medium | **WNMG 080408 MLP** | 0.5-3.5 | 0.10-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **080412 MLP** | 0.6-3.5 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
|  Type B Medium | **WNMG 060408 MP** | 1.0-3.0 | 0.12-0.35 | | | | | | | | | ● | | | ● | | ● | | ● | ● | | | | | |
| | **060412 MP** | 1.3-3.0 | 0.15-0.40 | | | | | | | | | | | | | | ● | | | | | | | | |
| | **080404 MP** ✓ | 1.0-4.0 | 0.10-0.35 | | | | | | | | | ● | | | | | | | | | | | | | |
| | **080408 MP** | 1.0-4.0 | 0.12-0.40 | | | | | | | | ● | ● | | ● | ● | ● | ● | | ● | ● | ● | | | | |
| | **080412 MP** | 1.3-4.0 | 0.15-0.40 | | | | | | | | ● | ● | | | | ● | ● | | | | | | | | |



A57, A69, A109, A149, A169, A198, A207

▸ ✓: Type B chip breaker

●: Standard items

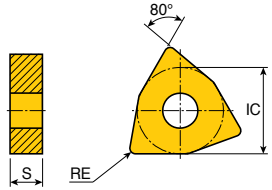


ADVANCE CUTTING TaeguTec

# WNMG

T-TURN

## Negative 80° trigon inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 9.52 | 4.76 | 0.4-1.2 |
| **08** | 12.7 | 4.76 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Type B Medium | **WNMG 060404 MT** | 1.0-3.0 | 0.12-0.40 | | | | ● | ● | | | ● | ● | | | ● | | ● | | ● | ● | | | | | |
| | **060408 MT** | 1.2-3.0 | 0.15-0.45 | | | | ● | ● | | | ● | ● | | | ● | | ● | | ● | ● | | | | | |
| | **060412 MT** | 1.5-3.0 | 0.23-0.50 | | | | | | | | ● | | | | | | | | | | | | | | |
| | **080404 MT** ✓ | 1.0-4.0 | 0.12-0.40 | | ● | | | ● | ● | | ● | ● | | | ● | | ● | | ● | ● | | | | | |
| | **080408 MT** | 1.2-4.0 | 0.17-0.55 | | ● | | ● | ● | ● | | ● | ● | ● | ● | | ● | ● | | ● | ● | ● | | | | |
| | **080412 MT** | 1.5-4.0 | 0.25-0.55 | | | | | ● | ● | | ● | ● | | | ● | ● | ● | | | ● | | | | | |
| | **080416 MT** | 1.5-4.0 | 0.25-0.55 | | | | | ● | | ● | ● | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Medium | **WNMG 060408 PC** | 0.5-4.0 | 0.15-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **060412 PC** | 0.6-4.0 | 0.17-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **080408 PC** | 0.5-4.0 | 0.15-0.50 | | | | | | | ● | ● | ● | | ● | ● | ● | | | ● | | ● | | | | |
| | **080412 PC** | 0.6-4.0 | 0.17-0.50 | | | | | | | ● | ● | ● | ● | | ● | | | | | | ● | | | | |
| | **080416 PC** | 0.8-4.0 | 0.20-0.50 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **WNMG 080408 RGP** | 2.5-4.0 | 0.25-0.70 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **080412 RGP** | 2.5-4.0 | 0.25-0.70 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | **080416 RGP** | 2.5-4.0 | 0.30-0.75 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **WNMG 080408 RT** | 2.5-4.0 | 0.25-0.70 | | | | ● | ● | | | ● | ● | ● | | ● | ● | ● | ● | | | | | | | |
| | **080412 RT** | 2.5-4.0 | 0.25-0.70 | | | | ● | ● | ● | | ● | ● | | | | | ● | ● | | | | | | | |
| | **080416 RT** | 2.5-4.0 | 0.30-0.75 | | | | ● | | | | ● | ● | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| wiper  Finishing | **WNMG 080408 WS** | 0.5-2.0 | 0.07-0.35 | | | | | ● | | | ● | ● | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | |
| wiper  Medium | **WNMG 060408 WT** | 0.7-3.5 | 0.15-0.60 | | | | | | | | ● | | | | | | ● | | | | | | | | |
| | **060412 WT** | 0.7-3.5 | 0.20-0.80 | | | | | ● | | | ● | | | | | | | | | | | | | | |
| | **080408 WT** | 1.0-4.0 | 0.15-0.60 | | | | ● | | | | ● | ● | | | | | ● | | | | | | | | |
| | **080412 WT** | 1.0-4.0 | 0.20-0.80 | | | | ● | ● | | | ● | ● | ● | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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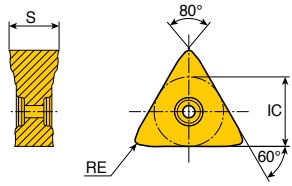
A57, A69, A109, A149, A169, A198, A207

▸ ✓: Type B chip breaker

●: Standard items

# TNMV

## Negative triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **21** | 12.5 | 9 | 0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | BWT | | FWT | | CVD coated | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap (mm) | Feed (mm/rev) | ap (mm) | Feed (mm/rev) | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **TNMV 210908-BM** | 0.7-2.0 | 0.60-1.20 | 0.5-3.5 | 0.20-0.60 | | | | | | ● | ● | | | | | | | | | | | |
|  Medium | **TNMV 210908-BS** | 0.7-2.0 | 0.60-1.20 | 1.0-3.5 | 0.20-0.40 | | | | | | | | | | ● | | | | ● | | | | |

A107, A213

▸ BWT: Backward turning
▸ FWT: Forward turning

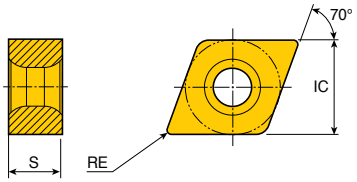
●: Standard items



ADVANCE CUTTING TaeguTec

# XNMV

## Negative 70° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 11.11 | 5.56 | 0.8 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | BWT | | FWT | | CVD coated | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap (mm) | Feed (mm/rev) | ap (mm)) | Feed (mm/rev) | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **XNMV 110508L-BM** | 0.5-1.8 | 0.50-0.80 | 0.5-3.5 | 0.10-0.40 | | | | | | ● | ● | | | | | | | | | | | |
| | **110508R-BM** | 0.5-1.8 | 0.50-0.80 | 0.5-3.5 | 0.10-0.40 | | | | | | ● | ● | | | | | | | | | | | |
|  Medium | **XNMV 110508L-BS** | 0.5-1.8 | 0.40-0.80 | 1.0-4.0 | 0.15-0.40 | | | | | | ● | ● | | | | | | | | ● | ● | | |
| | **110508R-BS** | 0.5-1.8 | 0.40-0.80 | 1.0-4.0 | 0.15-0.40 | | | | | | ● | ● | | | | | | | | ● | ● | | |



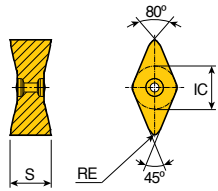
A110, A111, A190, A199, A212

- BWT: Backward turning
- FWT: Forward turning
- Apply L insert to L holder and R boring bar
- Apply R insert to R holder and L boring bar

●: Standard items

# ZNMV

## Negative rhombic inserts with 80° corner angle




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **14** | 10.5 | 10 | 0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | BWT | | FWT | | CVD coated | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap (mm) | Feed (mm/rev) | ap (mm) | Feed (mm/rev) | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **ZNMV 141008-BM** | 0.5-2.5 | 0.40-1.00 | 0.5-2.0 | 0.20-0.60 | | | | | ● | ● | ● | | | | | | | | | | | |
|  Medium | **ZNMV 141008-BS** | 0.5-2.5 | 0.50-1.00 | 1.0-2.0 | 0.20-0.40 | ● | | | | ● | ● | ● | | | | | | | | ● | ● | | |



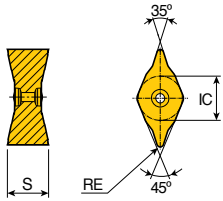
A112, A150

- BWT: Backward turning
- FWT: Forward turning

●: Standard items

# ZNMV Y-BF

## Negative rhombic inserts with 35° corner angle




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **14** | 10.5 | 10 | 0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | BWT | | FWT | | CVD coated | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap (mm) | Feed (mm/rev) | ap (mm)) | Feed (mm/rev) | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **ZNMV 141008Y-BF** | 0.25-1.5 | 0.20-0.50 | 0.25-1.0 | 0.20-0.35 | ● | | | | ● | ● | ● | | | | | | | | | | | |



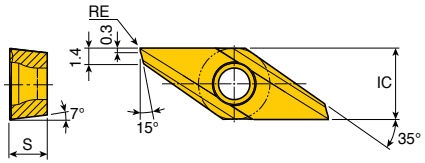
A113, A213

- BWT: Backward turning
- FWT: Forward turning

●: Standard items

# BTVC

**Positive 7° clearance 35° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0-0.2 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  | **BTVC** | **110300R-F** | 0.03-3.5 | 0.01-0.12 | | | | | | | | | | ● | | |
| | | **110301MR-F** | 0.05-3.5 | 0.01-0.15 | | | | | | | | | | ● | | |
| Right hand Back Turn | | **110302MR-F** | 0.10-3.5 | 0.01-0.15 | | | | | | | | | | ● | | |



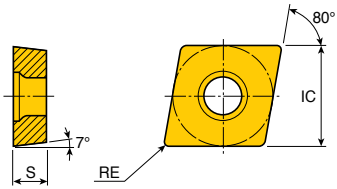
A91, A140

▸ - F: Sharp edge

●: Standard items

# CCET

**Positive 7° clearance 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 6.35 | 2.38 | 0.03-0.8 |
| **09** | 9.52 | 3.97 | 0.03-0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  Right hand Finishing | **CCET** | **0602003 L-GF** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **0602003 R-GF** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **060201 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **060201 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **060202 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **060202 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **060204 L-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **060204 R-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **060208 L-GF** | 0.4-1.5 | 0.07-0.22 | | | | | | | | ● | | | | |
| | | **060208 R-GF** | 0.4-1.5 | 0.07-0.22 | | | | | | | | ● | | | | |
| | | **09T3003 L-GF** | 0.1-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **09T3003 R-GF** | 0.1-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **09T301 L-GF** | 0.2-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **09T301 R-GF** | 0.2-2.5 | 0.0 2-0.15 | | | | | | | | ● | | | | |
| | | **09T302 L-GF** | 0.3-2.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **09T302 R-GF** | 0.3-2.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **09T304 L-GF** | 0.3-2.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **09T304 R-GF** | 0.3-2.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **09T308 L-GF** | 0.4-2.5 | 0.07-0.22 | | | | | | | | ● | | | | |
| | | **09T308 R-GF** | 0.4-2.5 | 0.07-0.22 | | | | | | | | ● | | | | |
| | | | | | | | | | | | | | | | | |
| wiper  Right hand Finishing | **CCET** | **0602003 L-GW*** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **0602003 R-GW*** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **09T3003 L-GW*** | 0.1-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **09T3003 R-GW*** | 0.1-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |



A70-A72, A94, A151, A174, A175, A208

▸ *: Wiper inserts should be applied to ☐CLCR/L...

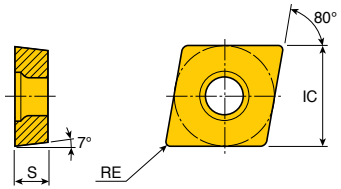
●: Standard items



ADVANCE CUTTING TaeguTec

# CCGT

**Positive 7° clearance 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **03** | 3.5 | 1.4 | 0.03-0.4 |
| **04** | 4.3 | 1.8 | 0.03-0.4 |
| **06** | 6.35 | 2.38 | 0.1-0.4 |
| **09** | 9.52 | 3.97 | 0.1-0.8 |
| **12** | 12.7 | 4.76 | 0.2-0.8 |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
| TOPMINI | CCGT **0301003 L-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
|  | **0301003 R-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **030101 L-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| Right hand | **030101 R-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| Finishing | **030102 L-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **030102 R-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **030104 L-FF** | 0.1-0.4 | 0.05-0.20 | | | | | | | | ● | | | | |
| | **030104 R-FF** | 0.1-0.4 | 0.05-0.20 | | | | | | | | ● | | | | |
| | **0401003 L-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **0401003 R-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **040101 L-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | **040101 R-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | **040102 L-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **040102 R-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **040104 L-FF** | 0.1-0.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | **040104 R-FF** | 0.1-0.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | CCGT **060202 FL** | 0.5-2.0 | 0.10-0.20 | | | | | | | | | | | | ● |
|  | **060204 FL** | 0.5-2.0 | 0.10-0.25 | | | | | | | | | | | | ● |
| | **09T301 FL** | 0.5-2.5 | 0.10-0.25 | | | | | | | | | | | | ● |
| Medium | **09T302 FL** | 0.5-2.5 | 0.10-0.25 | | | | | | | | | | | | ● |
| For aluminum | **09T304 FL** | 0.5-2.5 | 0.10-0.25 | | | | | | | | | | | | ● |
| | **09T308 FL** | 0.8-3.0 | 0.10-0.30 | | | | | | | | | | | | ● |
| | **120402 FL** | 0.5-2.5 | 0.10-0.25 | | | | | | | | | | | | ● |
| | **120404 FL** | 0.5-2.5 | 0.10-0.25 | | | | | | | | | | | | ● |
| | **120408 FL** | 1.0-3.5 | 0.10-0.30 | | | | | | | | | | | | ● |
| TOPMINI | CCGT **060201 SA** | 0.1-1.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
|  | **060202 SA** | 0.1-1.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
| | **060204 SA** | 0.1-2.4 | 0.03-0.20 | | | ● | | | | | ● | | | | |
| | **09T301 SA** | 0.1-2.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
| Finishing | **09T302 SA** | 0.1-2.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
| | **09T304 SA** | 0.1-2.5 | 0.03-0.20 | | | ● | | ● | | | ● | | | | |
| | **09T308 SA** | 0.1-2.5 | 0.03-0.25 | | | ● | | | | | ● | | | | |

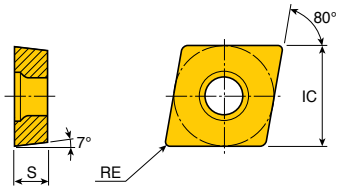


A70-A72, A94,
A151, A174,
A175, A208

●: Standard items

# CCGT

**Positive 7° clearance 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 6.35 | 2.38 | 0.2 |
| **09** | 9.52 | 3.97 | 0.1-0.4 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
| TOPMINI | **CCGT** | **09T304M SH-F** | 0.7-3.5 | 0.07-0.17 | | | | | | | | | ● | ● | | |
|  Roughing For Swiss | | | | | | | | | | | | | | | | |
| TOPMINI | **CCGT** | **060202M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
|  Medium For Swiss | | **09T301M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | | **09T302M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | | **09T304M SM-F** | 0.3-1.5 | 0.03-0.12 | | | | | | | | | ● | ● | | |
| TOPMINI | **CCGT** | **060202M SL-F** | 0.02-0.2 | 0.02-0.10 | | | | | | | | | ● | ● | | |
|  Finishing For Swiss | | **09T301M SL-F** | 0.02-0.2 | 0.015-0.10 | | | | | | | | | ● | ● | | |
| | | **09T302M SL-F** | 0.02-0.2 | 0.02-0.10 | | | | | | | | | ● | ● | | |



A70-A72, A94, A151, A174, A175, A208

▸ M: Corner radius minus tolerance

▸ - F: Sharp edge

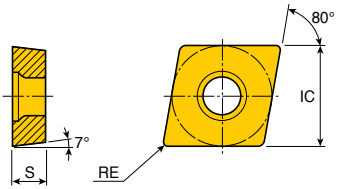
●: Standard items



ADVANCE CUTTING TaeguTec

# CCMT

**Positive 7° clearance 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 6.35 | 2.38 | 0.2-0.8 |
| **09** | 9.52 | 3.97 | 0.2-0.8 |
| **12** | 12.7 | 4.76 | 0.4-1.2 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | K10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | |
|  Finishing | **CCMT 060202 FA** | 0.1-1.5 | 0.03-0.15 | ● | ● | | | | | | | | | | ● | | ● | | ● | | ● | | | | |
| | **060204 FA** | 0.2-1.5 | 0.05-0.15 | ● | ● | | | | | | | ● | | | | | ● | | ● | ● | | | | | |
| | **09T302 FA** | 0.1-2.0 | 0.03-0.15 | ● | ● | | | | | | | | | | ● | | ● | | ● | | ● | | | | |
| | **09T304 FA** | 0.2-2.0 | 0.05-0.20 | ● | ● | | | | | | | ● | | | | | | | ● | ● | | | | | |
| | **09T308 FA** | 0.3-2.0 | 0.08-0.25 | ● | ● | | | | | | | ● | | | | | ● | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Type B Finishing | **CCMT 060204 FG** | 0.3-1.5 | 0.05-0.15 | ● | ● | | ● | ● | | | ● | ● | | | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| | **09T304 FG** | 0.4-2.0 | 0.07-0.20 | ● | ● | ● | ● | ● | | | ● | ● | | | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| | **09T308 FG** | 0.6-2.0 | 0.10-0.25 | ● | ● | ● | ● | | | | ● | ● | | | ● | ● | ● | | ● | ● | | ● | ● | | |
| | **120408 FG** ✓ | 0.6-2.0 | 0.10-0.25 | ● | | | | | | | | ● | | | | | ● | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Medium | **CCMT 060202 FM** | 0.5-1.5 | 0.07-0.15 | | | | | | | | ● | ● | | | | | ● | | ● | | | | | | |
| | **060204 FM** | 0.5-1.5 | 0.08-0.15 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **09T302 FM** | 0.5-2.0 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **09T304 FM** | 0.5-2.5 | 0.08-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **09T308 FM** | 0.8-2.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Type B Medium | **CCMT 060204 MT** ✓ | 0.5-2.0 | 0.07-0.20 | ● | ● | | ● | ● | | ● | ● | ● | ● | | ● | ● | ● | | ● | ● | | | | | ● |
| | **060208 MT** ✓ | 0.7-2.0 | 0.13-0.30 | ● | ● | | ● | ● | | | ● | ● | ● | | | | ● | | ● | | ● | | | | |
| | **09T304 MT** | 0.7-3.5 | 0.10-0.25 | ● | ● | | ● | ● | ● | | ● | ● | | | ● | ● | ● | | ● | ● | | | | | |
| | **09T308 MT** | 1.0-3.5 | 0.13-0.30 | | ● | | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ● | | ● | ● | | | | | |
| | **120404 MT** ✓ | 1.0-5.0 | 0.10-0.25 | ● | ● | | ● | ● | | | ● | ● | | | | | ● | | | ● | | | | | |
| | **120408 MT** | 1.3-5.0 | 0.13-0.30 | | ● | | ● | ● | ● | | ● | ● | ● | | ● | ● | ● | | ● | ● | | | | | |
| | **120412 MT** | 1.5-5.0 | 0.17-0.35 | | | | ● | | | | ● | ● | | | | | ● | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Medium | **CCMT 060204 PC** | 0.3-2.0 | 0.06-0.18 | | | | | | | ● | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **060208 PC** | 0.4-2.0 | 0.08-0.25 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **09T304 PC** | 0.35-3.0 | 0.08-0.25 | | | | | | | | ● | ● | | ● | ● | | ● | | | | ● | | | | |
| | **09T308 PC** | 0.5-3.0 | 0.10-0.28 | | | | | | | ● | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **120404 PC** | 0.4-4.0 | 0.08-0.25 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **120408 PC** | 0.7-4.0 | 0.10-0.30 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **120412 PC** | 1.0-4.0 | 0.12-0.35 | | | | | | | | ● | ● | | ● | ● | | ● | | | | ● | | | | |
| wiper  Medium | **CCMT 09T308 WT** * | 0.7-3.0 | 0.10-0.40 | | | | ● | | | | ● | ● | | | | | ● | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |



A70-A72, A94, A151, A154, A174, A175, A208

▸ ✓: Type B chip breaker

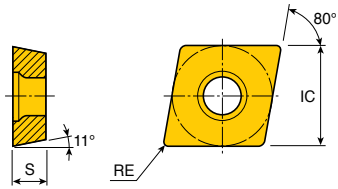
▸ *: Wiper inserts should be applied to ☐CLCR/L...

●: Standard items

# CPMT

T-TURN

## Positive 11° clearance 80° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 6.35 | 2.38 | 0.4-0.8 |
| **08** | 7.94 | 2.38 | 0.4-0.8 |
| **09** | 9.52 | 3.18-3.97 | 0.4-0.8 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **CPMT 080204 FG** | 0.4-1.5 | 0.07-0.20 | ● | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **080208 FG** | 0.6-1.5 | 0.10-0.25 | ● | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **090304 FG** | 0.4-2.0 | 0.07-0.20 | ● | | | | | | | | ● | | | | | ● | | | | | | | | |
| | **090308 FG** | 0.6-2.0 | 0.10-0.25 | ● | | | | | | | ● | ● | | | | | ● | | | | | | | | |
|  Medium | **CPMT 080204 FM** | 0.5-2.0 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **080208 FM** | 0.8-2.0 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **090304 FM** | 0.5-2.5 | 0.08-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **090308 FM** | 0.8-2.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Medium | **CPMT 060204 PC** | 0.3-2.0 | 0.06-0.18 | | | | ● | ● | | | | | | ● | ● | | ● | | ● | | | | | | |
| | **060208 PC** | 0.4-2.0 | 0.08-0.25 | | | | | ● | | | | | | ● | ● | | ● | | ● | | | | | | |
| | **090304 PC** | 0.45-3.0 | 0.08-0.25 | | | | | | | | | ● | | ● | ● | | ● | | ● | | | | | | |
| | **090308 PC** | 0.6-3.0 | 0.10-0.30 | | | | | | | | | ● | | ● | ● | | ● | | ● | | | | | | |
| | **09T304 PC** | 0.45-3.0 | 0.08-0.25 | | | | | | | | ● | ● | | | | | ● | | | | ● | | | | |
| | **09T308 PC** | 0.6-3.0 | 0.10-0.30 | | | | ● | ● | | | | ● | | ● | ● | | ● | | ● | | | | | | |

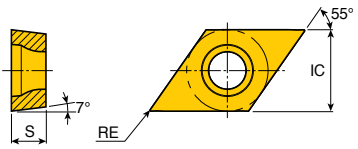


A176, A177

●: Standard items

# DCET

**Positive 7° clearance 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **07** | 6.35 | 2.38 | 0.03-0.8 |
| **11** | 9.52 | 3.97 | 0.03-0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
| TOPMINI | **DCET** | **0702003 L-GF** | 0.2-1.5 | 0.01-0.15 | | | | | | | | ● | | | | |
|  | | **0702003 R-GF** | 0.2-1.5 | 0.01-0.15 | | | | | | | | ● | | | | |
| | | **070201 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **070201 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| Right hand Finishing | | **070202 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **070202 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **070204 L-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **070204 R-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **070208 L-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **070208 R-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **11T3003 L-GF** | 0.2-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **11T3003 R-GF** | 0.2-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **11T301 L-GF** | 0.2-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **11T301 R-GF** | 0.2-2.5 | 0.02-0.15 | | | | | ● | | | ● | | | | |
| | | **11T302 L-GF** | 0.3-2.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **11T302 R-GF** | 0.3-2.5 | 0.03-0.17 | | | | | ● | | | ● | | | | |
| | | **11T304 L-GF** | 0.3-2.5 | 0.05-0.20 | | | | | ● | | | ● | | | | |
| | | **11T304 R-GF** | 0.3-2.5 | 0.05-0.20 | | | | ● | ● | | | ● | | | | |
| | | **11T308 L-GF** | 0.3-2.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **11T308 R-GF** | 0.3-2.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | | | | | | | | | | | | | | | |
| TOPMINI wiper | **DCET** | **0702003 L-GW *** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
|  | | **0702003 R-GW *** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **11T3003 L-GW *** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| Right hand Finishing | | **11T3003 R-GW *** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |



A73-A76, A95, A97, A99, A137, A141, A151, A178-A180, A209, A214

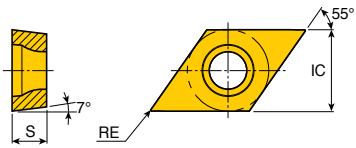
▸ *: FWiper inserts should be applied to ☐DJCR/L..., ☐DUCR/L..., ☐DZCR/L...

●: Standard items

# DCGT

T-TURN

**Positive 7° clearance 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **07** | 6.35 | 2.38 | 0.03-0.4 |
| **11** | 9.52 | 3.97 | 0.03-0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
| TOPMINI  Right hand Finishing | **DCGT 0702003 L-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **0702003 R-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **070201 L-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | **070201 R-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | **070202 L-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **070202 R-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **070204 L-FF** | 0.1-0.4 | 0.05-0.20 | | | | | | | | ● | | | | |
| | **070204 R-FF** | 0.1-0.4 | 0.05-0.20 | | | | | | | | ● | | | | |
| | **11T3003 L-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **11T3003 R-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **11T301 L-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | **11T301 R-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | **11T302 L-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **11T302 R-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **11T304 L-FF** | 0.1-0.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | **11T304 R-FF** | 0.1-0.5 | 0.05-0.20 | | | | | | | | ● | | | | |
|  Medium For aluminum | **DCGT 070202 FL** | 0.5-2.0 | 0.05-0.20 | | | | | | | | | | | | ● |
| | **070204 FL** | 0.5-2.5 | 0.05-0.25 | | | | | | | | | | | | ● |
| | **11T302 FL** | 0.5-2.5 | 0.05-0.25 | | | | | | | | | | | | ● |
| | **11T304 FL** | 0.5-2.5 | 0.05-0.25 | | | | | | | | | | | | ● |
| | **11T308 FL** | 0.8-3.0 | 0.08-0.30 | | | | | | | | | | | | ● |
| TOPMINI  Finishing | **DCGT 070201 SA** | 0.1-1.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
| | **070202 SA** | 0.1-1.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
| | **070204 SA** | 0.1-1.5 | 0.03-0.20 | | | ● | | | | | ● | | | | |
| | **11T301 SA** | 0.1-2.5 | 0.01-0.05 | | | ● | | | | | ● | | | | |
| | **11T302 SA** | 0.1-2.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
| | **11T304 SA** | 0.1-2.5 | 0.03-0.20 | | | ● | | | | | ● | | | | |
| | **11T308 SA** | 0.1-2.5 | 0.03-0.20 | | | ● | | | | | ● | | | | |



A73-A76, A95, A97, A99,
A137, A141, A151,
A178-A180, A209, A214

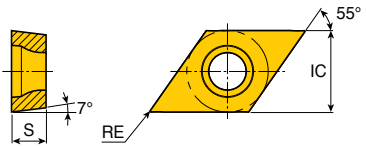
●: Standard items



ADVANCE CUTTING TaeguTec

# DCGT

**Positive 7° clearance 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **07** | 6.35 | 2.38 | 0.1-0.4 |
| **11** | 9.52 | 3.97 | 0.1-0.4 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT9020 | TT9225 | TT4410 | TT4430 | P20 | K10 |
| TOPMINI | **DCGT 11T302M SH-E** | 0.7-3.5 | 0.05-0.15 | | | | | | | | | | ● | | |
|  | **11T302M SH-F** | 0.7-3.5 | 0.05-0.15 | | | | | | | | | ● | ● | | |
| | **11T304M SH-F** | 0.7-3.5 | 0.07-0.17 | | | | | | | | | ● | ● | | |
| Roughing For Swiss | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| TOPMINI | **DCGT 11T301M ST-E** | 0.3-5.0 | 0.03-0.08 | | | | | | | | | | ● | | |
|  | **11T302M ST-E** | 0.5-5.0 | 0.03-0.10 | | | | | | | | | | ● | | |
| | **11T304M ST-E** | 0.7-5.0 | 0.05-0.12 | | | | | | | | | | ● | | |
| | **11T301M ST-F** | 0.3-5.0 | 0.03-0.08 | | | | | | | ● | | | ● | | |
| Roughing For Swiss | **11T302M ST-F** | 0.5-5.0 | 0.03-0.10 | | | | | | | ● | | | ● | | |
| | **11T304M ST-F** | 0.7-5.0 | 0.05-0.12 | | | | | | | ● | | | ● | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| TOPMINI | **DCGT 070201M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
|  | **070202M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | **070204M SM-F** | 0.2-1.5 | 0.03-0.12 | | | | | | | | | ● | ● | | |
| | **11T301M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| Medium For Swiss | **11T302M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | **11T304M SM-F** | 0.2-1.5 | 0.03-0.12 | | | | | | | | | ● | ● | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| TOPMINI | **DCGT 070201M SL-F** | 0.02-0.25 | 0.015-0.10 | | | | | | | | | ● | ● | | |
|  | **070202M SL-F** | 0.02-0.25 | 0.02-0.10 | | | | | | | | | ● | ● | | |
| | **11T301M SL-F** | 0.02-0.25 | 0.015-0.10 | | | | | | | | | ● | ● | | |
| | **11T302M SL-F** | 0.02-0.25 | 0.02-0.10 | | | | | | | | | ● | ● | | |
| Finishing For Swiss | | | | | | | | | | | | | | | |
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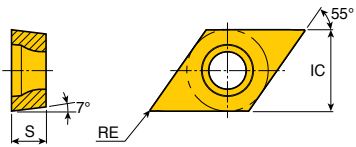
A73-A76, A95, A97, A99, A137, A141, A151, A178-A180, A209, A214

- M: Corner radius minus tolerance
- - F: Sharp edge
- - E: Micro honing edge

●: Standard items

# DCMT

## Positive 7° clearance 55° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **07** | 6.35 | 2.38 | 0.2-0.8 |
| **11** | 9.52 | 3.97 | 0.2-1.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **DCMT 070202 FA** | 0.1-1.5 | 0.03-0.15 | ● | ● | | | | | | | | | | | | ● | | ● | | ● | | | | |
| | **070204 FA** | 0.2-1.5 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | | | ● | ● | | | | | |
| | **11T302 FA** | 0.1-2.0 | 0.03-0.15 | ● | ● | | | | | | | | | ● | | | ● | | ● | | ● | | | | |
| | **11T304 FA** | 0.2-2.0 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **11T308 FA** | 0.3-2.0 | 0.08-0.25 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Finishing | **DCMT 070204 FG** | 0.4-1.5 | 0.07-0.20 | ● | ● | | | | | ● | ● | ● | | | ● | ● | ● | | ● | ● | ● | | | | |
| | **070208 FG** | 0.4-2.0 | 0.07-0.20 | ● | ● | | | | | | ● | ● | | | ● | | ● | | | ● | | | | | |
| | **11T304 FG** | 0.6-1.5 | 0.10-0.25 | ● | ● | ● | ● | ● | | | ● | ● | | ● | ● | ● | ● | | ● | ● | ● | ● | ● | | |
| | **11T308 FG** | 0.6-2.0 | 0.10-0.25 | ● | ● | ● | ● | ● | | ● | ● | ● | | | ● | ● | ● | | ● | | ● | ● | ● | | |
|  Medium | **DCMT 070202 FM** | 0.5-1.5 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **070204 FM** | 0.5-1.5 | 0.08-0.20 | | | | | | | | ● | ● | | | ● | ● | ● | | ● | ● | ● | | | | |
| | **070208 FM** | 0.8-1.5 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **11T302 FM** | 0.5-2.0 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **11T304 FM** | 0.5-2.0 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **11T308 FM** | 0.8-2.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Medium | **DCMT 11T304 MT** | 0.7-3.0 | 0.10-0.25 | ● | ● | | ● | ● | | ● | ● | ● | ● | | ● | ● | ● | | ● | ● | | | | | |
| | **11T308 MT** | 1.0-3.0 | 0.13-0.30 | | ● | | ● | ● | ● | ● | ● | ● | | | ● | ● | ● | | ● | ● | ● | | | | |
| | **11T312 MT** | 1.5-3.0 | 0.17-0.35 | | ● | | ● | ● | | | ● | | | | | | ● | | ● | | ● | | | | |
|  Medium | **DCMT 070204 PC** | 0.3-2.0 | 0.06-0.18 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **070208 PC** | 0.4-2.0 | 0.08-0.25 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **11T304 PC** | 0.35-3.0 | 0.08-0.25 | | | | | | | ● | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **11T308 PC** | 0.5-3.0 | 0.10-0.28 | | | | | | | ● | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **11T312 PC** | 0.5-3.0 | 0.12-0.32 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |

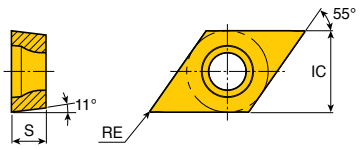


A73-A76, A95, A97, A99, A137, A141, A151, A154, A178-A180, A209, A214

●: Standard items

# DPET DPGT

**Positive 11° clearance 55° rhombic inserts**



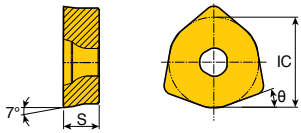

| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **07** | 6.35 | 2.38 | 0.03-0.2 |
| **11** | 9.52 | 3.97 | 0.03-0.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
| TOPMAN | **DPET 070201 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
|  | **070202 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| Right hand Finishing | **070202 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | **11T3003 L-GF** | 0.2-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | **11T301 L-GF** | 0.2-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | **11T301 R-GF** | 0.2-2.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | **11T302 L-GF** | 0.3-2.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | **11T302 R-GF** | 0.3-2.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| TOPMAN | **DPGT 0702003 R-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
|  | **070202 L-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| Right hand Finishing | **070202 R-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **11T3003 R-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | **11T301 R-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | **11T302 L-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | **11T302 R-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |

●: Standard items

# FCMX

## Positive 7° clearance high feed inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | θ |
| **10-HFG** | 15.45 | 6.5 | 15° |
| **10-HFP** | 16.45 | 6.5 | 20° |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  High feed For general | **FCMX 100616-HFG** | 0.5-2.0 | 1.50-3.00 | | | | | | | | ● | ● | | | ● | | | | | | | | | |
|  High feed For alloy steel | **FCMX 100616-HFP** | 0.5-2.5 | 1.00-2.50 | | | | | | | | ● | ● | ● | | | | | | | | | | | |



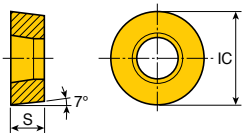
A77

●: Standard items

# RCGT RCMT RCMX

T-TURN

**Positive 7° clearance round inserts**




| Size | Dimension (mm) | | Size | Dimension (mm) | |
|---|---|---|---|---|---|
| | IC | S | | IC | S |
| **08** | 8.0 | 3.18 | **20** | 20.0 | 6.35 |
| **10** | 10.0 | 3.18-3.97 | **25** | 25.0 | 7.94 |
| **12** | 12.0 | 4.76 | **32** | 32.0 | 9.52 |
| **16** | 16.0 | 6.35 | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium For aluminum | **RCGT 0803MO FL** | 1.0-4.0 | 0.20-0.40 | | | | | | | | | | | | | | | | | | | | | ● |
| | **1003MO FL** | 1.0-5.0 | 0.20-0.40 | | | | | | | | | | | | | | | | | | | | | ● |
| | **10T3MO FL** | 1.0-5.0 | 0.20-0.40 | | | | | | | | | | | | | | | | | | | | | ● |
|  Medium | **RCMT 080300 MGS** | 0.5-2.0 | 0.15-0.30 | | | ● | | | | | | | | | | | | | | | | ● | ● | ● |
| | **120400 MGS** | 1.0-3.0 | 0.25-0.50 | | | ● | | | | | | | | | | | | | | | | ● | ● | ● |
|  Medium | **RCMT 080300 MT** | 0.5-3.0 | 0.15-0.40 | | | | | | | | ● | ● | | | | | ● | | | | | | | |
| | **10T300 MT** | 1.0-4.0 | 0.20-0.50 | | | | ● | ● | | ● | ● | ● | | | | | ● | | | | | | | |
| | **120400 MT** | 2.0-5.0 | 0.30-0.60 | | | | ● | ● | | | ● | ● | | | | | | | | | | | | |
| | **160600 MT** | 3.0-7.0 | 0.40-0.80 | | | | | | | | | ● | | | | | | | | | | | | |
|  Medium | **RCMT 120400 PC** | 2.0-5.0 | 0.30-0.60 | | | | | | | ● | ● | ● | | ● | ● | ● | | | ● | | | | | |
|  Roughing | **RCMX 100300** | 1.5-4.0 | 0.25-0.50 | | | | ● | ● | | | ● | ● | | | | | ● | | | | | | | ● |
| | **120400** | 2.5-5.0 | 0.30-0.60 | | | | ● | ● | | | ● | ● | | | | | ● | ● | | | | | | |
| | **160600** | 3.0-7.0 | 0.40-0.75 | | | | ● | ● | | ● | ● | ● | | | | | ● | | | | | | | |
| | **200600** | 3.5-9.0 | 0.48-0.90 | | | | ● | ● | | | ● | ● | ● | | | | ● | | | | | | | ● |
| | **250700** | 4.0-12.0 | 0.55-1.20 | | | | ● | ● | ● | ● | ● | ● | ● | | | | | ● | | ● | | | | | ● |
| | **320900** | 5.0-15.0 | 0.65-1.50 | | | | ● | | | | ● | ● | ● | | | | | ● | | | | | | | |
|  Roughing | **RCMX 100300 RA** | 1.0-4.0 | 0.20-0.50 | | | | | | | | ● | ● | ● | | | | | | | | | | | |
| | **120400 RA** | 2.0-5.0 | 0.25-0.60 | | | | | | | | ● | ● | ● | | ● | | | | | | | | | |
| | **160600 RA** | 2.5-7.0 | 0.35-0.75 | | | | | | | | ● | ● | ● | | | | | | | | | | | |
| | **200600 RA** | 3.0-9.0 | 0.40-0.90 | | | | ● | | | ● | ● | ● | | | | | | | | ● | | | | |
| | **250700 RA** | 3.5-12.0 | 0.50-1.20 | | | | | | | ● | ● | ● | ● | | | | | | | | | | | |
| | **320900 RA** | 4.0-15.0 | 0.60-1.50 | | | | | | | | ● | ● | ● | | | | | | | | | | | |



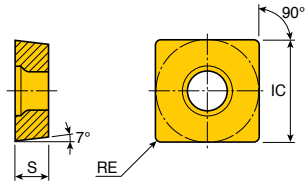
A62, A63,
A78, A79, A152

●: Standard items

# SCGT SCMT

T-TURN

## Positive 7° clearance square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 9.52 | 3.97 | 0.4-0.8 |
| **12** | 12.7 | 4.76 | 0.2-1.2 |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium For aluminum | **SCGT 09T308 FL** | 0.5-3.0 | 0.10-0.30 | | | | | | | | | | | | | | | | | | | | | | ● |
| | **120402 FL** | 0.5-3.0 | 0.10-0.30 | | | | | | | | | | | | | | | | | | | | | | ● |
| | **120404 FL** | 0.5-4.0 | 0.10-0.30 | | | | | | | | | | | | | | | | | | | | | | ● |
| | **120408 FL** | 1.0-4.0 | 0.10-0.30 | | | | | | | | | | | | | | | | | | | | | | ● |
|  Finishing | **SCMT 09T304 FG** | 0.6-2.0 | 0.08-0.25 | | | | | | | | ● | | | | ● | | | | | | | | | | |
| | **09T308 FG** | 0.6-2.0 | 0.10-0.25 | | | | | | | | ● | ● | | | ● | | ● | | ● | ● | | | | | |
|  Medium | **SCMT 09T304 FM** | 0.5-2.5 | 0.08-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **09T308 FM** | 0.8-2.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Medium | **SCMT 09T304 MT** | 0.7-3.5 | 0.10-0.25 | ● | ● | | ● | ● | | ● | ● | ● | | | ● | | ● | | | ● | | | | | |
| | **09T308 MT** | 1.0-3.5 | 0.13-0.30 | | ● | | ● | ● | ● | | ● | ● | ● | | ● | ● | ● | ● | ● | ● | | | | | |
| | **120404 MT** | 1.0-5.0 | 0.10-0.25 | | ● | | ● | ● | | | ● | ● | | | | | ● | | | | | | | | |
| | **120408 MT** | 1.0-5.0 | 0.13-0.30 | | ● | | ● | ● | ● | | ● | ● | ● | | ● | ● | ● | | ● | ● | | | | | |
| | **120412 MT** | 1.0-5.0 | 0.15-0.35 | | | | ● | ● | | ● | | ● | ● | | | | | | | ● | | | | | |
|  Medium | **SCMT 09T304 PC** | 0.35-3.0 | 0.08-0.25 | | | | | | | | ● | ● | | | ● | | | | | | ● | | | | |
| | **09T308 PC** | 0.5-3.0 | 0.10-0.28 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **120404 PC** | 0.4-4.0 | 0.08-0.25 | | | | | | | | ● | ● | | | ● | | | | | | ● | | | | |
| | **120408 PC** | 0.7-4.0 | 0.10-0.30 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **120412 PC** | 1.0-4.0 | 0.12-0.35 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |



A80, A181

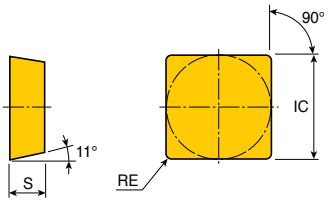
●: Standard items



ADVANCE CUTTING TaeguTec

# SPGN SPMR SPUN

**Positive 11° clearance square inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 9.52 | 3.18 | 0.4-0.8 |
| **12** | 12.7 | 3.18-4.76 | 0.4-1.6 |
| **15** | 15.88 | 4.76 | 0.4-1.2 |
| **19** | 19.05 | 4.76 | 0.4-1.2 |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **SPGN** | **090304** | 0.7-3.5 | 0.08-0.20 | | | | | | | | ● | | | | | | | | | | | | | | ● |
| | | **090308** | 0.7-3.5 | 0.10-0.25 | | | | | | | | ● | | | | | | | | | | | | | | ● |
| | | **120304** | 1.0-5.0 | 0.08-0.20 | | | | ● | | | | | | | | | | | | | | | | | | ● |
| | | **120308** | 1.0-5.0 | 0.10-0.25 | | | | | | | | ● | ● | | | | | | | | | | | | | ● |
| | | **120312** | 1.0-5.0 | 0.15-0.30 | | | | | | | | | | | | | | | | | | ● | | | | |
| | | **120408** | 1.0-5.0 | 0.10-0.25 | | | | | | | | | | | | | | | | | | | | | | ● |
| | | **120416** | 1.0-5.0 | 0.18-0.33 | | | | | | | | | | | | | | | | | | | | | | ● |
| | | **150404** | 1.5-7.0 | 0.08-0.20 | | | | | | | | ● | | | | | | | | | | | | | | ● |
| | | **190404** | 1.5-9.0 | 0.08-0.20 | | | | | | | | ● | | | | | | | | | | | | | | |
| | | **190408** | 1.5-9.0 | 0.10-0.25 | | | | | | | | | | | | | | | | | | | | | | ● |
|  Medium | **SPMR** | **090304** | 0.7-3.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | | **090308** | 1.0-3.5 | 0.13-0.30 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | | **120304** | 1.0-5.0 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | | **120308** | 1.0-5.0 | 0.13-0.30 | | | | | | | | ● | ● | ● | | | | ● | | | | | | | | |
| | | **120312** | 1.0-5.0 | 0.15-0.35 | | | | | | | | | | ● | | | | | | | | | | | | |
|  Medium | **SPUN** | **120304** | 1.0-5.0 | 0.10-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | **120308** | 1.0-5.0 | 0.15-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | | ● |
| | | **150404** | 1.5-7.0 | 0.10-0.30 | | | | | | | | | | | | | | ● | | | | | | | | |
| | | **190412** | 1.5-9.0 | 0.20-0.50 | | | | | | | | | ● | | | | | | | | | | | | | |

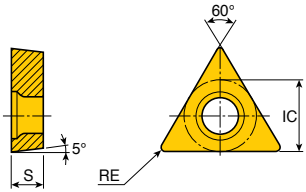


A48, A166

●: Standard items

# TBGT

**Positive 5° clearance triangular inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 3.97 | 1.59 | 0.03-0.4 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
| TOPSAW | TBGT | **0601003 R-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **0601003 L-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **060101 R-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **060101 L-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **060102 R-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **060102 L-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **060104 R-FF** | 0.1-0.4 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **060104 L-FF** | 0.1-0.4 | 0.05-0.20 | | | | | | | | ● | | | | |

Right hand
Finishing

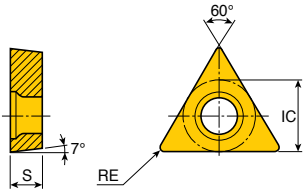
A185, A186

●: Standard items

# TCET TCGT

T-TURN

**Positive 7° clearance triangular inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **08** | 4.76 | 2.38 | 0.1-0.2 |
| **09** | 5.56 | 2.36 | 0.4 |
| **11** | 6.35 | 2.38-3.18 | 0.1-0.4 |
| **16** | 9.52 | 3.97 | 0.4-0.8 |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  Right hand Finishing | **TCET** | **080201 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **080202 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **080202 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110301 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **110301 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **110302 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110302 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110304 L-GF** | 0.5-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **110304 R-GF** | 0.5-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
|  Medium For aluminum | **TCGT** | **090204 FL** | 0.2-2.5 | 0.05-0.25 | | | | | | | | | | | | ● |
| | | **110204 FL** | 0.2-3.0 | 0.05-0.30 | | | | | | | | | | | | ● |
| | | **16T304 FL** | 0.5-3.0 | 0.05-0.30 | | | | | | | | | | | | ● |
| | | **16T308 FL** | 0.5-3.0 | 0.10-0.30 | | | | | | | | | | | | ● |
|  Finishing | **TCGT** | **110201 SA** | 0.1-2.5 | 0.01-0.05 | | | ● | | | | | ● | | | | |
| | | **110202 SA** | 0.2-2.5 | 0.02-0.15 | | | ● | | | | | ● | | | | |
| | | **110204 SA** | 0.2-2.5 | 0.03-0.20 | | | ● | | | | | ● | | | | |



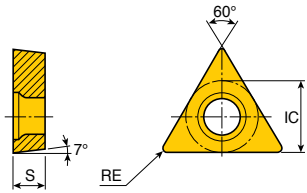
A81-A83, A152, A155, A182, A210,

●: Standard items

# TCMT

T-TURN

## Positive 7° clearance triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 3.97 | 1.98 | 0.2 |
| **09** | 5.56 | 2.38 | 0.2-0.8 |
| **11** | 6.35 | 2.38 | 0.2-0.8 |
| **16** | 9.52 | 3.97 | 0.4-1.2 |
| **22** | 12.7 | 4.76 | 0.8 |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **TCMT 06T102 FA** | 0.4-1.2 | 0.03-0.15 | | ● | | | | | | | | | | | | ● | | | | | | | | |
| | **110202 FA** | 0.1-1.5 | 0.03-0.15 | | ● | | | | | | | ● | | | | | | | ● | | ● | | | | |
| | **110204 FA** | 0.1-1.5 | 0.05-0.15 | ● | ● | | | | | | | ● | | | | | ● | | | | | | | | |
|  Finishing | **TCMT 090208 FG** | 0.6-1.5 | 0.10-0.25 | ● | ● | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | **110204 FG** | 0.4-1.5 | 0.07-0.20 | ● | ● | | | | | | | ● | | | ● | ● | ● | | | ● | ● | | | | |
| | **110208 FG** | 0.6-1.5 | 0.10-0.25 | ● | ● | | ● | ● | | | ● | ● | | | ● | ● | ● | | ● | | | | | | |
| | **16T304 FG** | 0.4-2.0 | 0.07-0.20 | ● | ● | | ● | | | | | ● | | | | | ● | | | ● | | | | | |
| | **16T308 FG** | 0.6-2.0 | 0.10-0.25 | ● | ● | | ● | ● | | | ● | ● | | | ● | ● | ● | | ● | | ● | | | | |
|  Medium | **TCMT 090202 FM** | 0.5-1.5 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **090204 FM** | 0.5-1.5 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **110202 FM** | 0.5-1.5 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **110204 FM** | 0.5-1.5 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **110208 FM** | 0.8-1.5 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **16T304 FM** | 0.5-2.0 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **16T308 FM** | 0.8-2.0 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **16T312 FM** | 1.0-2.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Type B Medium | **TCMT 090204 MT** ✓ | 0.6-2.0 | 0.10-0.25 | ● | ● | | ● | ● | | | ● | ● | | | ● | ● | ● | | ● | ● | | | | | |
| | **090208 MT** ✓ | 0.8-2.0 | 0.13-0.30 | | ● | | ● | ● | | | ● | ● | | | | | ● | | | | | | | | |
| | **110204 MT** ✓ | 0.6-3.0 | 0.10-0.25 | | ● | | ● | ● | | | ● | ● | | | ● | ● | ● | | ● | ● | | | | | ● |
| | **110208 MT** ✓ | 0.8-3.0 | 0.13-0.30 | ● | ● | | ● | ● | | | ● | ● | | | ● | ● | ● | | ● | ● | | | | | |
| | **16T304 MT** | 0.8-5.0 | 0.10-0.25 | | ● | | ● | ● | | | ● | ● | ● | | ● | ● | ● | | ● | | | | | | |
| | **16T308 MT** | 1.0-5.0 | 0.10-0.30 | ● | ● | | ● | ● | | ● | ● | ● | ● | | ● | ● | ● | | ● | ● | | | | | ● |
| | **16T312 MT** | 1.5-5.0 | 0.10-0.30 | | | | ● | | | | | ● | | | | | | | | | | | | | |
| | **220408 MT** | 2.0-6.0 | 0.10-0.35 | | | | | | | | ● | | | | | | | | | | | | | | |
|  Medium | **TCMT 090204 PC** | 0.3-2.0 | 0.06-0.18 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **090208 PC** | 0.4-2.0 | 0.08-0.25 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **110204 PC** | 0.3-2.5 | 0.06-0.20 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **110208 PC** | 0.42-2.5 | 0.09-0.26 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **16T304 PC** | 0.35-3.0 | 0.08-0.25 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **16T308 PC** | 0.5-3.0 | 0.10-0.28 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **16T312 PC** | 0.6-3.0 | 0.12-0.36 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |



A81-A83, A152, A182, A210

▸ ✓: Type B chip breaker

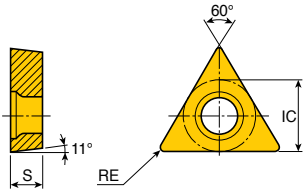
●: Standard items



ADVANCE CUTTING TaeguTec

# TPET TPGT

**Positive 11° clearance triangular inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **08** | 4.76 | 2.38 | 0.03-0.2 |
| **11** | 6.35 | 3.18 | 0.03-0.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  Right hand Finishing | **TPET** | **080201 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **080201 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **080202 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **080202 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110301 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **110302 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110302 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
|  Right hand Finishing | **TPGT** | **0802003 L-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **0802003 R-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **080201 L-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **080201 R-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **080202 L-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **080202 R-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **1103003 L-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **1103003 R-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **110301 L-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **110301 R-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **110302 L-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **110302 R-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |

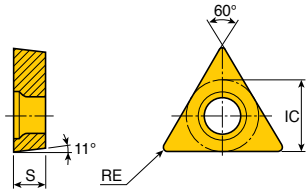


A82, A183, A184

●: Standard items

# TPGN TPGT TPGX

**Positive 11° clearance triangular inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 5.56 | 2.38 | 0.2-0.4 |
| **11** | 6.35 | 3.18 | 0.2-0.8 |
| **16** | 9.52 | 4.76 | 0.2-1.2 |
| **22** | 12.7 | 4.76 | 0.4-3.0 |
| **27** | 15.88 | 6.35 | 0.8 |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | P20 | K10 |
|  Finishing | **TPGN 090204** | 0.5-3.0 | 0.07-0.20 | | | | | | | | | | | | | | | | | | | | | | ● | ● |
| | **110304** | 0.7-3.0 | 0.07-0.20 | | | | | | | | | | | | | | | | | | | | | | ● | ● |
| | **110308** | 1.0-3.0 | 0.10-0.25 | | | | | | | | ● | | | | | | | | | | | | | | | ● |
| | **160302** | 1.0-5.0 | 0.05-0.18 | | | | | | | | | | | | | | | | | | | | | | | ● |
| | **160304** | 1.0-5.0 | 0.07-0.20 | | | | | | | | ● | | | | | | | | | | | | | | ● | ● |
| | **160308** | 1.0-5.0 | 0.10-0.25 | | | | | ● | | | ● | ● | | | | | | | | | | | | | ● | ● |
| | **160312** | 1.0-5.0 | 0.15-0.30 | | | | | | | | | | | | | | | | | | | | | | | ● |
| | **220404** | 1.5-7.0 | 0.07-0.20 | | | | | | | | | | | | | | | | | | | | | | ● | ● |
| | **220408** | 1.5-7.0 | 0.10-0.25 | | | | | | | | | ● | | | | | | | | | | | | | | ● |
| | **220412** | 1.5-7.0 | 0.15-0.30 | | | | | | | | | | | | | | | | | | | | | | ● | ● |
| | **220416** | 1.5-7.0 | 0.20-0.35 | | | | | | | | | | | | | | | | | | | | | | ● | |
| | **220425** | 1.5-7.0 | 0.25-0.40 | | | | | | | | | | | | | | | | | | | | | | | ● |
| | **270608** | 3.0-8.0 | 0.15-0.25 | | | | | | | | ● | | | | | | | | | | | | | | | |
|  Right hand Finishing | **TPGT 090204 L-C** | 0.3-1.5 | 0.05-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | |
| | **110304 L-C** | 0.5-2.0 | 0.05-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | ● |
| | **110304 R-C** | 0.5-2.0 | 0.05-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | |
| | **110308 L-C** | 0.5-2.0 | 0.07-0.25 | | ● | | | | | | | | | | | | | | | | | | | | | |
| | **160404 L-C** | 0.7-3.0 | 0.05-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | |
| | **160404 R-C** | 0.7-3.0 | 0.05-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | |
|  Left hand Finishing | **TPGX 090202 L** | 0.4-1.5 | 0.05-0.15 | | ● | | | | | | | | | | | | | | | | | | | | | ● |
| | **090204 L** | 0.6-1.5 | 0.08-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | ● |
| | **110302 L** | 0.5-1.5 | 0.08-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | |
| | **110302 R** | 0.5-1.5 | 0.08-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | |
| | **110304 L** | 0.6-2.0 | 0.08-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | ● |
| | **110304 R** | 0.6-2.0 | 0.08-0.20 | | ● | | | | | | | | | | | | | | | | | | | | | |



A49, A50, A82,
A167, A183, A184

●: Standard items

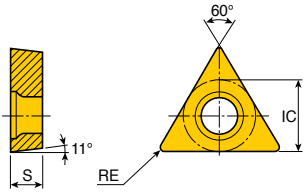


ADVANCE CUTTING
TaeguTec

# TPMR TPMT

T-TURN

## Positive 11° clearance triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 5.56 | 2.38 | 0.2-0.8 |
| **11** | 6.35 | 2.38-3.18 | 0.2-0.8 |
| **16** | 9.52 | 3.18-3.97 | 0.2-1.2 |
| **22** | 12.7 | 4.76 | 0.4-1.2 |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Type B Medium | **TPMR** | **090204** ✓ | 0.5-2.0 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| | | **090208** ✓ | 0.7-2.0 | 0.13-0.30 | | | | | ● | | | ● | ● | | | | | ● | | | | | | | | |
| | | **110304** ✓ | 0.7-3.0 | 0.10-0.25 | | ● | | ● | ● | | | ● | ● | | | | | ● | | | ● | | | | | |
| | | **110308** | 1.0-3.0 | 0.13-0.30 | ● | ● | | | ● | | | ● | ● | | | | | ● | | | | | | | | |
| | | **160304** ✓ | 1.0-5.0 | 0.10-0.25 | ● | ● | | ● | ● | | | ● | ● | ● | | | | ● | | ● | ● | | | | | |
| | | **160308** | 1.0-5.0 | 0.13-0.30 | | ● | | ● | ● | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **160312** | 1.0-5.0 | 0.15-0.35 | | | | | | | | ● | ● | | | | | | | | | | | | | |
| | | **220404** ✓ | 1.0-7.0 | 0.10-0.25 | | | | | | | | | ● | | | | | ● | | | | | | | | |
| | | **220408** ✓ | 1.5-7.0 | 0.13-0.30 | | | | ● | | | | | ● | | | | | ● | | | | | | | | |
| | | **220412** ✓ | 1.5-7.0 | 0.15-0.35 | | | | | | | | | ● | | | | | | | | | | | | | |
|  Finishing | **TPMT** | **090202 FA** | 0.1-1.2 | 0.03-0.15 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **090204 FA** | 0.2-1.2 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | | | ● | ● | | | | | |
| | | **110302 FA** | 0.1-1.5 | 0.03-0.15 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **110304 FA** | 0.2-1.5 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **110308 FA** | 0.3-1.5 | 0.08-0.25 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **16T304 FA** | 0.2-2.0 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **16T308 FA** | 0.3-2.0 | 0.08-0.25 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Finishing | **TPMT** | **110304 FG** | 0.4-1.5 | 0.07-0.20 | ● | ● | | ● | | | | ● | ● | | | | | ● | | | ● | | | | | |
|  Medium | **TPMT** | **090202 FM** | 0.5-1.5 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **090204 FM** | 0.5-1.5 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **110302 FM** | 0.5-1.5 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **110304 FM** | 0.5-1.5 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **110308 FM** | 0.8-1.5 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **160302 FM** | 0.5-2.0 | 0.07-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **160304 FM** | 0.5-2.0 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | | **160308 FM** | 0.8-2.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
|  Medium | **TPMT** | **090204 PC** | 0.3-2.0 | 0.06-0.18 | | | | | | | | | ● | | ● | ● | | ● | | ● | | | | | | |
| | | **110204 PC** | 0.4-2.5 | 0.06-0.20 | | | | | | | | | | | ● | ● | | | | ● | | | | | | |
| | | **110208 PC** | 0.5-2.5 | 0.10-0.26 | | | | | | | | | | | ● | ● | | ● | | ● | | | | | | |
| | | **110304 PC** | 0.4-2.5 | 0.06-0.20 | | | | | | | | | | | ● | ● | | ● | | ● | | | | | | |
| | | **110308 PC** | 0.5-2.5 | 0.10-0.26 | | | | | | | | | ● | | | ● | | ● | | ● | | | | | | |
| | | **16T304 PC** | 0.45-3.0 | 0.08-0.25 | | | | | | | | | ● | | ● | ● | | | | ● | | | | | | |
| | | **16T308 PC** | 0.5-3.0 | 0.10-0.30 | | | | | | | | | ● | | ● | ● | | | | ● | | | | | | |



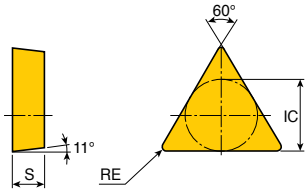
A49, A50, A82, A167, A183, A184

▸ ✓: Type B chip breaker

●: Standard items

# TPUN

## Positive 11° clearance triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.4-0.8 |
| **16** | 9.52 | 3.18 | 0.4-1.2 |
| **22** | 12.7 | 4.76 | 0.4-1.2 |
| | | | |
| | | | |
| | | | |

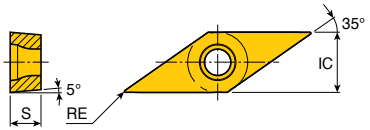
| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Medium | **TPUN 110304** | 1.0-3.0 | 0.10-0.30 | | | | | | | | | ● | | | | | | | | | | | | ● |
| | **110308** | 1.0-3.0 | 0.15-0.40 | | | | | | | | ● | ● | | | | | | | | | | | | ● |
| | **160304** | 1.0-5.0 | 0.10-0.30 | | | | | | | | ● | ● | | | | | | | | | | | | ● |
| | **160308** | 1.0-5.0 | 0.15-0.40 | | | | | | | | ● | ● | | | | | | | | ● | | | | ● |
| | **160312** | 1.5-5.0 | 0.20-0.50 | | | | | | | | | ● | | | | | | | | | | | | |
| | **220404** | 1.5-7.0 | 0.10-0.30 | | | | | | | | ● | | | | | | | | | | | | | |
| | **220408** | 1.5-7.0 | 0.15-0.40 | | | | | | | | | ● | | | | | | | | | | | | ● |
| | **220412** | 1.5-7.0 | 0.20-0.50 | | | | | | | | | ● | | | | | | | | | | | | |


A49, A50, A167

●: Standard items

# VBET VBGT

**Positive 5° clearance 35° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.03-0.4 |
| **16** | 9.52 | 4.76 | 0.1-0.4 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  Right hand Finishing | **VBET** | **110301 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **110301 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **110302 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110302 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110304 L-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **110304 R-GF** | 0.3-1.5 | 0.05-0.20 | | | | | | | | ● | | | | |
|  Right hand Finishing | **VBET** | **1103003 L-GW *** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **1103003 R-GW *** | 0.1-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
|  Left hand Finishing | **VBGT** | **1103003 L-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **1103003 R-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **110301 L-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **110301 R-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **110302 L-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **110302 R-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
|  Finishing | **VBGT** | **110301 SA** | 0.1-1.5 | 0.01-0.20 | | | ● | | | | | ● | | | | |
| | | **110302 SA** | 0.2-1.5 | 0.02-0.20 | | | ● | | | | | ● | | | | |
| | | **110304 SA** | 0.2-1.5 | 0.05-0.20 | | | ● | | | | | ● | | | | |
| | | **160401 SA** | 0.1-1.5 | 0.01-0.20 | | | ● | | | | | ● | | | | |
| | | **160402 SA** | 0.2-1.5 | 0.02-0.20 | | | ● | | | | | ● | | | | |
| | | **160404 SA** | 0.2-2.5 | 0.03-0.20 | | | | | | | | ● | | | | |
|  Finishing For Swiss | **VBGT** | **110302M SL-F** | 0.02-0.25 | 0.02-0.10 | | | | | | | | | ● | ● | | |
|  Medium For Swiss | **VBGT** | **110301M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | | **110302M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | | **110304M SM-F** | 0.2-1.5 | 0.03-0.12 | | | | | | | | | ● | ● | | |



A84, A85, A88-A90, A96, A98, A99, A138, A153, A187, A189, A191, A192, A211

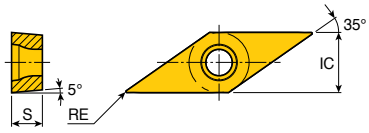
- *: Wiper inserts should be applied to ☐VJBR/L...
- M: Corner radius minus tolerance
- - F: Sharp edge

●: Standard items

# VBGT VBMT VBMX

T-TURN

**Positive 5° clearance 35° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.4-0.8 |
| **16** | 9.52 | 4.76 | 0.2-1.2 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
| Finishing | **VBGT 160404 FGS** | 0.2-2.5 | 0.03-0.20 | | | ● | | | | | | | | | | | | | ● | | | ● | ● | | ● |
| | **160408 FGS** | 0.3-2.5 | 0.05-0.20 | | | ● | | | | | | | | | | | | | ● | | | ● | ● | | ● |
| | **160412 FGS** | 0.3-2.5 | 0.07-0.20 | | | ● | | | | | | | | | | | | | ● | | | ● | ● | | ● |
| Finishing | **VBMT 110304 FA** | 0.2-1.5 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160404 FA** | 0.2-2.0 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160408 FA** | 0.3-2.0 | 0.08-0.25 | ● | ● | | | | | | ● | ● | | | | | ● | | ● | | | | | | |
| Finishing | **VBMT 160404 FG** | 0.5-1.5 | 0.07-0.20 | ● | ● | ● | ● | | | | ● | ● | | ● | ● | | ● | | ● | ● | | ● | ● | | |
| | **160408 FG** | 0.7-2.0 | 0.10-0.25 | ● | ● | ● | ● | ● | | | ● | ● | | ● | ● | | ● | | ● | | | ● | ● | | |
| Medium | **VBMT 110304 FM** | 0.5-1.5 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **110308 FM** | 0.5-1.5 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160404 FM** | 0.5-2.0 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160408 FM** | 0.8-2.0 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160412 FM** | 1.0-2.5 | 0.10-0.25 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| Finishing | **VBMT 160404 FX** | 0.2-2.0 | 0.05-0.20 | ● | ● | | | | | | ● | ● | | | | | | | ● | | ● | | | | |
| | **160408 FX** | 0.2-2.0 | 0.07-0.20 | ● | ● | | | | | ● | ● | ● | | | | | | | | | ● | | | | |
| Medium | **VBMT 160404 MT** | 0.6-3.0 | 0.10-0.25 | ● | ● | | ● | ● | | ● | ● | ● | | | ● | | ● | | ● | ● | | | | | ● |
| | **160408 MT** | 0.9-3.0 | 0.13-0.30 | ● | ● | | ● | ● | | ● | ● | ● | | | ● | | ● | | ● | ● | | | | | |
| | **160412 MT** | 1.2-3.0 | 0.15-0.30 | | | | | | | | ● | ● | | | | | ● | | | | | | | | |
| Medium | **VBMT 160404 PC** | 0.5-2.8 | 0.07-0.22 | | | | | | | | ● | ● | | | ● | | | | | | ● | | | | |
| | **160408 PC** | 0.5-2.8 | 0.10-0.27 | | | | | | | | ● | ● | | | ● | | | | | | ● | | | | |
| | **160412 PC** | 0.5-2.8 | 0.10-0.28 | | | | ● | | | | ● | ● | | | | | ● | | ● | | | | | | |
| Finishing | **VBMX 160402 FG** | 0.3-1.5 | 0.05-0.20 | | ● | | | | | | ● | | | | | | | | ● | | | | | | |
| | **160404 FG** | 0.5-1.5 | 0.07-0.20 | | ● | | | | | | ● | | | | | | | | ● | | | | | | |
| | **160408 FG** | 0.7-2.0 | 0.10-0.25 | | ● | | | | | | ● | | | | | | | | ● | | | | ● | | |

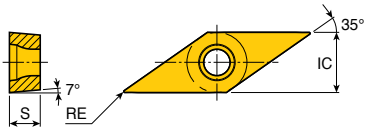
A84, A85, A88-A90, A92, A93, A96, A98, A99, A138, A153, A187, A189, A191, A192, A211

●: Standard items

# VCGT

T-TURN

**Positive 7° clearance 35° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.08-0.4 |
| **16** | 9.52 | 4.76 | 0.2-1.2 |
| **22** | 12.7 | 5.56 | 3.0 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  Medium For aluminum | **VCGT** | **110302 FL** | 0.2-2.5 | 0.05-0.20 | | | | | | | | | | | | ● |
| | | **110304 FL** | 0.5-3.0 | 0.05-0.25 | | | | | | | | | | | | ● |
| | | **160402 FL** | 0.5-2.5 | 0.05-0.25 | | | | | | | | | | | | ● |
| | | **160404 FL** | 0.5-3.0 | 0.05-0.25 | | | | | | | | | | | | ● |
| | | **160408 FL** | 0.5-3.0 | 0.10-0.25 | | | | | | | | | | | | ● |
| | | **160412 FL** | 0.5-3.0 | 0.10-0.25 | | | | | | | | | | | | ● |
| | | **220530 FL** | 1.5-4.5 | 0.15-0.30 | | | | | | | | | | | | ● |
| TOPMINI  Roughing For Swiss | **VCGT** | **1103008 SH-F** | 0.5-2.5 | 0.05-0.15 | | | | | | | | ● | | | | |
| | | **110301 SH-F** | 0.5-2.5 | 0.05-0.15 | | | | | | | | ● | | | | |
| | | **110302 SH-F** | 0.5-2.5 | 0.05-0.15 | | | | | | | | ● | | | | |
| TOPMINI  Medium For Swiss | **VCGT** | **110301M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | | **110302M SM-F** | 0.2-1.5 | 0.02-0.12 | | | | | | | | | ● | ● | | |
| | | **110304M SM-F** | 0.2-1.5 | 0.03-0.12 | | | | | | | | | ● | ● | | |
| TOPMINI  Finishing For Swiss | **VCGT** | **110301 SA** | 0.1-1.5 | 0.01-0.20 | | | ● | | | | | ● | | | | |
| | | **110302 SA** | 0.2-1.5 | 0.02-0.20 | | | ● | | | | | ● | | | | |
| | | **110304 SA** | 0.2-1.5 | 0.05-0.20 | | | ● | | | | | ● | | | | |
| TOPMINI  Finishing For Swiss | **VCGT** | **110302M SL-F** | 0.02-0.25 | 0.02-0.10 | | | | | | | | | ● | ● | | |



A86, A87, A96, A139, A189, A191, A192

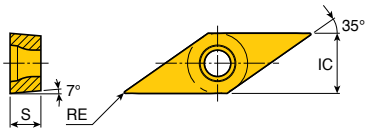
- M: Corner radius minus tolerance
- F: Sharp edge

●: Standard items

# VCMT

T-TURN

## Positive 7° clearance 35° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **08** | 4.76 | 2.38 | 0.2-0.4 |
| **11** | 6.35 | 3.18 | 0.4 |
| **16** | 9.52 | 4.76 | 0.4-0.8 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  VCMT 08, 11 | **VCMT 080202 PC** | 0.2-1.5 | 0.02-0.15 | | | | | | | | | ● | | | ● | | | | | | | | | | |
| | **080204 PC** | 0.2-1.5 | 0.05-0.20 | | | | | | | | ● | ● | | | ● | | | | | | | | | | |
| | **110304 PC** | 0.1-1.7 | 0.05-0.20 | | | | | | | | ● | ● | | | ● | | | | | | ● | | | | |
|  VCMT 16 | **160404 PC** | 0.3-2.0 | 0.05-0.20 | | | | | | | | ● | ● | | ● | ● | | | | | | ● | | | | |
| | **160408 PC** | 0.3-2.0 | 0.07-0.20 | | | | | | | | ● | ● | | | ● | | | | | | ● | | | | |
| Medium | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Medium | **VCMT 080202 FM** | 0.5-1.5 | 0.07-0.15 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **080204 FM** | 0.5-1.5 | 0.08-0.15 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **110304 FM** | 0.5-1.5 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160404 FM** | 0.5-2.0 | 0.08-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |
| | **160408 FM** | 0.8-2.0 | 0.10-0.20 | | | | | | | | ● | ● | | | | | ● | | ● | ● | | | | | |



A86, A87, A90,
A139, A189, A191,
A192, A214

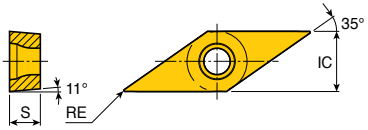
●: Standard items



ADVANCE CUTTING
TaeguTec

# VPET VPGT

**Positive 11° clearance 35° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **08** | 4.76 | 2.38 | 0.1-0.2 |
| **11** | 6.35 | 3.18 | 0.03-0.2 |
| | | | |
| | | | |
| | | | |
| | | | |

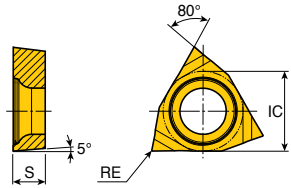
| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  Right hand Finishing | **VPET** | **080201 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **080201 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **080202 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **080202 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **1103003 L-GF** | 0.2-1.5 | 0.02-0.12 | | | | | | | | ● | | | | |
| | | **1103003 R-GF** | 0.2-1.5 | 0.02-0.12 | | | | | | | | ● | | | | |
| | | **110301 L-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **110301 R-GF** | 0.2-1.5 | 0.02-0.15 | | | | | | | | ● | | | | |
| | | **110302 L-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
| | | **110302 R-GF** | 0.3-1.5 | 0.03-0.17 | | | | | | | | ● | | | | |
|  Left hand Finishing | **VPGT** | **080201 L-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **080201 R-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **080202 L-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **080202 R-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **1103003 R-FF** | 0.05-0.4 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **110301 R-FF** | 0.1-0.5 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **110302 L-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **110302 R-FF** | 0.1-0.5 | 0.03-0.15 | | | | | | | | ● | | | | |


A188

●: Standard items

# WBGT WBMT

**Positive 5° clearance 80° trigon inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 3.97 | 1.59 | 0.03-0.4 |
| | | | |
| | | | |
| | | | |
| | | | |

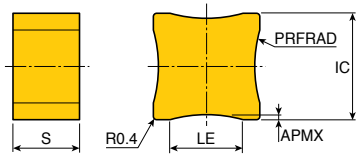
| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | PVD coated | | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | TT4410 | TT4430 | P20 | K10 |
|  Left hand Finishing | **WBGT** | **0601003 R-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **0601003 L-FF** | 0.05-0.3 | 0.03-0.10 | | | | | | | | ● | | | | |
| | | **060101 R-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **060101 L-FF** | 0.08-0.4 | 0.03-0.12 | | | | | | | | ● | | | | |
| | | **060102 R-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **060102 L-FF** | 0.1-0.4 | 0.03-0.15 | | | | | | | | ● | | | | |
| | | **060104 R-FF** | 0.1-0.4 | 0.05-0.20 | | | | | | | | ● | | | | |
| | | **060104 L-FF** | 0.1-0.4 | 0.05-0.20 | | | ● | | | | | ● | | | | |
| | **WBMT** | **060102 R-C** | 0.1-0.4 | 0.03-0.15 | | ● | | | | | | | | | | |
| | | **060102 L-C** | 0.1-0.4 | 0.03-0.15 | | ● | | | | | | | | | | |

 A193

●: Standard items

# SNG

**Negative square inserts for pipe skiving**



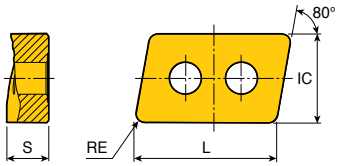

| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | LE | IC | S | PRFRAD | APMX |
| **SNG 452** | 8.7 | 12.70 | 7.94 | 10-70 | 0.14-1.0 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Pipe skiving | **SNG 452** | **10R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **16R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **20R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **25R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **30R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **40R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **50R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **60R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |
| | | **70R** | - | - | | | | | | | | | | | | | ● | | | | | | | | |

●: Standard items

# LNMM

## Inserts




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | L | IC | S | RE |
| **40** | 40.6 | 25.4 | 11.65 | 2.38 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **LNMM** | **401224 R-HX** | 6.0-32.0 | 0.70-1.50 | | | | | | | | ● | ● | ● | | | | | ● | | | | | | |
| | | **401224 L-HX** | 6.0-32.0 | 0.70-1.50 | | | | | | | | | ● | | | | | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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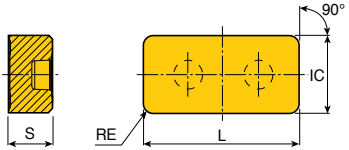


A133

●: Standard items

# LNMX

## Inserts




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | L | IC | S | RE |
| **50** | 50.8 | 25.4 | 14.2 | 3.2 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Roughing | **LNMX** | **501432 HD** | 6.0-40.0 | 0.70-1.60 | | | | | | | | | ● | ● | | | | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
|  Roughing | **LNMX** | **501432 HY** | 5.0-40.0 | 0.65-1.50 | | | | | | | | | ● | | | ● | | | ● | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | |

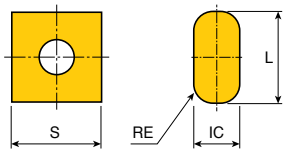


A133

●: Standard items

# LNMX

## TOP-RAIL inserts




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | L | IC | S | RE |
| **19** | 19.05 | 10 | 19.05 | 4.0 |
| **30** | 30 | 12 | 19.05 | 4.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Cermet | | CVD coated | | | | | | | | | | | | PVD coated | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PV3010 | CT3000 | TT3005 | TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 | TT7100 | TT5080 | TT8020 | TT9080 | TT3010 | TT3020 | TT9020 | K10 |
|  Finishing | **LNMX 191940 TWF** | 0.3-5.0 | 0.30-1.0 | | | | | | | ● | ● | ● | | | | | | | | | | | | |
|   Medium | **LNMX 191940 TWM** | 1.5-9.0 | 0.45-1.5 | | | | | | | ● | ● | ● | | | | | | | | | | | | |
| | **301940 TWM** | 1.5-15.0 | 0.50-1.5 | | | | | | | ● | ● | ● | | | | | | | | | | | | |
|  Roughing | **LNMX 301940 TWR** | 2.0-15.0 | 0.70-1.8 | | | | | | | ● | ● | ● | | | | | | | | | | | | |

A134

●: Standard items



ADVANCE CUTTING TaeguTec

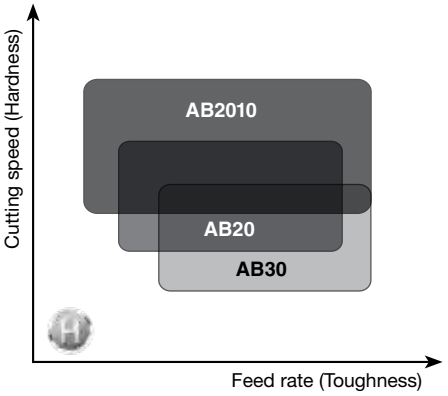
# Hard Turning for Ceramic Inserts

## Selection guide for ceramic grades

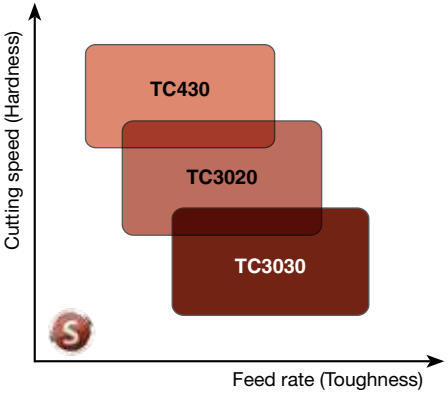
### For cast iron




### For hardened steel (HRc 40~60)



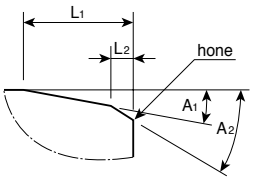

### For super alloys




### Information of Ceramic type

| | |
|---|---|
| CE | Pressed type |
| CH | Dimple type |
| WZ | Wiper geometry |

### Edge preparations for ceramic inserts

| Single land | | Double land | | | |
|---|---|---|---|---|---|
| Symbol | Width(mm) X angle | Symbol | Width(mm) X angle | | Shape |
| | | | L1 X A1 | L2 X A2 | |
| T2 | 0.10 X 30° | U1 | 0.7 X 15° | 0.15 X 30° |  |
| T3 | 0.15 X 30° | U2 | 1.5 X 15° | 0.15~0.2 X 30° | |
| T4 | 0.20 X 30° | U3 | 2.0 X 15° | 0.2 X 30° | |
| T5 | 0.30 X 20° | - All items are honed | | | |
| T6 | 0.10 X 20° | | | | |
| T7 | 0.20 X 20° | | | | |



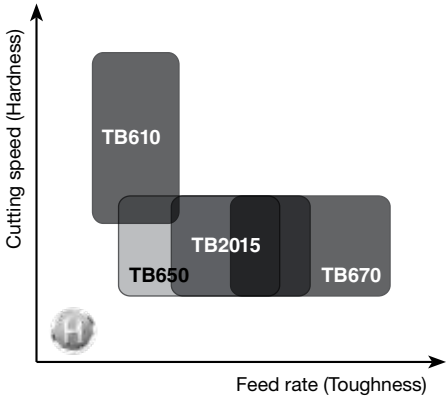
▸ Edge preparations of non symbol items is 0.2 X 25° with no hone except ☐NMG-CE 0.25 X 20° with hone

# Hard Turning for CBN and PCD Inserts

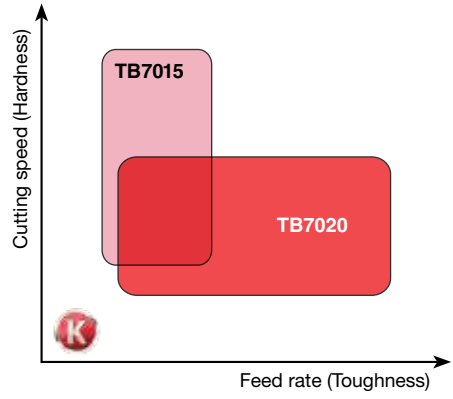
T-TURN

## Selection guide for CBN and PCD grades

### For hardened steel (HRc ≥ 50, CBN)

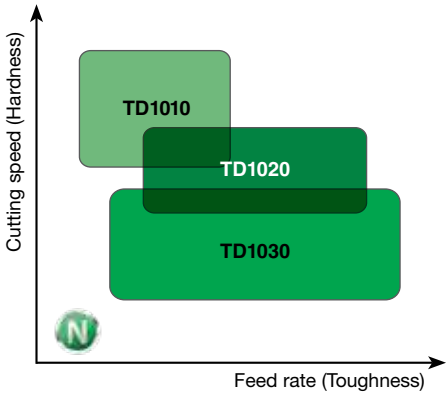



### For cast iron (CBN)




▸ TB730 for General turning of sintered or powder metals

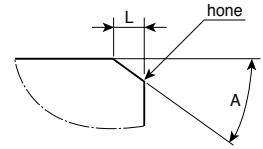
### For non-ferrous material (PCD)




### Information of CBN/PCD type

| | | |
|---|---|---|
| CBN | LS | Brazed small size CBN Tip, 1 corner |
| | LS2 | Brazed small size CBN Tip, 2 corners |
| | LN | Brazed large size CBN Tip, 1 corner |
| | LN2 | Brazed large size CBN Tip, 2 corners |
| | SD | Solid type |
| | FT | Full Top type |
| | DA | Dimple type |
| | WZ | Wiper geometry |
| PCD | LN-7 | Rake angle 7° |
| | LN-10 | Rake angle10° |
| | CB | Chip breaker - Roughing medium |
| | CF | Chip breaker - Finishing |

### Edge preparations for CBN inserts

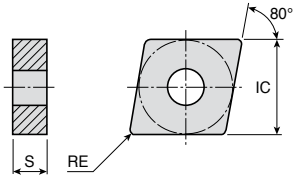
| Single land | | | | |
|---|---|---|---|---|
| Symbol | Width(mm) X angle L X A | Symbol | Width(mm) X angle L X A | Shape |
| TL | 0.13X15° | SL | 0.13X15°+ honed |  |
| TM | 0.13X25° | SM | 0.13X25°+ honed | |
| TH | 0.13X35° | SH | 0.13X35°+ honed | |
| | | | | |
| | | | | |



▸ Edge preparations of non symbol items depends on grades
TB610, TB2015, TB650, TB670: 0.13x20°+honed
TB730, TB7015 : 0.13x20°+no honed
TB7020 : 0.20x20°+honed

# CNGA CNGN

**Negative 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| **16** | 15.88 | 4.76-6.35 | 0.8-1.6 |
| **19** | 19.05 | 6.35-7.94 | 0.8-1.2 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **CNGA 120404** | 0.1-3.0 | 0.05-0.15 | ● | ● | ● | | | | | | | |
| | **120404 T2** | 0.1-3.0 | 0.05-0.15 | | | ● | | | | | | | |
| | **120404 T7** | 0.1-3.0 | 0.05-0.15 | | | | | ● | | | | | |
| | **120404 T7-WZ** | 0.1-3.0 | 0.05-0.15 | ● | | | | | | | | | |
| | **120408** | 0.1-3.0 | 0.05-0.20 | ● | ● | ● | | ● | ● | ● | | | |
| | **120408 E** | 0.1-3.0 | 0.05-0.20 | | | | | | | | ● | ● | ● |
| | **120408 S7** | 0.1-3.0 | 0.05-0.20 | ● | | | | | | | | | |
| | **120408 T2** | 0.1-3.0 | 0.05-0.20 | | ● | ● | | | | | | | |
| | **120408 T6** | 0.1-3.0 | 0.05-0.20 | | ● | | | | | | ● | ● | ● |
| | **120408 T6-WZ** | 0.1-3.0 | 0.05-0.20 | | | | | | | ● | | | |
| | **120408 T7** | 0.1-3.0 | 0.05-0.20 | | | | ● | ● | | | | | |
| | **120408 T7-WZ** | 0.1-3.0 | 0.05-0.20 | ● | ● | | | | | | | | |
| | **120412** | 0.1-3.0 | 0.05-0.25 | ● | ● | ● | | | ● | ● | | | |
| | **120412 T2** | 0.1-3.0 | 0.05-0.25 | | ● | | | | | | | | |
| | **120412 T6-WZ** | 0.1-3.0 | 0.05-0.25 | | | | | | ● | | | | |
| | **120412 T7** | 0.1-3.0 | 0.05-0.25 | | | | | ● | | | | | |
| | **120412 T7-WZ** | 0.1-3.0 | 0.05-0.25 | ● | ● | | | | | | | | |
| | **120416** | 0.1-3.0 | 0.05-0.30 | | ● | ● | | | ● | ● | | | |
| | **160608** | 0.1-3.5 | 0.05-0.20 | | ● | | | | | | | | |
| | **160612** | 0.1-3.5 | 0.05-0.25 | | | ● | | | | | | | |
| | **160616** | 0.1-3.5 | 0.05-0.30 | | | ● | | | | | | | |
| | **190608** | 0.1-4.5 | 0.05-0.20 | | | ● | | | | | | | |
| | **190612** | 0.1-4.5 | 0.05-0.25 | | | ● | | | | | | | |
| | | | | | | | | | | | | | |
|  | **CNGN 120404** | 0.1-3.0 | 0.05-0.15 | | | ● | | | | | | | |
| | **120404 T6** | 0.1-3.0 | 0.05-0.15 | | | | | | | | ● | | |
| | **120408** | 0.1-3.0 | 0.05-0.20 | ● | ● | ● | | | | ● | | | |
| | **120408 E** | 0.1-3.0 | 0.05-0.20 | | | | | | | | ● | ● | ● |
| | **120408 T6** | 0.1-3.0 | 0.05-0.20 | | | | | | | | ● | | |
| | **120408 T7** | 0.1-3.0 | 0.05-0.20 | | | | | ● | | | | | |
| | **120412 E** | 0.1-3.0 | 0.05-0.25 | | | | | | | | ● | ● | ● |
| | **120412 T6** | 0.1-3.0 | 0.05-0.25 | | | | | | | | ● | | |
| | **120412 T7** | 0.1-3.0 | 0.05-0.25 | | | | ● | | | | | | |
| | **120416** | 0.1-3.0 | 0.05-0.30 | | | | | | | ● | | | |
| | **120416 T6** | 0.1-3.0 | 0.05-0.30 | | | | | | | | ● | | |
| | | | | | | | | | | | | | |
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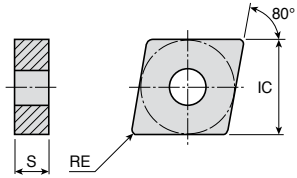
A58-A59 A119,
A126, A146, A170,
A194, A203, A205

●: Standard items

# CNGN CNGX-CH CNMG-CE

T-TURN

**Negative 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76-7.94 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | SC500 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **CNGN** | **120708** | 0.1-3.0 | 0.05-0.20 | ● | ● | ● | | | | | | | | |
| | | **120708 E** | 0.1-3.0 | 0.05-0.20 | | | | | | | | | ● | ● | ● |
| | | **120708 T6** | 0.1-3.0 | 0.05-0.20 | | | | | | | | | ● | ● | ● |
| | | **120712** | 0.1-3.0 | 0.05-0.25 | | | ● | | | | | ● | | | |
| | | **120712 E** | 0.1-3.0 | 0.05-0.25 | | | | | | | | | ● | ● | ● |
| | | **120712 T6** | 0.1-3.0 | 0.05-0.25 | | | | | | | | | ● | ● | ● |
| | | **120712 T7** | 0.1-3.0 | 0.05-0.25 | | | | ● | | | | | | | |
| | | **120716** | 0.1-3.0 | 0.05-0.30 | | | ● | | | | ● | | | | |
| | | **120716 T6** | 0.1-3.0 | 0.05-0.30 | | | | | | | | | ● | ● | ● |
| | | **120716 T7** | 0.1-3.0 | 0.05-0.30 | | | | ● | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
|  Dimple type | **CNGX** | **120712 CH** | 0.1-3.5 | 0.05-0.30 | | | | | | | | ● | | | |
| | | **120712 T7-CH** | 0.1-3.5 | 0.05-0.30 | | | | | ● | ● | | ● | | | |
| | | **120716 CH** | 0.1-3.5 | 0.05-0.35 | | | | | | | ● | ● | | | |
| | | **120716 T7-CH** | 0.1-3.5 | 0.05-0.35 | | | | | | ● | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
|  Pressed type | **CNMG** | **120404 CE** | 0.1-3.0 | 0.05-0.15 | | | ● | | | | | | | | |
| | | **120408 CE** | 0.1-3.0 | 0.05-0.20 | | ● | ● | | | | | | | | |
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A58-A59, A119, A120, A121, A126, A146, A170, A194, A201, A203, A205

●: Standard items

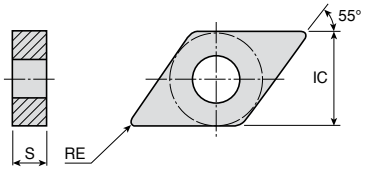


ADVANCE CUTTING TaeguTec

# DNGA DNGN DNGX-CH DNMG-CE

T-TURN

**Negative 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 10 | 8.0 | 1.2 |
| **15** | 12.7 | 4.76-8.0 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **DNGA** | **150404** | 0.1-2.5 | 0.05-0.15 | | ● | ● | | | | | | | |
| | | **150408** | 0.1-2.5 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | | **150412** | 0.1-2.5 | 0.05-0.25 | ● | ● | ● | | | | | | | |
| | | **150604** | 0.1-2.5 | 0.05-0.15 | ● | ● | ● | | | | | | | |
| | | **150608** | 0.1-2.5 | 0.05-0.20 | ● | ● | ● | | | | ● | | | |
| | | **150612** | 0.1-2.5 | 0.05-0.25 | ● | ● | ● | | | | ● | | | |
| | | **150616** | 0.1-2.5 | 0.05-0.30 | | ● | ● | | | | | | | |
|  | **DNGN** | **150408** | 0.1-2.5 | 0.05-0.20 | | ● | | | | | | | | |
| | | **150704** | 0.1-2.5 | 0.05-0.15 | | | ● | | | | | | | |
| | | **150708** | 0.1-2.5 | 0.05-0.20 | | | ● | | | | | | | |
| | | **150708 T6** | 0.1-2.5 | 0.05-0.20 | | | | | | | | | ● | |
| | | **150708 T7** | 0.1-2.5 | 0.05-0.20 | | | | ● | | | | | | |
| | | **150712 T6** | 0.1-2.5 | 0.05-0.25 | | | | | | | | | ● | |
| | | **150712 T7** | 0.1-2.5 | 0.05-0.25 | | | | ● | | | | | | |
|  Dimple type | **DNGX** | **120712 T7-CH** | 0.1-3.0 | 0.05-0.30 | | | | | | | ● | | | |
| | | **150708 T7-CH** | 0.1-3.0 | 0.05-0.25 | | | | | | | ● | | | |
| | | **150712 CH** | 0.1-3.0 | 0.05-0.30 | | | | | | ● | ● | | | |
| | | **150712 T7-CH** | 0.1-3.0 | 0.05-0.30 | | | | | ● | | | | | |
| | | **150716 CH** | 0.1-3.5 | 0.05-0.35 | | | | | | | ● | | | |
| | | **150716 T7-CH** | 0.1-3.5 | 0.05-0.35 | | | | | | | ● | | | |
|  Pressed type | **DNMG** | **150608 CE** | 0.1-2.5 | 0.05-0.20 | | | ● | | | | | | | |



A52, A53, A60, A61, A122, A127, A146, A171, A195, A203, A206, A215

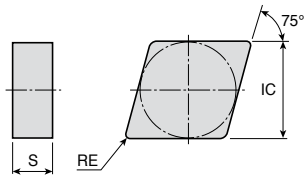
●: Standard items



TaeguTec

# ENGN

**Negative 75° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **13** | 12.7 | 7.94 | 0.8-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

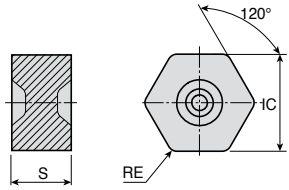
| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **ENGN** | **130708** | 0.1-2.5 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | | **130712 T5** | 0.1-2.5 | 0.05-0.25 | | | ● | | | | | | | |
| | | **130716** | 0.1-2.5 | 0.05-0.30 | | ● | | | | | | | | |
| | | **130716 U2** | 0.1-2.5 | 0.05-0.30 | | | ● | | | | | | | |
| | | | | | | | | | | | | | | |
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A128

●: Standard items

# HNGX-CH

**Negative 120° hexagonal inserts**

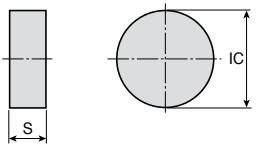



| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 12.7 | 7.94 | 1.2-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  Dimple type | **HNGX** | **050712 CH** | 0.05-0.25 | 0.10-2.00 | | | | | | | ● | | | |
| | | **050712 T7-CH** | 0.05-0.25 | 0.10-2.00 | | | | | ● | | | | | |
| | | **050716 CH** | 0.05-0.3 | 0.10-2.00 | | | | | | | ● | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

# RNGN

## Negative round inserts




| Size | Dimension (mm) | |
|---|---|---|
| | IC | S |
| **09** | 9.52 | 3.18-4.76 |
| **12** | 12.7 | 4.76-7.94 |
| **15** | 15.88 | 7.94 |
| **19** | 19.05 | 7.94 |
| **25** | 25.4 | 9.52 |

| Insert | Designation | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **RNGN 090300** | 0.1-2.5 | 0.05-0.15 | | ● | ● | | | | | | | |
| | **090300 T6** | 0.1-2.5 | 0.05-0.15 | | | | | | | | ● | | |
| | **090400 T6** | 0.1-2.5 | 0.05-0.15 | | | | | | | | ● | | |
| | **120400** | 0.1-4.0 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | **120400 E** | 0.1-4.0 | 0.05-0.20 | | | | | | | | ● | | ● |
| | **120400 T6** | 0.1-4.0 | 0.05-0.20 | | | | | | | | ● | | |
| | **120700** | 0.1-4.0 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | **120700 E** | 0.1-4.0 | 0.05-0.20 | | | | | | | | | ● | ● |
| | **120700 E04** | 0.1-4.0 | 0.05-0.20 | | | | | | | | | ● | |
| | **120700 S6** | 0.1-4.0 | 0.05-0.20 | | | | | | | | | ● | ● |
| | **120700 T6** | 0.1-4.0 | 0.05-0.20 | | | | | | | | ● | ● | ● |
| | **150700** | 0.1-4.5 | 0.05-0.25 | | ● | ● | | | | | | | |
| | **150700 T6** | 0.1-4.5 | 0.05-0.25 | | | | | | | | ● | | |
| | **150700 U2** | 0.1-4.5 | 0.05-0.25 | | | ● | | | | | | | |
| | **190700** | 0.1-5.0 | 0.05-0.30 | | ● | ● | | | | | | | |
| | **190700 E04** | 0.1-5.0 | 0.05-0.30 | | | | | | | | | ● | ● |
| | **190700 T6** | 0.1-5.0 | 0.05-0.30 | | | | | | | | ● | ● | ● |
| | **190700 U2** | 0.1-5.0 | 0.05-0.30 | | | ● | | | | | | | |
| | **250900 E04** | 0.1-5.0 | 0.05-0.35 | | | | | | | | | ● | ● |
| | **250900 T6** | 0.1-5.0 | 0.05-0.35 | | | | | | | | | ● | ● |



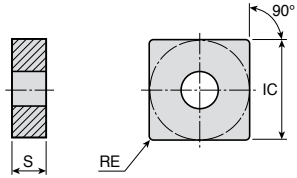
A129

●: Standard items

# SNGA SNGN

T-TURN

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76-7.94 | 0.4-1.6 |
| **15** | 15.88 | 7.94 | 1.6 |
| **19** | 19.05 | 6.35-7.94 | 0.8-1.6 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **SNGA** | **120404** | 0.1-3.0 | 0.05-0.15 | ● | ● | ● | | | | | | | |
| | | **120408** | 0.1-3.0 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | | **120408 S7** | 0.1-3.0 | 0.05-0.20 | ● | | | | | | | | | |
| | | **120412** | 0.1-3.0 | 0.05-0.25 | ● | ● | ● | | | | ● | | | |
| | | **120416** | 0.1-3.0 | 0.05-0.30 | | | | | | ● | ● | | | |
| | | **190608** | 0.1-4.5 | 0.05-0.20 | | | ● | | | | | | | |
| | | **190612** | 0.1-4.5 | 0.05-0.25 | | | ● | | | | | | | |
|  | **SNGN** | **120404** | 0.1-3.0 | 0.05-0.15 | ● | ● | ● | | | | | | | |
| | | **120404 T7** | 0.1-3.0 | 0.05-0.15 | | | | ● | | | | | | |
| | | **120408** | 0.1-3.0 | 0.05-0.20 | ● | ● | ● | | | | ● | | | |
| | | **120408 T6** | 0.1-3.0 | 0.05-0.20 | | | | | | | | ● | ● | ● |
| | | **120412** | 0.1-3.0 | 0.05-0.25 | ● | ● | ● | | | | ● | | | |
| | | **120412 T6** | 0.1-3.0 | 0.05-0.25 | | | | | | | | ● | | ● |
| | | **120412 T7** | 0.1-3.0 | 0.05-0.25 | | | | ● | | | | | | |
| | | **120416** | 0.1-3.0 | 0.05-0.30 | ● | ● | ● | | | | ● | | | |
| | | **120416 T6** | 0.1-3.0 | 0.05-0.30 | | | | | | | | ● | | |
| | | **120416 T7** | 0.1-3.0 | 0.05-0.30 | | | | ● | | | | | | |
| | | **120708** | 0.1-3.0 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | | **120708 T6** | 0.1-3.0 | 0.05-0.20 | | | | | | | | ● | | |
| | | **120708 T7** | 0.1-3.0 | 0.05-0.20 | | | | ● | | | | | | |
| | | **120712** | 0.1-3.0 | 0.05-0.25 | ● | ● | ● | | | ● | | | | |
| | | **120712 T6** | 0.1-3.0 | 0.05-0.25 | | | | | | | | ● | ● | ● |
| | | **120712 T7** | 0.1-3.0 | 0.05-0.25 | | | | ● | | | | | | |
| | | **120716** | 0.1-3.0 | 0.05-0.30 | ● | | ● | | | | | | | |
| | | **120716 T7** | 0.1-3.0 | 0.05-0.30 | | | | ● | | | | | | |
| | | **150716** | 0.1-3.5 | 0.05-0.30 | | | ● | | | | | | | |
| | | **190716** | 0.1-4.0 | 0.05-0.30 | | | ● | | | | | | | |



A65, A66, A104,
A105, A130, A131,
A172, A197

●: Standard items

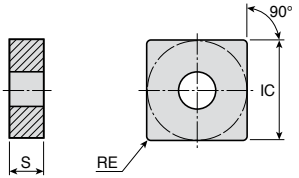


ADVANCE CUTTING
TaeguTec

# SNGX-CH SNMG-CE

T-TURN

**Negative square inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 4.76-7.94 | 0.8-1.6 |
| **15** | 15.8 8 | 7.94 | 1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | SC500 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  Dimple type | **SNGX** | **120712 CH** | 0.1-3.0 | 0.05-0.30 | | | | | | | ● | ● | | | |
| | | **120716 CH** | 0.1-3.0 | 0.05-0.35 | | | | | | | ● | ● | | | |
| | | **120716 T7-CH** | 0.1-3.0 | 0.05-0.35 | | | | | ● | ● | | ● | | | |
| | | **150716 T7-CH** | 0.1-3.5 | 0.05-0.35 | | | | | | | | ● | | | |
|  Pressed type | **SNMG** | **120408 CE** | 0.1-3.0 | 0.05-0.20 | | | ● | | | | | | | | |

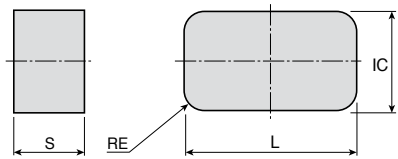


A65, A66, A104, A105, A123, A172, A197

●: Standard items

# LNU T32-

## Negative square inserts




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | L | IC | S | RE |
| **LNU** | 38.1 | 19.05 | 12.77 | 3.2 |
| **T32** | 31.75 | 19.05 | 12.7 | 2.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

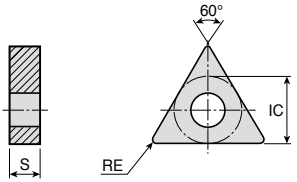
| Insert | Designation | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | AB2010 | AB20 | AB30 | AW120 | SC500 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **LNU 6688 T** | 1.0-20.0 | 0.20-1.00 | | ● | ● | | | ● | | | | | |
|  | **T32- 32** | 1.0-15.0 | 0.20-0.25 | | ● | ● | | | ● | | | | | |

●: Standard items

# TNGA TNGN TNMG-CE

T-TURN

## Negative triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **16** | 9.52 | 4.76 | 0.4-1.6 |
| **22** | 12.7 | 4.76 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **TNGA** | **160404** | 0.1-2.5 | 0.05-0.15 | ● | ● | ● | | | | | | | |
| | | **160404 T2** | 0.1-2.5 | 0.05-0.15 | | | ● | | | | | | | |
| | | **160408** | 0.1-2.5 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | | **160408 T2** | 0.1-2.5 | 0.05-0.20 | | | ● | | | | | | | |
| | | **160412** | 0.1-2.5 | 0.05-0.25 | ● | ● | ● | | | | | | | |
| | | **160412 T2** | 0.1-2.5 | 0.05-0.25 | | | ● | | | | | | | |
| | | **160416** | 0.1-2.5 | 0.05-0.30 | | ● | | | | | | | | |
| | | **220404** | 0.1-3.0 | 0.05-0.15 | | ● | ● | | | | | | | |
| | | **220408** | 0.1-3.0 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | | **220412** | 0.1-3.0 | 0.05-0.25 | | ● | ● | | | | | | | |
| | | **220416** | 0.1-3.0 | 0.05-0.30 | | ● | ● | | | | | | | |
|  | **TNGN** | **160404** | 0.1-2.5 | 0.05-0.15 | | ● | ● | | | | | | | |
| | | **160408** | 0.1-2.5 | 0.05-0.20 | ● | ● | ● | | | | ● | | | |
| | | **160408 T7** | 0.1-2.5 | 0.05-0.20 | | | | ● | | | | | | |
| | | **160412** | 0.1-2.5 | 0.05-0.25 | | ● | ● | | | | | | | |
| | | **160412 T7** | 0.1-2.5 | 0.05-0.25 | | | | ● | ● | | | | | |
| | | **160416 T7** | 0.1-1.0 | 0.05-0.20 | | | | ● | | | | | | |
|  Pressed type | **TNMG** | **160408 CE** | 0.1-2.5 | 0.05-0.20 | | | ● | | | | | | | |

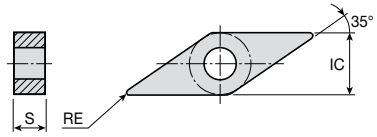


A54, A67, A68, A106, A114, A115, A148, A173, A200, A204

●: Standard items

# VNGA VNGX-CH

## Negative 35° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **16** | 9.52 | 4.76-7.94 | 0.4-1.2 |
| **22** | 12.7 | 4.76 | 1.2 |
| | | | |
| | | | |
| | | | |
| | | | |

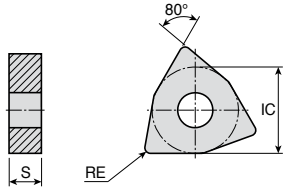
| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **VNGA** | **160404** | 0.05-1.0 | 0.05-0.10 | ● | ● | ● | | | | | | | |
| | | **160408** | 0.05-1.0 | 0.05-0.15 | ● | ● | ● | | | | | | | |
| | | **160412** | 0.05-1.5 | 0.05-0.20 | | ● | ● | | | | | | | |
| | | **220412** | 0.05-2.0 | 0.05-0.20 | | | ● | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
|  Dimple type | **VNGX** | **160712 T7-CH** | 0.05-1.5 | 0.05-0.20 | | | | | | | ● | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |


A55, A56, A108,
A148, A206

●: Standard items

# WNGA

## Negative 80° trigon inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **08** | 12.7 | 4.76 | 0.8-1.2 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **WNGA** | **080408** | 0.1-2.5 | 0.05-0.25 | ● | ● | ● | | | ● | ● | | | |
| | | **080408 T7-WZ** | 0.1-2.5 | 0.05-0.25 | ● | ● | | | | | | | | |
| | | **080412** | 0.1-2.5 | 0.05-0.25 | ● | ● | ● | | | ● | ● | | | |
| | | **080412 T7** | 0.1-2.5 | 0.05-0.25 | | | | | ● | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |


A57, A69, A109,
A149, A169,
A198, A207

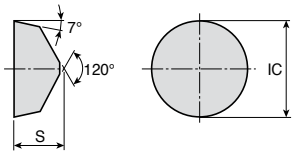
●: Standard items



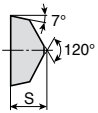
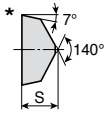
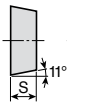
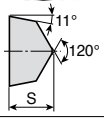
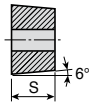
ADVANCE CUTTING
TaeguTec

# RCGX RPGN RPGX T11-

**Positive round inserts**




| Size | Dimension (mm) | | Size | Dimension (mm) | |
|---|---|---|---|---|---|
| | IC | S | | IC | S |
| **06** | 6.35 | 3.18-6.35 | **19** | 19.05 | 10.0 |
| **09** | 9.52 | 7.94 | **25** | 25.4 | 12.0 |
| **12** | 12.7 | 4.76-7.94 | **T11** | 31.9 | 19.05 |
| **15** | 15.88 | 8 | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|      | **RCGX** | **060600 T6** | 0.1-2.0 | 0.05-0.25 | | | | | | | | ● | | |
| | | **060600 U1** | 0.1-2.0 | 0.05-0.25 | | | ● | | | | | | | |
| | | **090700 E** | 0.1-3.0 | 0.05-0.35 | | | | | | | | | ● | ● |
| | | **090700 E04** | 0.1-3.0 | 0.05-0.30 | | | | | | | | | ● | ● |
| | | **090700 T6** | 0.1-3.0 | 0.05-0.30 | | | | | | | | ● | ● | ● |
| | | **090700 U1** | 0.1-3.0 | 0.05-0.30 | | ● | ● | | | | | | | |
| | | **120700** | 0.1-4.0 | 0.05-0.35 | | | ● | | | | | | | |
| | | **120700 E** | 0.1-4.0 | 0.05-0.35 | | | | | | | | | ● | ● |
| | | **120700 E04** | 0.1-4.0 | 0.05-0.35 | | | | | | | | | ● | ● |
| | | **120700 T6** | 0.1-4.0 | 0.05-0.35 | | | | | | | | ● | ● | ● |
| | | **120700 U2** | 0.1-4.0 | 0.05-0.35 | | ● | ● | | | | | | | |
| | | **151000 U2** | 0.1-5.0 | 0.05-0.35 | | ● | ● | | | | | | | |
| | | **191000 U2** | 0.1-5.0 | 0.05-0.35 | | ● | ● | | | | | | | |
| | | **251200 U3 *** | 0.1-5.0 | 0.05-0.35 | | | ● | | | | | | | |
|    | **RPGN** | **060300 E** | 0.1-2.0 | 0.05-0.25 | | | | | | | | | | ● |
| | | **120400 E** | 0.1-4.0 | 0.05-0.35 | | | | | | | | | ● | ● |
| | | **120400 T6** | 0.1-4.0 | 0.05-0.35 | | | | | | | | ● | ● | ● |
|    | **RPGX** | **090700 E** | 0.1-3.0 | 0.05-0.35 | | | | | | | | | ● | ● |
| | | **090700 T6** | 0.1-3.0 | 0.05-0.35 | | | | | | | | ● | ● | ● |
| | | **120700 E** | 0.1-4.0 | 0.05-0.35 | | | | | | | | | ● | ● |
| | | **120700 T6** | 0.1-4.0 | 0.05-0.35 | | | | | | | | ● | ● | ● |
|    | **T11-** | **3219** | 0.1-5.0 | 0.05-0.35 | | ● | | | | | | | | |



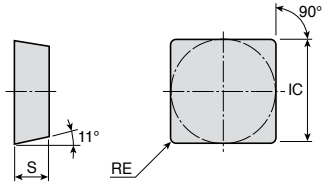
A116, A117, A118

▸ *: This is the only item with a 140° bottom

●: Standard items

# SPGN

## Positive square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **12** | 12.7 | 3.18-4.76 | 0.8-1.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **SPGN** | **120308** | 0.1-3.5 | 0.05-0.20 | | | ● | | | | ● | | | |
| | | **120412** | 0.1-3.5 | 0.05-0.20 | | | | | | | ● | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

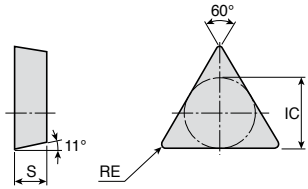


A48, A166

●: Standard items

# TPGN

## Positive triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.4-0.8 |
| **16** | 9.52 | 3.18 | 0.4-0.8 |
| **22** | 12.7 | 4.76 | 0.8 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | ap (mm) | Feed (mm/rev) | Ceramic | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | AB2010 | AB20 | AB30 | AW120 | AS500 | SC10 | AS10 | TC430 | TC3020 | TC3030 |
|  | **TPGN** | **110304** | 0.1-2.0 | 0.05-0.10 | ● | ● | ● | | | | | | | |
| | | **110308** | 0.1-2.0 | 0.05-0.10 | ● | ● | ● | | | | | | | |
| | | **160304** | 0.1-2.5 | 0.05-0.15 | ● | ● | ● | | | | | | | |
| | | **160308** | 0.1-2.5 | 0.05-0.20 | ● | ● | ● | | | | | | | |
| | | **160308 T6** | 0.1-2.5 | 0.05-0.20 | | | | | | | | ● | | |
| | | **220408** | 0.1-3.0 | 0.05-0.20 | | | ● | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

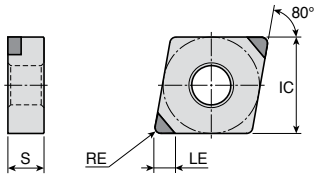


A49, A50, A167

●: Standard items

# CNGA CNGN-SD CNGX-DA

**Negative 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 9.52 | 3.18 | 0.8 |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **CNGA 120404 WZ-LS2** | 2.1 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | | | | | | |
| | **120408 WZ-LS2** | 2.1 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | | | | | |
| | **120408 WZ-LS4** | 2.1 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | | | | | | |
| | **120412 WZ-LS2** | 2.5 | 0.1-0.5 | 0.05-0.30 | | ● | ● | ● | | | | | |
| | **120412 WZ-LS4** | 2.5 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | |
|  | **CNGA 120404 LN** | 4.2 | 0.1-0.5 | 0.05-0.30 | ● | | ● | | ● | | | | |
| | **120404 LS2** | 2.2 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | ● | | | | |
| | **120404 LS4** | 2.2 | 0.1-0.5 | 0.05-0.30 | | ● | ● | | | | | | |
| | **120408 LN** | 4.0 | 0.1-0.5 | 0.05-0.30 | ● | ● | | ● | ● | | | | |
| | **120408 LN4** | 4.0 | 0.1-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | **120408 LS2** | 2.1 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | ● | | | | |
| | **120408 LS4** | 2.1 | 0.1-0.5 | 0.05-0.30 | | ● | ● | ● | ● | | | | |
| | **120412 LN** | 3.9 | 0.1-0.5 | 0.05-0.30 | ● | | ● | | ● | | | | |
| | **120412 LS2** | 2.5 | 0.1-0.5 | 0.05-0.30 | | ● | | ● | ● | | | | |
| | **120412 LS4** | 2.5 | 0.1-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
|   | **CNGA 120404 LN-10** | 4.0 | 0.1-3.0 | 0.05-0.25 | | | | | | | | ● | |
| | **120408 LN-10** | 3.9 | 0.1-3.0 | 0.05-0.25 | | | | | | | | ● | |
| | **120412 LN-10** | 3.8 | 0.1-3.0 | 0.05-0.25 | | | | | | | | ● | |
|  Solid CBN | **CNGN 090308 SD** | - | 0.1-3.0 | 0.05-0.30 | | | | | | ● | | | |
| | **120412 SD** | - | 0.1-4.0 | 0.05-0.30 | | | | | | ● | | | |
| | **120416 SD** | - | 0.1-4.0 | 0.05-0.30 | | | | | | ● | | | |
|  Dimple type | **CNGX 120412 DA** | - | 0.1-4.0 | 0.05-0.30 | | | | | | ● | | | |
| | **120416 DA** | - | 0.1-4.0 | 0.05-0.30 | | | | | | ● | | | |

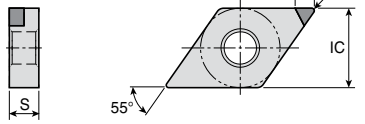


A58-A59, A119,
A126, A146, A170,
A194, A203, A205

●: Standard items

# DNGA

## Negative 55° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **15** | 12.7 | 4.76-6.35 | 0.4-1.2 |

| Insert | Designation | | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | | TD1010 | TD1020 | TD1030 |
|  | **DNGA** | **150404 LN** | 4.2 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | | | | | | | |
| | | **150404 LS2** | 2.6 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | | | | | | | |
| | | **150404 LS4** | 2.6 | 0.1-0.5 | 0.05-0.30 | ● | ● | | | | | | | | |
| | | **150408 LN** | 3.9 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | | ● | | | | | |
| | | **150408 LS2** | 2.3 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | | | | | | |
| | | **150408 LS4** | 2.3 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | | |
| | | **150412 LN** | 3.5 | 0.1-0.5 | 0.05-0.30 | | ● | | | ● | | | | | |
| | | **150412 LS2** | 2.2 | 0.1-0.5 | 0.05-0.30 | | | ● | ● | | | | | | |
| | | **150412 LS4** | 2.2 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | | |
| | | **150604 LN** | 4.2 | 0.1-0.5 | 0.05-0.30 | | ● | ● | ● | ● | | | | | |
| | | **150604 LS2** | 2.6 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | | | | | | |
| | | **150608 LN** | 3.9 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | | | | | | |
| | | **150608 LS2** | 2.3 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | ● | | | | | |
| | | **150608 LS4** | 2.3 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | | |
| | | **150612 LS2** | 2.2 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | | |
|  | **DNGA** | **150404 LN-10** | 4.0 | 0.1-2.5 | 0.05-0.20 | | | | | | | | | ● | |
| | | **150408 LN-10** | 3.7 | 0.1-2.5 | 0.05-0.20 | | | | | | | | | ● | |
| | | **150604 LN-10** | 4.0 | 0.1-2.5 | 0.05-0.20 | | | | | | | | | ● | |
| | | **150608 LN-10** | 3.7 | 0.1-2.5 | 0.05-0.20 | | | | | | | | | ● | |
|  | | | | | | | | | | | | | | | |



A52, A53, A60, A61,
A146, A171, A195,
A203, A206

●: Standard items

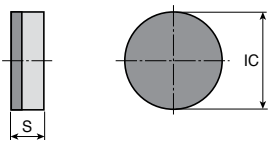


ADVANCE CUTTING TaeguTec

# RNGN-FT/SD

T-TURN

**Negative round inserts**




| Size | Dimension (mm) | |
|---|---|---|
| | IC | S |
| **09** | 9.52 | 3.18 |
| **12** | 12.7 | 4.76 |
| | | |
| | | |
| | | |
| | | |

| Insert | Designation | | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | | TD1010 | TD1020 | TD1030 |
|  Full Top CBN | **RNGN** | **090300 FT** | - | 0.1-1.0 | 0.05-0.30 | | ● | ● | | ● | | | | | |
| | | **120300 FT** | - | 0.1-1.5 | 0.05-0.30 | | | | | ● | | | | | |
| | | **120400 FT** | - | 0.1-1.5 | 0.05-0.30 | | | | | ● | | | | | |
|  Solid CBN | **RNGN** | **090300 SD** | - | 0.1-2.0 | 0.05-0.30 | | | | | | ● | | | | |
| | | **120400 SD** | - | 0.1-3.0 | 0.05-0.30 | | | | | | ● | | | | |



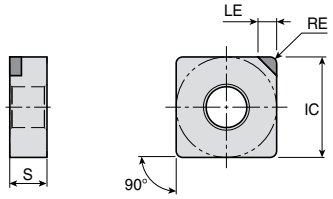
A129

●: Standard items

# SNGA SNGN-SD SNGX-DA

T-TURN

## Negative square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 9.52 | 3.18 | 1.2 |
| **12** | 12.7 | 4.76 | 0.4-1.6 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | | TD1010 | TD1020 | TD1030 |
|  | **SNGA** | **120404 LS2** | 2.5 | 0.1-0.5 | 0.05-0.30 | | | ● | ● | | | | | | |
| | | **120408 LN** | 4.2 | 0.1-0.5 | 0.05-0.30 | | ● | | | ● | | | | | |
| | | **120408 LS2** | 2.5 | 0.1-0.5 | 0.05-0.30 | | | ● | | ● | | | | | |
| | | **120408 LS4** | 2.5 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | | |
| | | **120408 LS8** | 2.5 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | | |
|  Solid CBN | **SNGN** | **090312 SD** | - | 0.1-3.0 | 0.05-0.30 | | | | | | ● | | | | |
| | | **120416 SD** | - | 0.1-4.0 | 0.05-0.30 | | | | | | ● | | | | |
|  Dimple type | **SNGX** | **120416 DA** | - | 0.1-4.0 | 0.05-0.30 | | | | | | ● | | | | |



A65, A66, A104, A105,
A125, A130, A131,
A147, A172, A197

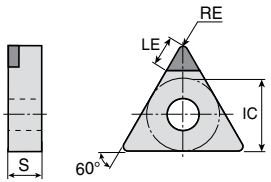
●: Standard items



ADVANCE CUTTING TaeguTec

# TNGA

**Negative triangular inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **16** | 9.52 | 4.76 | 0.4-1.2 |
| **22** | 12.7 | 4.76 | 0.4-0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **TNGA** | **160404 LN** | 4.3 | 0.1-0.5 | 0.05-0.30 | | ● | ● | | ● | | | | |
| | | **160404 LS3** | 2.2 | 0.1-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | | **160404 LS6** | 2.2 | 0.1-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | | **160408 LN** | 4.0 | 0.1-0.5 | 0.05-0.30 | | ● | ● | | ● | | | | |
| | | **160408 LS3** | 2.1 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | ● | | | | |
| | | **160408 LS6** | 2.1 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | | **160412 LS3** | 2.5 | 0.1-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | | **220404 LN** | 4.1 | 0.1-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | | **220408 LS** | 2.6 | 0.1-0.5 | 0.05-0.30 | | ● | | | | | | | |
|   | **TNGA** | **160404 LN-10** | 4.3 | 0.1-3.0 | 0.05-0.20 | | | | | | | | ● | |

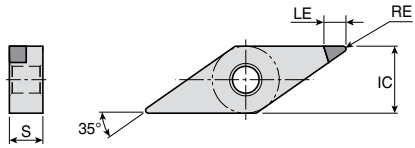


A54, A67, A68, A106, A114, A115, A148, A173, A200, A204

●: Standard items

# VNGA

## Negative 35° rhombic inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **16** | 9.52 | 4.76 | 0.4-0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

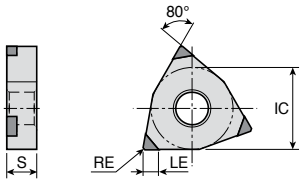
| Insert | Designation | | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **VNGA** | **160404 LN** | 5.0 | 0.1-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | | **160404 LS** | 3.2 | 0.1-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | | **160404 LS2** | 3.2 | 0.1-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
| | | **160408 LN** | 4.1 | 0.1-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | | **160408 LS2** | 2.4 | 0.1-0.5 | 0.05-0.30 | ● | ● | ● | ● | | | | | |
| | | **160408 LS4** | 2.4 | 0.1-0.5 | 0.05-0.30 | | | | | ● | | | | |
|   | **VNGA** | **160404 LN-10** | 5.0 | 0.1-2.0 | 0.05-0.20 | | | | | | | | ● | |

A55, A56, A108, A148, A206

●: Standard items

# WNGA

**Negative 80° trigon inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 9.52 | 4.76 | 0.8 |
| **08** | 12.7 | 4.76 | 0.8-1.2 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **WNGA** | **060408 WZ-LS6** | 2.1 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | | **080408 WZ-LS3** | 2.1 | 0.05-0.5 | 0.05-0.30 | ● | ● | ● | | | | | | |
| | | **080408 WZ-LS6** | 2.1 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | | **080412 WZ-LS3** | 2.1 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |
|  | **WNGA** | **080408 LS3** | 2.1 | 0.1-0.5 | 0.05-0.20 | | | ● | | | | | | |
| | | **080408 LS6** | 2.1 | 0.1-0.5 | 0.05-0.20 | | | ● | | | | | | |

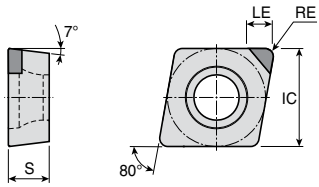


A57, A69, 109,
A149, A169,
A198, A207

●: Standard items

# CCGW CCGT-CB CCGT-CF

**Positive 80° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **06** | 6.35 | 2.38 | 0.2-0.8 |
| **09** | 9.52 | 3.97 | 0.2-0.8 |
| **12** | 12.7 | 4.76 | 0.4-0.8 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **CCGW 060202 LS** | 2.4 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **060202 LS2** | 2.2 | 0.05-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
| | **060204 LS** | 2.4 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **060204 LS2** | 2.1 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | **060208 LS2** | 2.1 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | **09T304 LS** | 2.4 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **09T304 LS2** | 2.4 | 0.05-0.5 | 0.05-0.30 | ● | ● | ● | ● | ● | | | | |
| | **09T304 WZ-LS** | 2.8 | 0.05-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | **09T304 WZ-LS2** | 2.4 | 0.05-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
| | **09T308 LS** | 2.3 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **09T308 LS2** | 2.3 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | **09T308 WZ-LS** | 2.3 | 0.05-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | **09T308 WZ-LS2** | 2.3 | 0.05-0.5 | 0.05-0.30 | | ● | | ● | | | | | |
| | **120404 LS2** | 2.1 | 0.05-0.5 | 0.05-0.30 | | | | ● | | | | | |
| | **120408 LS** | 2.5 | 0.05-0.5 | 0.05-0.30 | | | | | ● | | | | |
| | **120408 LS2** | 2.1 | 0.05-0.5 | 0.05-0.30 | | | | ● | | | | | |
|  | **CCGW 060202 LN-7** | 3.1 | 0.08-3.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **060204 LN-7** | 3.1 | 0.08-3.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **09T304 LN-7** | 4.0 | 0.1-3.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **09T308 LN-7** | 3.9 | 0.1-3.0 | 0.05-0.30 | | | | | | | ● | ● | |
|  | **120404 LN-7** | 4.0 | 0.1-3.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **120408 LN-7** | 3.9 | 0.1-3.0 | 0.05-0.30 | | | | | | | ● | ● | |
|  | **CCGT 060204 CB** | 3.1 | 0.5-1.5 | 0.10-0.50 | | | | | | | | ● | |
| | **09T302 CB** | 4.15 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| | **09T304 CB** | 4.1 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| | **09T308 CB** | 4.0 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
|  | **120404 CB** | 4.1 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| | **120408 CB** | 4.0 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| PCD chip breaker | | | | | | | | | | | | | |
|  | **CCGT 09T302 CF** | 4.15 | 0.1-1.0 | 0.05-0.20 | | | | | | | | ● | |
| | **09T304 CF** | 4.1 | 0.1-1.0 | 0.05-0.20 | | | | | | | | ● | |
|  | **120404 CF** | 4.1 | 0.1-1.0 | 0.05-0.20 | | | | | | | | ● | |
| | **120408 CF** | 4.0 | 0.1-1.0 | 0.05-0.20 | | | | | | | | ● | |
| PCD chip breaker | | | | | | | | | | | | | |



A70-A72, A94, A151, A174, A175, A208

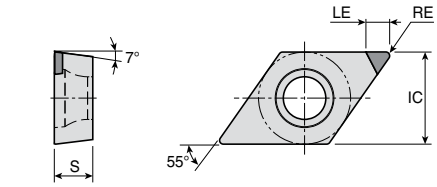
●: Standard items



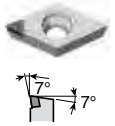
ADVANCE CUTTING TaeguTec

# DCGW DCGT-CB DCGT-CF

**Positive 55° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **07** | 6.35 | 2.38 | 0.2-0.8 |
| **11** | 9.52 | 3.97 | 0.2-0.8 |
| | | | |
| | | | |
| | | | |
| | | | |

| Insert | Designation | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **DCGW 070202 LS** | 2.6 | 0.05-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | **070202 LS2** | 2.6 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | **070204 LS** | 2.4 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **070204 LS2** | 2.4 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | **070208 LS2** | 2.6 | 0.05-0.5 | 0.05-0.30 | | | | ● | | | | | |
| | **11T304 LS** | 2.6 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **11T304 LS2** | 3.4 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | **11T308 LS** | 2.2 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **11T308 LS2** | 2.2 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
|  | **DCGW 070202 LN-7** | 3.4 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | |
| | **070204 LN-7** | 3.3 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | |
| | **11T302 LN-7** | 3.9 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **11T304 LN-7** | 3.7 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **11T308 LN-7** | 3.3 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
|  PCD chip breaker | **DCGT 070202 CB** | 3.4 | 0.5-1.5 | 0.10-0.50 | | | | | | | | ● | |
| | **070204 CB** | 3.3 | 0.5-1.5 | 0.10-0.50 | | | | | | | | ● | |
| | **11T302 CB** | 4.9 | 0.5-2.5 | 0.10-0.50 | | | | | | | | ● | |
| | **11T304 CB** | 4.7 | 0.5-2.5 | 0.10-0.50 | | | | | | | | ● | |
| | **11T308 CB** | 4.6 | 0.5-2.5 | 0.10-0.50 | | | | | | | | ● | |
|  PCD chip breaker | **DCGT 070202 CF** | 3.4 | 0.1-1.0 | 0.05-0.20 | | | | | | | | ● | |
| | **070204 CF** | 3.3 | 0.1-1.0 | 0.05-0.20 | | | | | | | | ● | |
| | **11T302 CF** | 4.9 | 0.1-1.5 | 0.05-0.20 | | | | | | | | ● | |
| | **11T304 CF** | 4.7 | 0.1-1.5 | 0.05-0.20 | | | | | | | | ● | |
| | **11T308 CF** | 4.6 | 0.1-1.5 | 0.05-0.20 | | | | | | | | ● | |

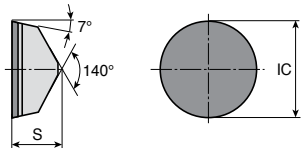


A73-A76, A95, A97, A99,
A137, A141, A151,
A178-A180, A209, A214

●: Standard items

# RCGX-FT

## Positive round inserts




| Size | Dimension (mm) | |
|---|---|---|
| | IC | S |
| **06** | 6.35 | 3.18 |
| **09** | 9.52 | 3.18 |
| **12** | 12.7 | 4.76 |

| Insert | Designation | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  Full Top CBN | **RCGX 060300 FT** | - | 0.1-1.0 | 0.05-0.30 | | | | | ● | | | | |
| | **090300 FT** | - | 0.1-1.5 | 0.05-0.30 | | | | | ● | | | | |
| | **120400 FT** | - | 0.1-1.5 | 0.05-0.30 | | | | | ● | | | | |

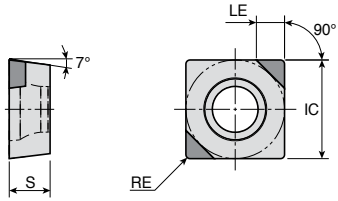


A116-A118

●: Standard items

# SCGW

## Positive square inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 9.52 | 3.18-3.97 | 0.4-0.8 |

| Insert | Designation | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **SCGW 09T304 LS2** | 2.7 | 0.05-0.5 | 0.05-0.30 | | | | ● | | | | | |
| | **09T308 LS2** | 2.7 | 0.05-0.5 | 0.05-0.30 | | | | ● | | | | | |



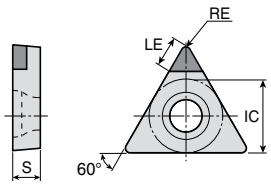
A80, A181

●: Standard items

# TCGW TPGN TPGW

T-TURN

**Positive triangular inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **08** | 4.76 | 2.38 | 0.4 |
| **09** | 5.56 | 2.38 | 0.4-0.8 |
| **11** | 6.35 | 2.38-3.18 | 0.2-0.8 |
| **16** | 9.52 | 3.18-4.76 | 0.4-0.8 |
| | | | |
| | | | |

| Insert | Designation | | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **TCGW** | **090204 LS3** | 2.3 | 0.05-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
| | | **110204 LS** | 2.3 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | | **110204 LS3** | 2.3 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | | **110208 LS** | 2.1 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | | **110208 LS3** | 2.1 | 0.05-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
| | | **16T304 LS** | 2.8 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | | **16T304 LS3** | 2.8 | 0.05-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
| | | **16T308 LS** | 2.5 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | | **16T308 LS3** | 2.5 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
|  | **TPGN** | **090204 LS3** | 2.3 | 0.05-0.5 | 0.05-0.30 | ● | | | | | | | | |
| | | **110302 LS3** | 2.8 | 0.05-0.5 | 0.05-0.30 | | | | ● | | | | | |
| | | **110304 LS** | 2.6 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | | **110304 LS3** | 2.6 | 0.05-0.5 | 0.05-0.30 | | | | ● | | | | | |
| | | **110308 LS3** | 2.3 | 0.05-0.5 | 0.05-0.30 | ● | | ● | | | | | | |
| | | **160304 LS** | 2.8 | 0.05-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | | **160304 LS3** | 2.8 | 0.05-0.5 | 0.05-0.30 | ● | | ● | | | | | | |
| | | **160308 LS** | 2.5 | 0.05-0.5 | 0.05-0.30 | | ● | | | | | | | |
| | | **160308 LS3** | 2.5 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
|  | **TPGW** | **080204 LS3** | 2.1 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | | **090204 LS3** | 2.3 | 0.05-0.5 | 0.05-0.30 | | | ● | ● | | | | | |
| | | **090208 LS3** | 2.0 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | | **110302 LS3** | 2.8 | 0.05-0.5 | 0.05-0.30 | ● | | | | | | | | |
| | | **110304 LS** | 2.6 | 0.05-0.5 | 0.05-0.30 | | ● | ● | | | | | | |
| | | **110304 LS3** | 2.6 | 0.05-0.5 | 0.05-0.30 | ● | | | ● | | | | | |
| | | **110308 LS3** | 2.3 | 0.05-0.5 | 0.05-0.30 | ● | | ● | | | | | | |
| | | **160404 LS3** | 2.8 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |



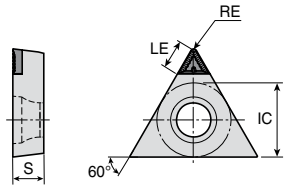
A49, A50,
A81-A83, A152, A155,
A167, A182, A210

●: Standard items

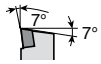
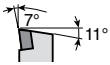
# TCGW TPGN TCGT-CB

T-TURN

## Positive triangular inserts




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **09** | 5.56 | 2.38 | 0.4-0.8 |
| **11** | 6.35 | 2.38-3.18 | 0.2-0.8 |
| **16** | 9.52 | 3.18-3.97 | 0.2-0.8 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|    | **TCGW 090204 LN-7** | 3.3 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **090208 LN-7** | 3.0 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **110204 LN-7** | 3.8 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **16T304 LN-7** | 3.8 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **16T308 LN-7** | 3.5 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
|    | **TPGN 110302 LN-7** | 3.9 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **110304 LN-7** | 3.8 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **160302 LN-7** | 4.4 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **160304 LN-7** | 4.3 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
|  PCD chip breaker   | **TCGT 090204 CB** | 2.8 | 0.5-1.5 | 0.10-0.50 | | | | | | | | ● | |
| | **110204 CB** | 3.8 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| | **16T304 CB** | 3.9 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| | **16T308 CB** | 3.6 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |

A81-A83,
A152, A155, A167,
A182, A210

●: Standard items

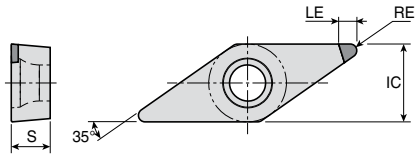


ADVANCE CUTTING TaeguTec

# VBGW VCGW VCGT-CB VCGT-CF

T-TURN

**Positive 35° rhombic inserts**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **11** | 6.35 | 3.18 | 0.2-0.4 |
| **16** | 9.52 | 4.76 | 0.2-1.2 |
| **22** | 12.7 | 5.56 | 3.0 |
| | | | |
| | | | |
| | | | |

| Insert | Designation | LE (mm) | ap (mm) | Feed (mm/rev) | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | TB610 | TB650 | TB670 | TB730 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **VBGW 110304 LS2** | 3.2 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | **160402 LS2** | 3.6 | 0.05-0.5 | 0.05-0.30 | | | ● | | | | | | |
| | **160404 LS** | 3.2 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **160404 LS2** | 3.2 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
| | **160408 LS** | 2.3 | 0.05-0.5 | 0.05-0.30 | | ● | | | ● | | | | |
| | **160408 LS2** | 2.3 | 0.05-0.5 | 0.05-0.30 | ● | | ● | ● | | | | | |
|  | **VBGW 160402 LN-7** | 5.2 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **160404 LN-7** | 5.0 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
| | **160408 LN-7** | 4.2 | 0.1-2.0 | 0.05-0.30 | | | | | | | | ● | |
|   | | | | | | | | | | | | | |
|  | **VCGW 160404 LN-7** | 5.0 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
| | **160408 LN-7** | 4.1 | 0.1-2.0 | 0.05-0.30 | | | | | | | ● | ● | ● |
|   | | | | | | | | | | | | | |
|  | **VCGT 110302 CB** | 4.7 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| | **110304 CB** | 5.0 | 0.5-2.0 | 0.10-0.50 | | | | | | | | ● | |
| | **160404 CB** | 7.3 | 0.5-3.5 | 0.10-0.50 | | | | | | | | ● | |
| | **160408 CB** | 6.4 | 0.5-3.5 | 0.10-0.50 | | | | | | | | ● | |
|  PCD chip breaker | **160412 CB** | 6.2 | 0.5-3.5 | 0.10-0.50 | | | | | | | | ● | |
|   | | | | | | | | | | | | | |
|  | **VCGT 160404 CF** | 7.3 | 0.1-2.0 | 0.05-0.20 | | | | | | | | ● | |
| | **160408 CF** | 6.4 | 0.1-2.0 | 0.05-0.20 | | | | | | | | ● | |
|  PCD chip breaker | | | | | | | | | | | | | |



A84, A85, A88-A90, A96, A98, A99, A138, A153, A187, A189, A191, A192, A211

●: Standard items

# Recommended Cutting Conditions

T-TURN

## Machining data for turning grades

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys, hardened | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

T-TURN

**Machining data for turning grades**

| Cutting speed Vc(m/min) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Coated | | | | | | | | | | |
| TT7005 | TT7015 | TT7025 | TT8105B | TT8115B | TT8125B | TT8135B | TT9215 | TT9225 | TT9235 | TT5100 |
| | | | 310-580 | 280-530 | 230-480 | 190-400 | | | | 200-450 |
| | | | 270-530 | 240-480 | 200-420 | 170-360 | | | | 170-390 |
| | | | 230-490 | 200-440 | 160-380 | 130-320 | | | | 130-350 |
| | | | 250-500 | 220-450 | 190-400 | 160-340 | | | | 160-370 |
| | | | 210-470 | 180-420 | 150-350 | 120-300 | | | | 120-320 |
| | | | 230-550 | 200-500 | 170-400 | 130-280 | | | | 140-370 |
| | | | 180-330 | 150-280 | 140-250 | 80-170 | | | | 110-220 |
| | | | 160-300 | 130-250 | 120-230 | 70-150 | | | | 90-200 |
| | | | 150-280 | 120-230 | 110-200 | 60-140 | | | | 80-170 |
| | | | 210-420 | 190-380 | 140-280 | 100-220 | | | | 110-250 |
| | | | 100-200 | 90-180 | 70-130 | 45-100 | | | | 40-100 |
| | | | | | | | 160-250 | 120-200 | 110-170 | |
| | | | | | | | 150-230 | 110-180 | 100-150 | |
| | | | | | | | 130-220 | 100-170 | 90-150 | |
| 300-550 | 290-450 | 280-400 | | | | | | | | |
| 300-430 | 250-360 | 200-320 | | | | | | | | |
| 160-400 | 150-350 | 140-300 | | | | | | | | |
| 140-350 | 130-300 | 120-280 | | | | | | | | |
| 200-460 | 250-390 | 230-350 | | | | | | | | |
| 180-350 | 200-320 | 180-300 | | | | | | | | |
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| | | | | | | | 40-80 | 30-70 | 30-60 | |
| | | | | | | | 30-70 | 20-60 | 20-50 | |
| | | | | | | | 35-70 | 25-60 | 25-50 | |
| | | | | | | | 30-70 | 20-60 | 20-50 | |
| | | | | | | | 30-70 | 20-60 | 20-50 | |
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# Recommended Cutting Conditions

T-TURN

## Machining data for turning grades

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys, hardened | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

T-TURN

## Machining data for turning grades

| Cutting speed Vc(m/min) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Coated | | | | | | | | | | |
| TT7100 | TT3005 | TT5080 | TT4410 | TT3010 | TT3020 | TT9080 | TT4430 | TT9020 | TT8080 | TT8020 |
| 170-380 | | | 170-380 | | | | 160-370 | 150-350 | 110-310 | 100-300 |
| 150-340 | | | 170-340 | | | | 160-340 | 150-320 | 110-280 | 100-270 |
| 110-300 | | | 150-270 | | | | 140-270 | 130-250 | 90-210 | 80-200 |
| 140-320 | | | 170-270 | | | | 160-270 | 140-260 | 100-220 | 90-210 |
| 100-280 | | | 150-250 | | | | 140-250 | 130-230 | 90-190 | 80-180 |
| 110-260 | | | 150-270 | | | | 140-270 | 130-250 | 90-210 | 80-200 |
| 60-150 | | | 60-130 | | | | 60-130 | 50-130 | 40-120 | 40-120 |
| 50-120 | | | 50-100 | | | | 50-100 | 40-100 | 40-90 | 40-90 |
| 40-120 | | | 30-100 | | | | 30-100 | 30-100 | 30-90 | 30-90 |
| 80-200 | | | 60-180 | | | | 60-180 | 60-180 | 60-160 | 60-160 |
| 40-90 | | | 40-80 | | | | 40-80 | 40-80 | 40-80 | 40-80 |
| | | 160-390 | 150-380 | | | 120-290 | 120-270 | 120-270 | 110-260 | 100-250 |
| | | 160-280 | 150-270 | | | 120-270 | 120-250 | 120-250 | 110-240 | 100-230 |
| | | 100-250 | 90-240 | | | 90-240 | 90-220 | 90-220 | 80-200 | 80-200 |
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| | 60-200 | 50-180 | 40-170 | 50-170 | 40-165 | 40-160 | 40-160 | | 30-80 | 20-70 |
| | 50-180 | 40-160 | 40-150 | 40-150 | 30-145 | 30-130 | 30-130 | | 20-60 | 10-50 |
| | 55-120 | 45-100 | 45-90 | 45-90 | 35-85 | 35-80 | 35-80 | | 20-50 | 10-40 |
| | 45-110 | 35-90 | 30-80 | 35-80 | 30-75 | 30-70 | 30-70 | | 20-40 | 10-30 |
| | 40-100 | 30-80 | 30-80 | 30-70 | 30-65 | 30-60 | 30-60 | | 20-30 | 10-20 |
| | 120-220 | 110-200 | 110-190 | 110-190 | 100-185 | 90-180 | 90-180 | | 80-160 | 70-150 |
| | 60-120 | 50-100 | 50-90 | 50-90 | 40-85 | 40-80 | 40-80 | | 30-50 | 20-40 |
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# Recommended Cutting Conditions

T-TURN

## Machining data for turning grades

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys, hardened | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

T-TURN

## Machining data for turning grades

| Cutting speed Vc(m/min) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Uncoated | Cermet | | Ceramic | | | | | |
| K10 | PV3010 | CT3000 | AW120 | AB2010 | AB20 | AB30 | TC430 | TC3020 |
| | 350-650 | 300-570 | | | | | | |
| | 270-520 | 250-500 | | | | | | |
| | 240-480 | 220-460 | | | | | | |
| | 260-500 | 240-470 | | | | | | |
| | 240-460 | 220-440 | | | | | | |
| | 240-540 | 220-520 | | | | | | |
| | 190-330 | 170-300 | | | | | | |
| | 170-300 | 150-270 | | | | | | |
| | 140-270 | 130-250 | | | | | | |
| | 260-405 | 250-395 | | | | | | |
| | 140-205 | 130-195 | | | | | | |
| | 200-300 | 180-270 | | | | | | |
| | 200-270 | 170-250 | | | | | | |
| | 170-260 | 150-240 | | | | | | |
| 110-180 | 230-330 | 220-320 | | | | 600-1200 | | |
| 95-140 | 215-290 | 205-280 | | | | 500-900 | | |
| 95-135 | 145-220 | 135-200 | 600-1200 | | | 450-610 | | |
| 90-125 | 105-150 | 95-140 | 500-900 | | | 350-510 | | |
| 110-140 | 170-265 | 160-255 | 600-800 | | | 600-800 | | |
| 90-125 | 180-240 | 170-230 | 500-700 | | | 500-700 | | |
| 200-1000 | | | | | | | | |
| 200-1000 | | | | | | | | |
| 50-400 | | | | | | | | |
| 50-500 | | | | | | | | |
| 40-350 | | | | | | | | |
| 50-500 | | | | | | | | |
| 50-500 | | | | | | | | |
| 30-300 | | | | | | | | |
| 50-300 | | | | | | | | |
| 50-150 | | | | | | | | |
| 55-85 | | | | | | | | 200-350 |
| 40-65 | | | | | | | | 200-350 |
| 32-55 | | | | | | | 270-400 | 200-350 |
| 21-40 | | | | | | | 230-330 | 200-350 |
| 16-26 | | | | | | | 210-300 | 200-350 |
| 50-75 | | | | | | | | |
| 45-70 | | | | | | | | |
| | | | | 95-145 | 90-140 | 50-100 | | |
| | | | | | | | | |
| | | | | | | 60-120 | | |
| | | | | | | 50-100 | | |

# Recommended Cutting Conditions

T-TURN

## Machining data for turning grades

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys, hardened | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

T-TURN

**Machining data for turning grades**

| Cutting speed Vc(m/min) | | | | | | |
|---|---|---|---|---|---|---|
| Ceramic | | | | PCD | | |
| TC3030 | AS500 | SC10 | AS10 | TD1010 | TD1020 | TD1030 |
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| | 600-1000 | 500-900 | 500-900 | | | |
| | 550-900 | 450-800 | 450-800 | | | |
| | 400-650 | 345-580 | 345-580 | | | |
| | 300-550 | 250-480 | 250-480 | | | |
| | 550-800 | 500-740 | 500-740 | | | |
| | 450-750 | 400-640 | 400-640 | | | |
| | | | | 300-2500 | 300-2300 | 300-2000 |
| | | | | 300-2500 | 300-2300 | 300-2000 |
| | | | | 200-1500 | 200-1400 | 200-1300 |
| | | | | 200-1500 | 200-1400 | 200-1300 |
| | | | | 80-1000 | 80-900 | 80-800 |
| | | | | 60-600 | 60-550 | 60-500 |
| | | | | 60-600 | 60-550 | 60-500 |
| | | | | 30-400 | 30-380 | 30-360 |
| | | | | 100-1000 | 100-900 | 100-800 |
| | | | | 100-600 | 100-550 | 100-500 |
| 150-250 | | | | | | |
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# Recommended Cutting Conditions

T-TURN

## Machining data for turning grades

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys, hardened | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

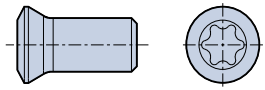
T-TURN

**Machining data for turning grades**

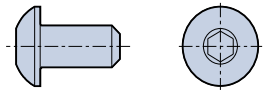
| Cutting speed Vc(m/min) | | | | | | | |
|---|---|---|---|---|---|---|---|
| CBN | | | | | | | |
| TB610 | TB2015 | TB650 | TB670 | TB730 | TB7015 | TB7020 | |
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| | | | | 300-1200 | 300-1200 | 300-800 | |
| | | | | 200-1000 | 200-1000 | 500-1000 | |
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| 90-280 | 80-230 | 80-230 | 70-180 | 80-130 | | | |
| 80-250 | 70-200 | 70-200 | 60-150 | 60-120 | | | |
| | | | 100-200 | 120-180 | 120-180 | 120-180 | |
| | | | | 100-140 | 100-140 | 100-140 | |

## ▶ Recommeneded clamping torque for each screw

| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **TS 16031I** | M1.6 | 3.12 | Torx 6 | 0.6 Nm |
| **TS 20038I** | M2 | 3.8 | Torx 6 | 0.6 Nm |
| **TS 20038I/HG-P** | M2 | 3.8 | Torx plus 6 | 0.6 Nm |
| **TS 20043I/HG-P** | M2 | 4.3 | Torx plus 6 | 0.6 Nm |
| **TS 22046I** | M2.2 | 4.6 | Torx 7 | 0.9 Nm |
| **TS 30080I/HG** | M3 | 8 | Torx 9 | 2 Nm |
| **TS 30120I/HG** | M3 | 12 | Torx 9 | 2 Nm |
| **TS 35070I/HG** | M3.5 | 7 | Torx 15 | 3 Nm |
| **TS 35083I/HG** | M3.5 | 8.3 | Torx 10 | 2 Nm |
| **TS 35110I** | M3.5 | 11 | Torx 15 | 3 Nm |
| **TS 40097I** | M4 | 9.7 | Torx 15 | 3.5 Nm |
| **TS 40G110I** | M4 | 11 | Torx 15 | 3.5 Nm |
| **TS 40140AJ/HG** | M4 | 14 | Torx 15 | 3.5 Nm |
| **TS 50A105I** | M5 | 10.5 | Torx 20 | 5.5 Nm |
| **SO 22050I** | M2.2 | 6 | Torx 7 | 0.9 Nm |
| **SO 25050I** | M2.5 | 5.2 | Torx 7 | 0.9 Nm |
| **SO 25055I-MO** | M2.5 | 6 | Torx 8 | 1.2 Nm |
| **SO 25065I** | M2.5 | 6.5 | Torx 7 | 0.9 Nm |
| **SO 30055I** | M3 | 5.5 | Torx 9 | 2 Nm |
| **SO 30100I** | M3 | 7 | Torx 9 | 2 Nm |
| **SO 30040I** | M3 | 8.3 | Torx 9 | 2 Nm |
| **SO 35080I** | M3.5 | 8.5 | Torx 15 | 3 Nm |
| **SO 35124I** | M3.5 | 11.7 | Torx 15 | 3 Nm |
| **SO 35120I** | M3.5 | 12 | Torx 10 | 2 Nm |
| **SO 40073I** | M4 | 7.3 | Torx 15 | 3.5 Nm |
| **SO 40085I** | M4 | 8.5 | Torx 15 | 3.5 Nm |
| **SO 40090I** | M4 | 8.6 | Torx 15 | 3.5 Nm |
| **SO 40050I** | M4 | 11.3 | Torx 15 | 3.5 Nm |
| **SO 45100I** | M4.5 | 10 | Torx 20 | 5 Nm |
| **SO 45130I** | M4.5 | 14.3 | Torx 20 | 5 Nm |
| **SO 50090I-MO** | M5 | 8 | Torx 20 | 5 Nm |
| **SO 50090I** | M5 | 12.1 | Torx 20 | 5.5 Nm |

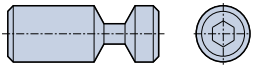


| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **BH M2.5X0.45X10** | M2.5 | 11.5 | Hexa 1.5mm | 0.8 Nm |
| **BH M4X0.7X16-TB** | M4 | 19 | Hexa 3mm | 2.8 Nm |
| **BH M5X0.8X10** | M5 | 13.55 | Hexa 3mm | 5.5 Nm |
| **BH M5X0.8X21-MO-TB** | M5 | 24.55 | Hexa 3mm | 5.5 Nm |
| **BH M6X1X25** | M6 | 29.2 | Hexa 4mm | 9.5 Nm |

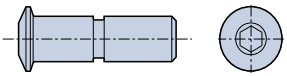


## Recommeneded clamping torque for each screw

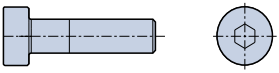
| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **LCS 2** | M5x0.8 | 14 | Hexa 2mm | 2.5 Nm |
| **LCS 2B** | M5x0.8 | 10 | Hexa 2mm | 2.5 Nm |
| **LCS 3** | M6x1.0 | 16.5 | Hexa 2.5mm | 3 Nm |
| **LCS 3B** | M5x0.8 | 12 | Hexa 2mm | 2.5 Nm |
| **LCS 4** | M8x1.0 | 21 | Hexa 3mm | 4 Nm |
| **LCS 4B** | M6x1.0 | 13.5 | Hexa 2.5mm | 3 Nm |
| **LCS 4S** | M8x1.0 | 18 | Hexa 3mm | 4 Nm |
| **LCS 5** | M8x1.0 | 23 | Hexa 3mm | 4 Nm |
| **LCS 6** | M10x1.0 | 27 | Hexa 4mm | 6 Nm |
| **LCS 8** | M12 | 36 | Hexa 5mm | 10 Nm |
| **LCS 8-L39** | M12 | 39 | Hexa 5mm | 10 Nm |
| **LCS 8-L43** | M12 | 43 | Hexa 5mm | 10 Nm |
| **LCS 16C** | M6 | 21 | Hexa 2.5mm | 3 Nm |
| **LCS 25C** | M10 | 30 | Hexa 4mm | 6 Nm |



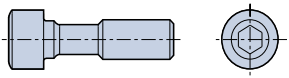
| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **CLS 1.25** | M3 | 4.7 | Hexa 1.5mm | 2 Nm |
| **CLS 2C** | M4 | 7.6 | Hexa 2.5mm | 2.5 Nm |
| **CLS 2** | M5 | 6.3 | Hexa 2.5mm | 3 Nm |
| **CLS 3C** | M5 | 9.5 | Hexa 3mm | 3.5 Nm |
| **CLS 3S** | M6 | 4.5 | Hexa 3mm | 4 Nm |
| **CLS 3** | M6 | 9.8 | Hexa 3mm | 4 Nm |
| **CLS 4** | M8 | 22 | Hexa 4mm | 8 Nm |
| **CLS 16K** | 1/4-20 UNC | 12 | Hexa 4mm | 6 Nm |



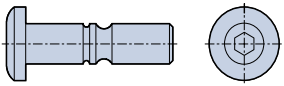
| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **CSC 4** | 1/4-20 UNC | 17 | Hexa 4mm | 6 Nm |



| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **DLS 3** | M4 | 16.8 | Hexa 2.5mm | 2 Nm |
| **DLS 4** | M5 | 21 | Hexa 3mm | 4.2 Nm |
| **DLS 5** | M6 | 26.5 | Hexa 4mm | 6 Nm |



| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **WCS 2.5** | M5 | 20 | Hexa 2.5mm | 3 Nm |
| **WCS 4** | M6 | 26 | Hexa 3mm | 4 Nm |
| **WCS 4B** | M6 | 22.5 | Hexa 3mm | 4 Nm |



TAEGUTEC

# PARTING & GROOVING



# PARTING & GROOVING

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## Guide to Icons


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| | |
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| **Recommended Cutting Conditions** | B187 |

# Tool Selection Guide

## Parting, Grooving and Turning holders

| Series | | | | MINCUT | | CUTSPEED | |
|---|---|---|---|---|---|---|---|
| | | | | COOLBORST SFTB SFTB-TB | COOLBORST TGTB TGTB-TB | SFGB | COOLBORST SFGB-TB |
| | | | |  |  |  |  |
| **Pages** | | | | B34 | B35 | B38 | B39 |
| **Application** | External | Parting |  | ● | ● | ● | ● |
| | | Grooving |  | ● | ● | ● | ● |
| | | Turning |  | | | | |
| | Facing | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Internal | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Profiling | |  | | | | |
| | Threading | |  | | | | |
| | Undercut | |  | | | | |

# Tool Selection Guide

## Parting, Grooving and Turning holders

| CUTSPEED | | T-CLAMP | | | |
|---|---|---|---|---|---|
| **SFER/L** | **SFER/L-TB** | **TGB** | **TGB-TB** | **TGBR/L<br>TGBR/L-D..R/L<br>TGBR/L-TI-D..R/L** | **TGBFR/L** |
|  |  |  |  |  |  |
| B40 | B41 | B42 | B43 | B44-B46 | B47 |
| ● | ● | ● | ● | ● | |
| ● | ● | ● | ● | ● | |
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● Recommended, ○ Suitable

# Tool Selection Guide

## Parting, Grooving and Turning holders

| Series | | | | T-CLAMP | | | | QUADRUSH |
|---|---|---|---|---|---|---|---|---|
| | | | | TGER/L | TCAER/L | TCAER/L-TB | TCAFR/L | TCAQR/L |
| | | | |  |  |  |  |  |
| **Pages** | | | | B48 | B52 | B53 | B54 | B55-B56 |
| **Application** | External | Parting |  | ● | ● | ● | | ● |
| | | Grooving |  | ● | ● | ● | | ● |
| | | Turning |  | | ● | ● | | ○ |
| | Facing | Grooving |  | | | | ● | |
| | | Turning |  | | | | ● | |
| | Internal | Grooving |  | | | | | |
| | | Turning |  | | | | | |
| | Profiling | |  | | ● | ● | | ○ |
| | Threading | |  | | | | | ● |
| | Undercut | |  | | | | | |

# Tool Selection Guide

**Parting, Grooving and Turning holders**

| QUADRUSH | WINSWISS | | | HUSHBORE | T-CLAMP |
|---|---|---|---|---|---|
| COOLBURST **TCAQR/L-TB** | **QE1 TTER/L**<br>**QE1 TTER/L-TB** | **QE1 TQHR/L**<br>**QE1 TQHR/L-TB** | **QE1Y TQHR**<br>**QE1Y TQHR-TB** | COOLBURST **QH TTIR/L-TB** | **TTER/L-SH** |
|  |  |  |  |  |  |
| B55-B56 | B64-B65 | B66 | B67 | B70 | B72 |
| ● | ● | ● | ● | | ● |
| ● | ● | ● | ● | | ● |
| ○ | ● | ● | ● | | ● |
| | | | | | |
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| | | | | ● | |
| | | | | ● | |
| ○ | ● | ○ | ○ | | ● |
| ● | | ● | ● | | |
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# Tool Selection Guide

## Parting, Grooving and Turning holders

| Series | | | | T-CLAMP | | | |
|---|---|---|---|---|---|---|---|
| | | | | COOLBORE TTER/L-SH-TB | TTER/L-D | TTER/L | COOLBORE TTER/L-TB |
| | | | |  |  |  |  |
| **Pages** | | | | B73 | B74-B75 | B76-B77 | B78 |
| **Application** | External | Parting |  | ● | ● | ● | ● |
| | | Grooving |  | ● | ● | ● | ● |
| | | Turning |  | ● | ● | ● | ● |
| | Facing | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Internal | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Profiling | |  | ● | ● | ● | ● |
| | Threading | |  | | | | |
| | Undercut | |  | | | | |

# Tool Selection Guide

## Parting, Grooving and Turning holders

| T-CLAMP | | | | | |
|---|---|---|---|---|---|
| **TTSER/L** | **TGFR/L** | **TTFR/L** | **TTFR/L-RN** | **TGFPR/L** | **TTFPR/L** |
|  |  |  |  |  |  |
| B79 | B80 | B81 | B82-B83 | B84 | B85 |
| ○ | | | | | |
| ● | ● | | | ● | |
| ● | ○ | | | ○ | |
| | ● | ● | ● | ● | ● |
| | ○ | ● | ● | ○ | ● |
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| ○ | | | | | |
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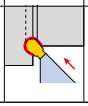
● Recommended, ○ Suitable



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# Tool Selection Guide

## Parting, Grooving and Turning holders

| Series | | | | T-CLAMP | | | |
|---|---|---|---|---|---|---|---|
| | | | | TGIFR/L | TTFIR/L | TTIR/L-C<br>TTIR/L | COOLBURST<br>TTIR/L-TB |
| | | | |  |  |  |  |
| **Pages** | | | | B86 | B87 | B88-B89 | B90 |
| **Application** | External | Parting |  | | | | |
| | | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Facing | Grooving |  | ● | ● | | |
| | | Turning |  | ○ | ● | | |
| | Internal | Grooving |  | | | ● | ● |
| | | Turning |  | | | ● | ● |
| | Profiling | |  | | | | |
| | Threading | |  | | | | |
| | Undercut | |  | | | | |

# Tool Selection Guide

## Parting, Grooving and Turning holders

T-CLAMP

| TTSIR/L | TGSIR/L | TGEUR/L | TGIUR/L | TTER/L-15A | TGIUR/L-15A |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| B91 | B92 | B93 | B94 | B95 | B96 |
| | | | | | |
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| ● | ● | | | | |
| ● | | | ○ | | |
| | | | | ● | ● |
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| | | ● | ● | | |

● Recommended, ○ Suitable



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# Tool Selection Guide

## Parting, Grooving and Turning holders

| Series | | | | FACERUSH | | | |
|---|---|---|---|---|---|---|---|
| | | | | TXFR/L | COOLBURST TXFR/L-TB | TXFPR/L | COOLBURST TXFPR/L-TB |
| | | | |  |  |  |  |
| **Pages** | | | | B97 | B98 | B99 | B100 |
| **Application** | External | Parting |  | | | | |
| | | Grooving |  | ○ | ○ | | |
| | | Turning |  | ○ | ○ | | |
| | Facing | Grooving |  | ● | ● | ● | ● |
| | | Turning |  | ● | ● | ● | ● |
| | Internal | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Profiling | |  | | | | |
| | Threading | |  | ○ | ○ | | |
| | Undercut | |  | | | | |

# Tool Selection Guide

## Parting, Grooving and Turning holders

| TGROOVE | TOPCUT | | QUADRUSH | |
|---|---|---|---|---|
| **TTLEN** | **TTVER/L** | **TTVBR/L** | **TQHR/L-20** | **TQHR/L-20-TB** |
|  |  |  |  |  |
| B101 | B102 | B103 | B104 | B105 |
| | ● | | ● | ● |
| ● | ● | | ● | ● |
| | ● | ● | ○ | ○ |
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| | | | ○ | ○ |
| | | ● | ● | ● |
| | | | | |

● Recommended, ○ Suitable



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# Tool Selection Guide

## Parting, Grooving and Turning holders

| Series | | | | QUADRUSH | | | |
|---|---|---|---|---|---|---|---|
| | | | | TQHR/L-20-Q | TQHR/L-20-TB-Q | TMS-TQHL | TMS-TQHL-TB |
| | | | |  |  |  |  |
| **Pages** | | | | B104 | B105 | B106 | B107 |
| **Application** | External | Parting |  | ● | ● | | |
| | | Grooving |  | ● | ● | ● | ● |
| | | Turning |  | ○ | ○ | ○ | ○ |
| | Facing | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Internal | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Profiling | |  | ○ | ○ | ○ | ○ |
| | Threading | |  | ● | ● | ○ | ○ |
| | Undercut | |  | | | | |

# Tool Selection Guide

## Parting, Grooving and Turning holders

| QUADRUSH | | | | |
|---|---|---|---|---|
| **TMY TQHR** | **TMY TQHR-TB** | **TQBR/L-27** | **TQHR/L-27** | **TQHR/L-27-TB** |
|  |  |  |  |  |
| B108 | B109 | B110 | B111 | B112 |
| ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● |
| ○ | ○ | | ○ | ○ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| ○ | ○ | | ○ | ○ |
| ● | ● | | ● | ● |
| | | | | |

● Recommended, ○ Suitable

# Tool Selection Guide

## Parting, Grooving and Turning holders

| Series | | | | QUADRUSH | | | |
|---|---|---|---|---|---|---|---|
| | | | | TQHPR/L-27 | TQHR/L-34 | TQHR/L-34-TB | TQHPR/L-34 |
| | | | |  |  |  |  |
| **Pages** | | | | B113 | B114 | B115 | B116 |
| **Application** | External | Parting |  | ● | ● | ● | ● |
| | | Grooving |  | ● | ● | ● | ● |
| | | Turning |  | ○ | ○ | ○ | ○ |
| | Facing | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Internal | Grooving |  | | | | |
| | | Turning |  | | | | |
| | Profiling | |  | ○ | ○ | ○ | ○ |
| | Threading | |  | ● | | | |
| | Undercut | |  | | | | |

# Tool Selection Guide

**Parting, Grooving and Turning holders**

| QUADRUSH | QUADRUSH | | | WINGROOVE | MINIRUSH |
|---|---|---|---|---|---|
| COOLBURST<br>**TQHR/L...EW-TB** | **TQHIR/L** | **TMS-TQHIL** | COOLBURST<br>**TMS-TQHIL-TB** | **TMIHR/L**<br>**TMIHR/L-C** | **TMIHN**<br>**TMIHN-C** |
|  |  |  |  |  |  |
| B117 | B118 | B119 | B119 | B120 | B121 |
| | | | | | |
| ● | | ● | ● | | |
| | | ○ | ○ | | |
| | | | | | |
| | | | | | |
| | ● | | | ● | ● |
| | ○ | | | ○ | ○ |
| | | | | | |
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| | | | | | |

● Recommended, ○ Suitable

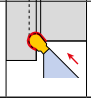
# Tool Selection Guide

**Internal application by diameter**

| Internal diameter (mm) | TOPMICRO MIN | WINGROOVE TMIHR/L | MINIRUSH TMIHN | TOPCAP TCAP | T-CLAMP TTSIR/L | QUADRUSH TQHIR/L | T-CLAMP TTIR/L |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| 0 | | | | | | | |
| 0.6 | | | | | | | |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 12.5 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 15 | | | | | | | |
| 16 | | | | | | | |
| 17 | | | | | | | |
| 18 | | | | | | | |
| 19 | | | | | | | |
| 20 | | | | | | | |
| 21 | | | | | | | |
| 22 | | | | | | | |
| 23 | | | | | | | |
| 24 | | | | | | | |
| 25 | | | | | | | |
| 26 | | | | | | | |

# Tool Selection Guide

## Parting, Grooving and Turning Inserts

| Series | | | | CUTSPEED SFC | CUTSPEED SFJ | T-CLAMP TDC | T-CLAMP TSC | T-CLAMP TDJ |
|---|---|---|---|---|---|---|---|---|
| Material | | | | P M K N S | P M N S | P M K N S | P M K N S | P M N S |
| Pages | | | | B128 | B128 | B129 | B130 | B131 |
| Application | External | Parting |  | ● | ● | ● | ● | ● |
| | | Grooving |  | ● | ● | ● | ● | ● |
| | | Turning |  | | | | | |
| | Facing | Grooving |  | | | ○ | ○ | ○ |
| | | Turning |  | | | | | |
| | Internal | Grooving |  | | | ○ | ○ | ○ |
| | | Turning |  | | | | | |
| | Profiling | |  | | | | | |
| | Threading | |  | | | | | |
| | Undercut | |  | | | | | |

● Recommended, ○ Suitable

# Tool Selection Guide

## Parting, Grooving and Turning Inserts

| Series | | | | T-CLAMP | | | | VT-CLAMP |
|---|---|---|---|---|---|---|---|---|
| | | | | TSJ | TDUF | TDV | TDCT | TDMV |
| | | | |  |  |  |  |  |
| **Material** | | | | P M N S | P | P M N S | P M K N S | P M K N S |
| **Pages** | | | | B132 | B133 | B133 | B134 | B134 |
| **Application** | External | Parting |  | ● | ● | ● | ● | ○ |
| | | Grooving |  | ● | ● | ● | ● | ○ |
| | | Turning |  | | | | ● | ● |
| | Facing | Grooving |  | ○ | ○ | ○ | ● | |
| | | Turning |  | | | | ● | |
| | Internal | Grooving |  | ○ | ○ | ○ | ● | |
| | | Turning |  | | | | ● | ● |
| | Profiling | |  | | | | | ● |
| | Threading | |  | | | | | |
| | Undercut | |  | | | | | ● |



ADVANCE CUTTING
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# Tool Selection Guide

## Parting, Grooving and Turning Inserts

T-CLAMP

| TDXU | TDXT | TDXY | TDT | TDT (Round Type) | TDT - RU (Round Type) | TDT - RS (Round Type) | TST - RS (Round Type) |
|---|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |
| P M K N S | P M K N S | P M K S | P M K N S | P M K N S | P M K S | P M K N S | P M K N S |
| B135 | B135 | B136 | B137-B138 | B139 | B139 | B140 | B140 |
| ○ | ○ | ○ | ○ | | | | |
| ● | ● | ● | ● | ● | ● | ● | ● |
| ● | ● | ● | ● | ● | ● | ● | ● |
| ● | ● | ● | ○ | | | | |
| ● | ● | ● | ○ | | | | |
| ● | ● | ● | ○ | | | | |
| ● | ● | ● | ○ | | | | |
| | | | | ● | ● | ● | ● |
| | | | | | | | |
| | | | | ● | ● | ● | ● |

● Recommended, ○ Suitable



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# Tool Selection Guide

## Parting, Grooving and Turning Inserts

T-CLAMP

| Series | | | TDFT | TDIT | TDIM | TDIP | TSG (CBN) |
|---|---|---|---|---|---|---|---|
| | | |  |  |  |  |  |
| **Material** | | | P M K N S | P M K N S | P M K N | P M K N S | H |
| **Pages** | | | B141 | B141-B142 | B142 | B143 | B144 |
| **Application** | External | Parting | | | | | |
| | | Grooving | | | ● | ● | ● |
| | | Turning | | | ○ | ○ | ● |
| | Facing | Grooving | ● | | ○ | ○ | |
| | | Turning | ● | | | | |
| | Internal | Grooving | | ● | ● | ● | |
| | | Turning | | ● | ● | ● | |
| | Profiling | | | | | ○ | ● |
| | Threading | | | | | | |
| | Undercut | | | ○ | | | |

# Tool Selection Guide

## Parting, Grooving and Turning Inserts

| T-CLAMP | | | FACE RUSH | | T GROOVE | QUAD RUSH | |
|---|---|---|---|---|---|---|---|
| **TSG-HF** (CBN) | **TDA** | **TSA** (PCD) | **TDFX** | **TDGX** | **TGUX** | **TQJ 20** | **TQS 20** |
|  |  |  |  |  |  |  |  |
| H | N | N | P M K N S | P M N S | P M K N | P M N S | P M K N S |
| B144 | B145 | B145 | B146 | B146 | B147 | B149 | B150 |
| | | | | | | ● | ● |
| ○ | ○ | | ○ | | ● | ● | ● |
| ● | ● | | ○ | | | ● | ● |
| | | | ● | | | | |
| | | | ● | | | | |
| | | | | | | | |
| | | | | | | | |
| | ● | ● | | | | | ○ |
| | | | | ● | | | |
| | ○ | | | | | | |

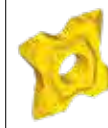
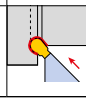
● Recommended, ○ Suitable



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# Tool Selection Guide

## Parting, Grooving and Turning Inserts

| Series | | | | QUADRUSH | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | TQS 20-MT | TQJ 27 | TQC 27 | TQS 27 | TQS 27-MT<br>TQS 27-WT |
| | | | |  |  |  |  |  |
| **Material** | | | | P M N S | P M N S | P M K N S | P M K N S | P M N S |
| **Pages** | | | | B150 | B151-B153 | B154-B155 | B156 | B157 |
| **Application** | External | Parting |  | | ● | ● | ● | |
| | | Grooving |  | | ● | ● | ● | |
| | | Turning |  | | ● | ● | ● | |
| | Facing | Grooving |  | | | | | |
| | | Turning |  | | | | | |
| | Internal | Grooving |  | | | | | |
| | | Turning |  | | | | | |
| | Profiling | |  | | ○ | ○ | ○ | |
| | Threading | |  | ● | | | | ● |
| | Undercut | |  | | | | | |



ADVANCE CUTTING
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# Tool Selection Guide

## Parting, Grooving and Turning Inserts

| QUADRUSH | | | QUADRUSH | WINGROOVE | MINIRUSH | TOPCUT | TOPMICRO |
|---|---|---|---|---|---|---|---|
| **TQS 27-ISO<br>TQS 27-UN<br>TQS 27-W** | **TQBS 27** | **TQC 34** | **TQIS 14** | **TMIR/L** | **TMIS 8** | **TV..** | **MIN.** |
|  |  |  |  |  |  |  |  |
| P M N S | P M K N | P M K N S | P M K N S | P M K N S | P M K N S | P M N S | P M N S |
| B158-B159 | B159 | B160-B161 | B162 | B163 | B163 | B164-B167 | B168-B180 |
| | | ● | | | | ● | |
| | ● | ● | ○ | | | ● | |
| | | ● | | | | ● | |
| | | | | | | | |
| | | | | | | | |
| | | | ● | ● | ● | | ● |
| | | | ○ | ○ | ○ | | ● |
| | | ○ | | | | | ● |
| ● | | | | | | ● | ● |
| | | | | | | | |

● Recommended, ○ Suitable

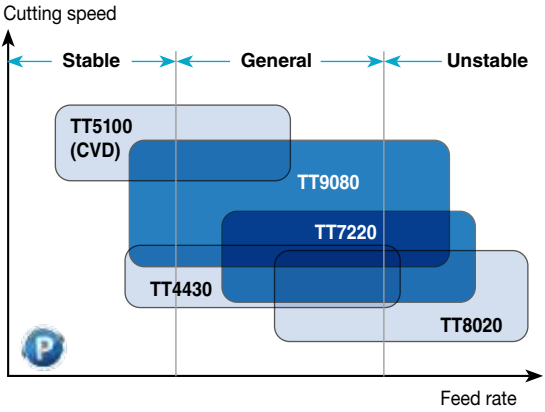


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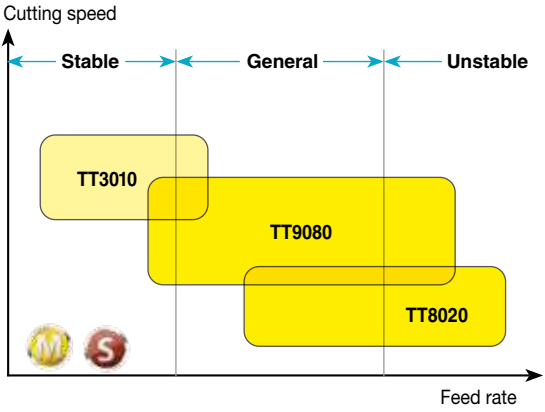
# Grades

## Selection guide for parting and grooving grades

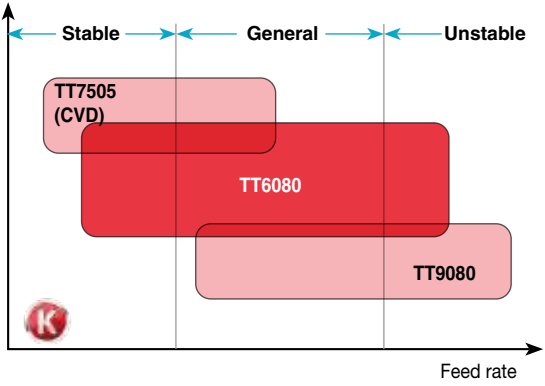
### For steel (PVD & CVD coated)




### For stainless steel & super alloy (PVD coated)




### For cast iron (PVD & CVD coated)



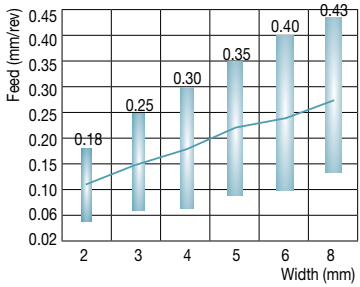
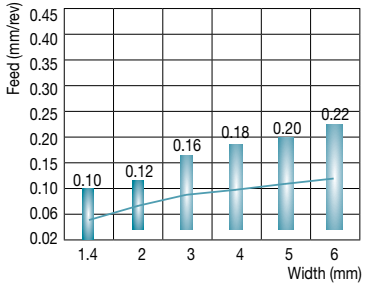
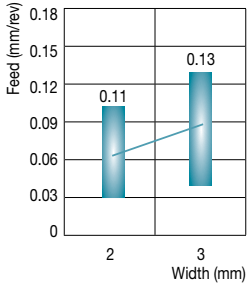
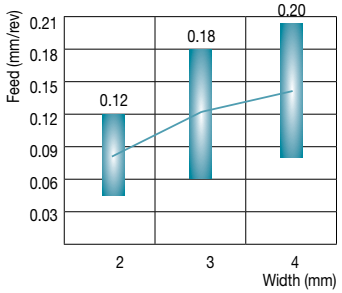
# Grades

## Parting and grooving grades

| Grades | ISO | Characteristics & applications |
|---|---|---|
| **TT7505**<br>CVD coated | K05 – K15 | • High speed grooving and turning of gray and ductile cast iron |
| **TT6080**<br>PVD coated | K05 – K25<br>H05 – H25 | • General machining of gray and ductile cast iron for grooving and turning<br>• Finish and medium machining of hardened steel |
| **TT3010**<br>PVD coated | S05 – S20 | • High speed grooving and turning of heat-resistant super alloy |
| **TT5100**<br>CVD coated | P20 – P35<br>M20 – M35 | • Medium grooving and turning of mild steel, low carbon steel and low carbon alloy steel<br>• Low to medium speed machining of stainless steel |
| **TT9080**<br>PVD coated | P20 – P40<br>M20 – M40<br>S20 – S40 | • General machining of steel, stainless steel and heat-resistant super alloy for parting, grooving and turning<br>• Continuous cut and medium cutting speed |
| **TT4430**<br>PVD coated | P20 – P40<br>M20 – M40<br>S20 – S40 | • General machining of steel, stainless steel and heat-resistant super alloy for small parts<br>• Grooving, turning and parting |
| **TT7220**<br>PVD coated | P25 – P45<br>M25 – M45 | • Rough machining of steel and stainless steel for parting, grooving and turning |
| **TT8020**<br>PVD coated | P30 – P50<br>M30 – M50<br>S30 – S50 | • Low speed or rough and interrupted machining of steel, stainless steel and heat-resistant super alloy for parting, grooving and turning |
| **CT3000**<br>Cermet | P10 – P20<br>M10 – M20<br>K10 – K20 | • Good surface finish turning of steel, stainless steel and cast iron |
| **K10**<br>Carbide | K05 – K15<br>N05 – N15<br>S05 – S15 | • General machining of cast iron, aluminum alloys, non-ferrous materials and titanum alloys |
| **TB2015**<br>CBN | H10 – H20 | • Continuous and light interrupted machining of hardened steel |
| **TD1020**<br>PCD | N10 – N25 | • General machining of aluminum alloys |

# Chip Breakers

## Parting and grooving

| Chip breakers | Applications and features |
|---|---|
| **C-Type**  |   • 1st choice for general use in parting and deep grooving<br>• Stable cutting edge & interrupted cut<br>• Medium-to-high feed<br>• For carbon steel, alloy steel and cast iron<br>• For hard materials |
| **J-Type**  |   • 1st choice for soft materials in parting and deep grooving<br>• Sharp cutting edge & low cutting force<br>• Low-to-medium feed<br>• Tubes, small diameter and thin-wall parts<br>• For stainless steel & low carbon steel<br>• For heat resistant super alloy |
| **UF-Type**  |   • Narrow chip breaker<br>• Good chip control in low feed of ductile materials and low carbon steel<br>• For Cr-Ni alloy steel and bearing steel |
| **V-Type**  |   • Sharp cutting edge and wide groove with minimized burrs<br>• For tubes of small size workpieces<br>• For stainless steel and mild steel |

# Chip Breakers

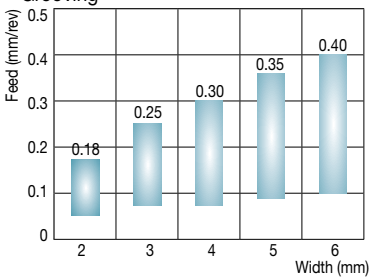
## Groove-Turn

| Chip breakers | Applications and features |
|---|---|

### CT-Type

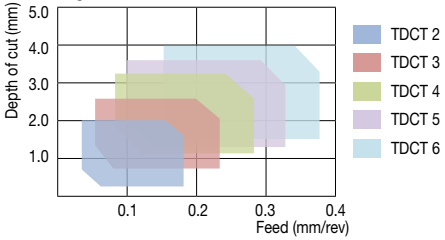


■ Grooving




- Stable cutting edge in grooving and parting
- Covers C-type chip breaker applications including a built-in chip breaker for turning applications
- Medium-to-high feed range
- Steel, cast iron, stainless steel and heat resistant alloys

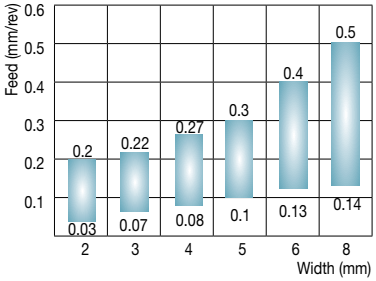
■ Turning




### XU-Type

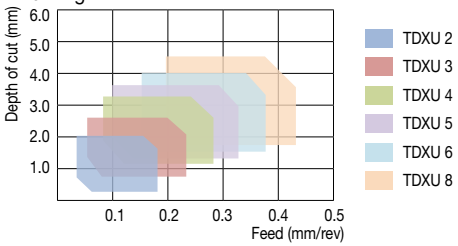


■ Grooving




- 1st choice for general use in groove-turn
- Multi functional chip breaker for external, internal and face machining
- Low cutting force and good chip control
- Medium-to-high feed grooving, low-to-medium feed turning
- Steel, stainless steel and heat resistant alloy

■ Turning



# Chip Breakers

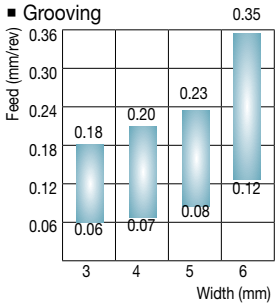
## Groove-Turn

| Chip breakers | Applications and features |
|---|---|

### XY-Type

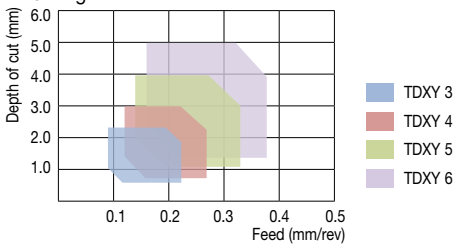


■ Grooving




- For external and internal grooving as well as turning applications
- Good chip control when external face grooving and turning
- Flat bottom surface machining
- Low-to-medium feed grooving, medium-to-high feed turning
- Ideal for steel, stainless steel, cast iron and super alloys machining

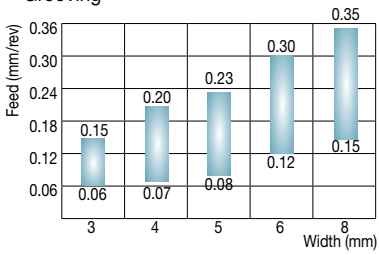
■ Turning




### T-Type

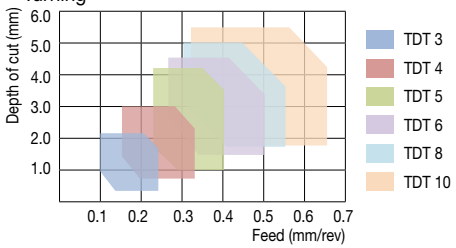


■ Grooving




- 1st choice for side turning of cast iron
- Turning and grooving with various geometry
- Steel and cast iron
- High feed rate

■ Turning



# Chip Breakers

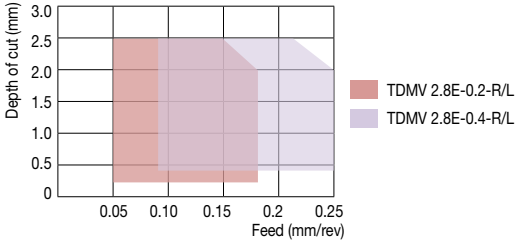
## Groove-Turn

| Chip breakers | Applications and features |
|---|---|

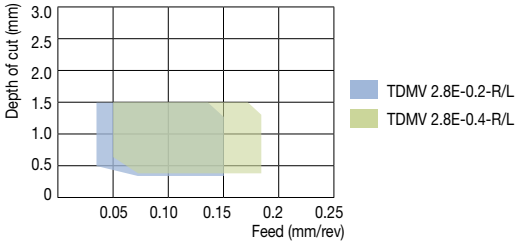
**MV-Type**



■ Backward turning




■ Forward turning




- Versatile chip breaker: forward/backward turning, profiling, end facing and parting
- Optimized chip breaker design for bi-directional turning enables superior chip control
- Insert's 2.8 mm edge width allows for a variety of tasks in tight spaces
- Roughing and finishing capable with a cutting depth of up to 2.5 mm
- Available in 4 insert types: R/L-handed, Corner R0.2, R0.4
- Multi-application machining reduces tool cost and equipment downtime while maximizing productivity gains
- Compatible with standard holders, maximizing performance when using internal high-pressure feed-type holders

# Chip Breakers

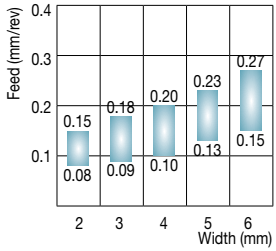
## Groove-Turn

| Chip breakers | Applications and features |
|---|---|

### RS-Type

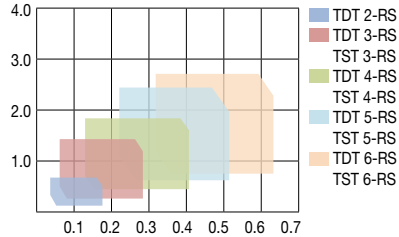


■ Grooving




- 1st choice for medium to finishing machining of heat-resistant super alloys
- For external and internal profiling, turning and grooving applications
- Low cutting force and good surface finish due to the sharp edge
- Precision machining and excellent repeatability

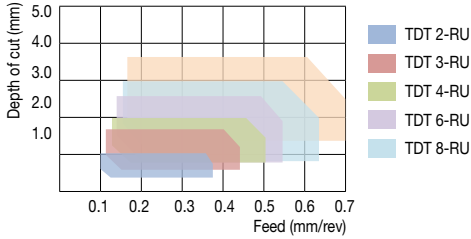
■ Turning




### RU-Type



■ Turning




- Profiling in steel and cast iron
- Tough cutting edge
- Good chip control even in low depth
- Good surface finish
- High feed rate and low depth of cut

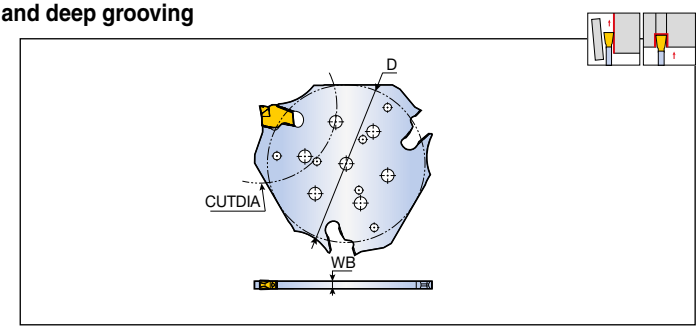
# Parting & Grooving Toolholders



# SFTB

**Triangular blades for parting and deep grooving**



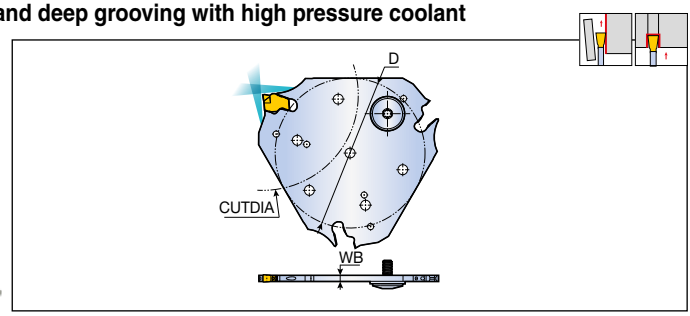



| Designation | | Insert seat size | Dimension (mm) | | | Block | Insert |
|---|---|---|---|---|---|---|---|
| | | | D | WB | CUTDIA | | |
| **SFTB** | **D52-2** | 2 | 53.2 | 1.8 | 52 | THTBR/L-TB<br>THTBR/L-R/L-TB<br>B36-B37 | SFC<br>SFJ<br>B128 |
| | **D52-3** | 3 | 53.2 | 2.5 | 52 | | |
| | **D82-2** | 2 | 64.3 | 1.8 | 82 | | |
| | **D82-3** | 3 | 64.3 | 2.5 | 82 | | |
| | **D120-2** | 2 | 85.5 | 1.8 | 120 | | |
| | **D120-3** | 3 | 85.5 | 2.5 | 120 | | |

# SFTB-TB

**Triangular blades for parting and deep grooving with high pressure coolant**






| Designation | | Insert seat size | Dimension (mm) | | | Block | Insert |
|---|---|---|---|---|---|---|---|
| | | | D | WB | CUTDIA | | |
| **SFTB** | **D52-2-TB** | 2 | 53.2 | 1.8 | 52 | THTBR/L-TB<br>THTBR/L-R/L-TB<br>B36-B37 | SFC<br>SFJ<br>B128 |
| | **D52-3-TB** | 3 | 53.2 | 2.5 | 52 | | |
| | **D82-2-TB** | 2 | 64.3 | 1.8 | 82 | | |
| | **D82-3-TB** | 3 | 64.3 | 2.5 | 82 | | |
| | **D120-2-TB** | 2 | 85.5 | 1.8 | 120 | | |
| | **D120-3-TB** | 3 | 85.5 | 2.5 | 120 | | |

## Spare parts

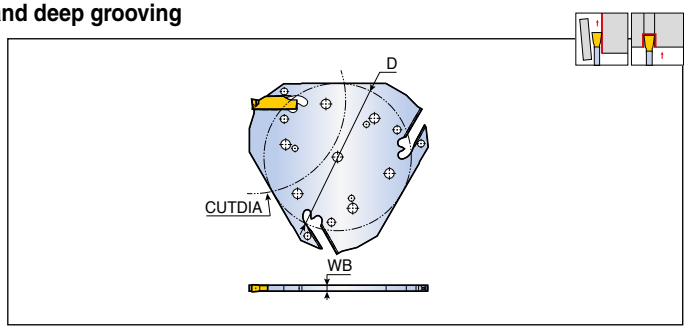
| Designation | Sealing screw set | Extractor | | |
|---|---|---|---|---|
| |  |  | | |
| **SFTB** | - | ETG 3-4 | | |
| **SFTB-TB** | SGC 340-Q | ETG 3-4 | | |

▸ Extractor should be ordered separately

# TGTB

**Triangular blades for parting and deep grooving**



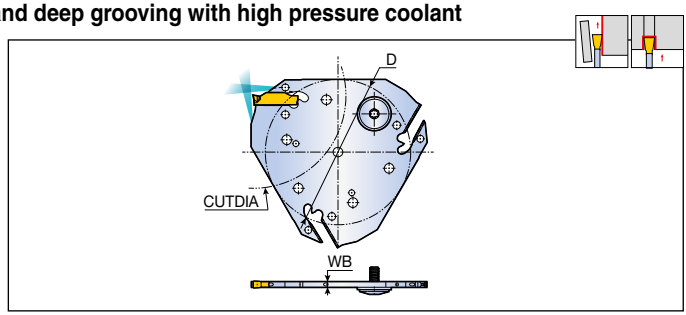



| Designation | | Insert seat size | Dimension (mm) | | | Block | Insert |
|---|---|---|---|---|---|---|---|
| | | | D | WB | CUTDIA | | |
| **TGTB** | **D52-2** | 2 | 53.2 | 1.8 | 52 | THTBR/L-TB | TDC/J/V/UF |
| | **D52-3** | 3 | 53.2 | 2.5 | 52 | THTBR/L-R/L-TB | TSC/J |
| | **D82-2** | 2 | 64.3 | 1.8 | 82 | B36-B37 | TDCT/XU/XY/XT/T |
| | **D82-3** | 3 | 64.3 | 2.5 | 82 | | B129-B140 |

# TGTB-TB

**Triangular blades for parting and deep grooving with high pressure coolant**






| Designation | | Insert seat size | Dimension (mm) | | | Block | Insert |
|---|---|---|---|---|---|---|---|
| | | | D | WB | CUTDIA | | |
| **TGTB** | **D52-2-TB** | 2 | 53.2 | 1.8 | 52 | THTBR/L-TB | TDC/J/V/UF |
| | **D52-3-TB** | 3 | 53.2 | 2.5 | 52 | THTBR/L-R/L-TB | TSC/J |
| | **D82-2-TB** | 2 | 64.3 | 1.8 | 82 | B36-B37 | TDCT/XU/XY/XT/T |
| | **D82-3-TB** | 3 | 64.3 | 2.5 | 82 | | B129-B140 |

## Spare parts

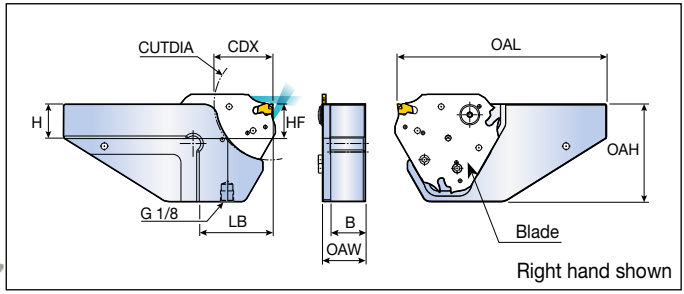
| Designation | Sealing screw set | Extractor | | |
|---|---|---|---|---|
| |  |  | | |
| **TGTB** | - | EDG 33B | | |
| **TGTB-TB** | SGC 340-Q | EDG 33B | | |

▸ Extractor should be ordered separately

# THTBR/L-TB

**Blocks for triangular blade**






| Designation | | Dimension (mm) | | | | | | | | Blade |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | OAH | OAW | LB | CUTDIA | |
| **THTBR/L** | **20-D52-TB** | 20 | 20 | 17.5 | 125 | 52 | 23.5 | 40 | 52 | SFTB/SFTB-TB TGTB/TGTB-TB B34-B35 |
| | **25-D52-TB** | 25 | 25 | 22.5 | 135 | 52 | 28.5 | 40 | 52 | |
| | **20-D82-TB** | 20 | 20 | 17.5 | 140 | 72 | 23.5 | 51.5 | 82 | |
| | **25-D82-TB** | 25 | 25 | 22.5 | 150 | 72 | 28.5 | 51.5 | 82 | |
| | **25-D120-TB** | 25 | 25 | 22.5 | 165 | 95 | 28.5 | 67 | 120 | |
| | **32-D120-TB** | 32 | 32 | 29.0 | 165 | 95 | 35.0 | 67 | 120 | |

▸ Please refer to B122 page for COOL-BURST accessories

## Table determining depth of cut for grooving as function of workpiece diameter

| Designation | | CUTDIA | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CDX | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| **SFTB/TGTB** | **D52** | 240 | 164 | 137 | 118 | 105 | 94 | 86 | 80 | 74 | 70 | 66 |
| | **D82** | N.L. | N.L. | 3686 | 1126 | 734 | 524 | 408 | 335 | 284 | 247 | 219 |
| **SFTB** | **D120** | N.L. | N.L. | 7752 | 2581 | 1548 | 1105 | 860 | 704 | 597 | 518 | 458 |

▸ N.L.: No limit

| Designation | | CUTDIA | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CDX | | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| **SFTB/TGTB** | **D52** | 64 | 61 | 59 | 57 | 56 | 55 | 54 | 53 | 52 | 52 | 52 |
| | **D82** | 197 | 180 | 166 | 154 | 144 | 135 | 128 | 122 | 116 | 112 | 108 |
| **SFTB** | **D120** | 411 | 373 | 342 | 316 | 294 | 276 | 259 | 245 | 233 | 222 | 212 |

| Designation | | CUTDIA | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CDX | | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 |
| **SFTB/TGTB** | **D82** | 104 | 101 | 98 | 96 | 93 | 91 | 90 | 88 | 87 | 86 | 85 | 84 | 83 | 82 | 82 |
| **SFTB** | **D120** | 203 | 195 | 188 | 182 | 176 | 171 | 166 | 162 | 158 | 154 | 151 | 148 | 145 | 143 | 140 |

| Designation | | CUTDIA | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CDX | | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 51 | 52 | 55 | 54-53 | 57-56 | 58-60 |
| **SFTB** | **D120** | 136 | 134 | 133 | 131 | 130 | 128 | 127 | 126 | 125 | 124 | 122 | 123 | 121 | 120 |

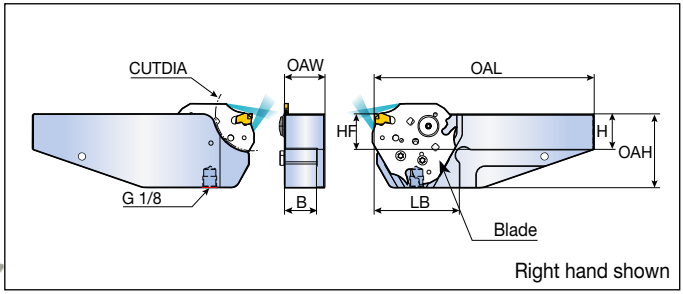
## Spare parts

| Designation | Locating pin | Screw | O-Ring | Wrench |
|---|---|---|---|---|
| |  |  |  |  |
| **THTBR/L-TB** | SIDE THRUST PIN 3MM | SH M4X0.7X10-TX | O-RING ID10X2 | T 20 |
| | | | | |

# THTBR-L-TB / THTBL-R-TB

**Blocks for triangular blade for machining next to spindle**




Right hand shown

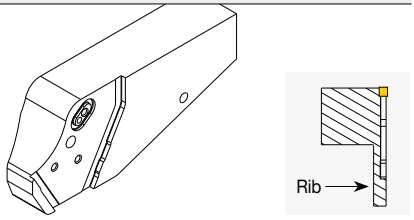
| Designation | | Dimension (mm) | | | | | | | | Blade |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | OAH | OAW | LB | CUTDIA | |
| **THTBR** | **25-L-D52-TB** | 25 | 25 | 22.5 | 155 | 52 | 28.5 | 60 | 52 | SFTB/SFTB-TB TGTB/TGTB-TB B34-B35 |
| | **25-L-D82-TB** | 25 | 25 | 22.5 | 176.5 | 72 | 28.5 | 78 | 82 | |
| | **25-L-D120-TB** | 25 | 25 | 22.5 | 211 | 95 | 28.5 | 113 | 120 | |
| **THTBL** | **25-R-D52-TB** | 25 | 25 | 22.5 | 155 | 52 | 28.5 | 60 | 52 | |
| | **25-R-D82-TB** | 25 | 25 | 22.5 | 176.5 | 72 | 28.5 | 78 | 82 | |
| | **25-R-D120-TB** | 25 | 25 | 22.5 | 211 | 95 | 28.5 | 113 | 120 | |

▸ Please refer to B122 page for COOL-BURST accessories

## Spare parts

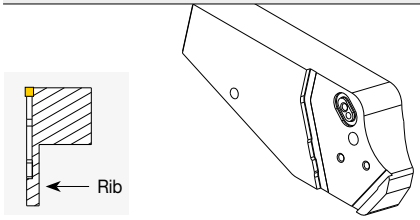
| Designation | Locating pin | Screw | O-Ring | Wrench |
|---|---|---|---|---|
| **THTBR/L--R/L-TB** | SIDE THRUST PIN 3MM | SH M4X0.7X10-TX | O-RING ID10X2 | T 20 |
| | | | | |

THTB**R**-TB



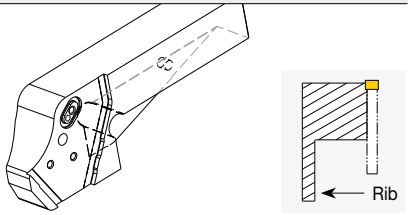

**R**-Pocket orientation

THTB**L**-TB



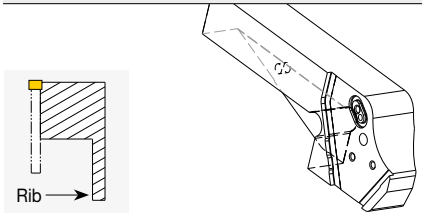

**L**-Pocket orientation

THTB**R**-**L**-TB




**R**-Pocket orientation / **L**-Reinforcement rib side

THTB**L**-**R**-TB




**L**-Pocket orientation / **R**-Reinforcement rib side

# SFGB

## Blades for parting and deep grooving



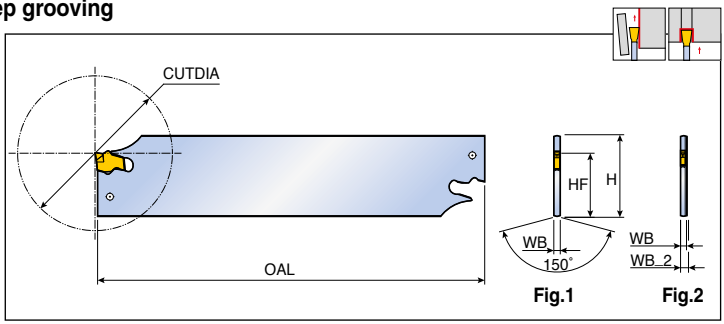



Fig.1 Fig.2

| Designation | Insert seat size | Dimension (mm) | | | | | | Fig. | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | OAL | WB | WB_2 | CUTDIA | | | |
| **SFGB 26-1.6** | 1* | 26 | 21.4 | 150 | 1.3 | 2.5 | 35 | 2 | TTBN/U.. | SFC |
| **26-2** | 2 | 26 | 21.4 | 150 | 1.8 | 2.5 | 50 | 2 | | SFJ |
| **26-3** | 3 | 26 | 21.4 | 150 | 2.5 | - | 75 | 1 | B49-B50 | |
| **32-1.6** | 1* | 32 | 24.8 | 150 | 1.3 | 2.5 | 38 | 2 | | B128 |
| **32-2** | 2 | 32 | 24.8 | 150 | 1.8 | 2.5 | 50 | 2 | | |
| **32-3** | 3 | 32 | 24.8 | 150 | 2.5 | - | 100 | 1 | | |

▸ *: SFC 1.6 insert only

## Spare parts

| Designation | Extractor | | | |
|---|---|---|---|---|
| |  | | | |
| **SFGB** | ETG 3-4 | | | |
| | | | | |
| | | | | |
| | | | | |

▸ Extractor should be ordered separately

# SFGB-TB

**Blades for parting and deep grooving with high pressure coolant**



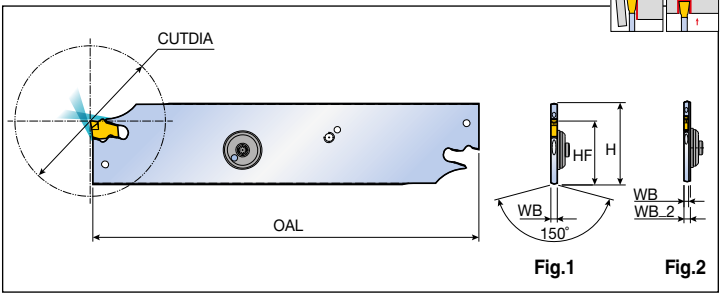



Fig.1 Fig.2

| Designation | | Insert seat size | Dimension (mm) | | | | | | Fig. | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | OAL | WB | WB_2 | CUTDIA | | | |
| **SFGB** | **26-2-TB** | 2 | 26 | 21.4 | 150 | 1.8 | 2.5 | 50 | 2 | TTBU..-TB B51 | SFC SFJ B128 |
| | **26-3-TB** | 3 | 26 | 21.4 | 150 | 2.5 | - | 75 | 1 | | |
| | **32-2-TB** | 2 | 32 | 24.8 | 150 | 1.8 | 2.5 | 50 | 2 | | |
| | **32-3-TB** | 3 | 32 | 24.8 | 150 | 2.5 | - | 90 | 1 | | |

## Spare parts

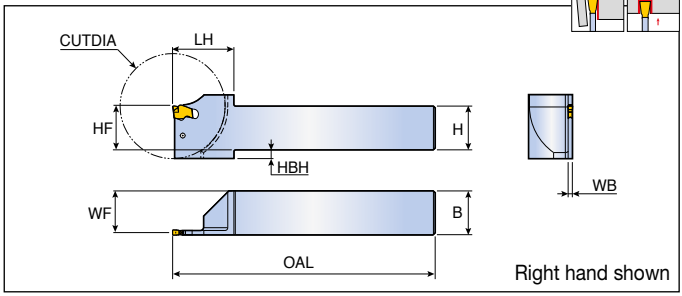
| Designation | Sealing screw set | Extractor | | |
|---|---|---|---|---|
| |  |  | | |
| **SFGB -TB** | SGC 340 | ETG 3-4 | | |
| | | | | |
| | | | | |
| | | | | |

▸ Extractor should be ordered separately

# SFER/L

## Holders for parting and deep grooving






| Designation | | Insert seat size | Dimension (mm) | | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | OAL | LH | WF | WB | HBH | CUTDIA | |
| **SFER/L** | **2020-1.6T22-D45** | 1* | 20 | 20 | 20 | 150 | 29.5 | 19.4 | 1.3 | 2.5 | 45 | SFC |
| | **2525-2T25-D50** | 2 | 25 | 25 | 25 | 150 | 32 | 24.1 | 1.8 | - | 50 | SFJ |
| | **2525-3T30-D60** | 3 | 25 | 25 | 25 | 150 | 35 | 23.8 | 2.4 | 5 | 60 | B128 |

▸ *: SFC 1.6 insert only

## Spare parts

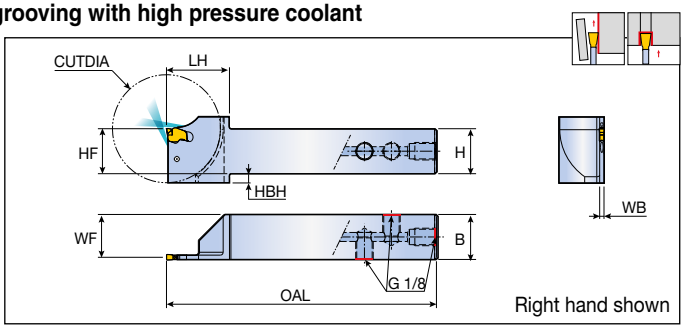
| Designation | Extractor | | | |
|---|---|---|---|---|
| |  | | | |
| **SFER/L** | ETG 3-4 | | | |
| | | | | |
| | | | | |
| | | | | |

▸ Extractor should be ordered separately

# SFER/L-TB

**Holders for parting and deep grooving with high pressure coolant**






| Designation | | Insert seat size | Dimension (mm) | | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | OAL | LH | WF | WB | HBH | CUTDIA | |
| **SFER/L** | **2525-2T25-D50-TB** | 2 | 25 | 25 | 25 | 150 | 32 | 24.1 | 1.8 | - | 50 | SFC |
| | **2525-3T30-D60-TB** | 3 | 25 | 25 | 25 | 150 | 35 | 23.8 | 2.4 | 5 | 60 | SFJ |
| | | | | | | | | | | | | B128 |

▸ Please refer to B122 page for COOL-BURST accessories

## Spare parts

| Designation | Plug | Wrench | Extractor | |
|---|---|---|---|---|
| **SFER/L-TB** | PLG G1/8-L6.5 | L-W 5 | ETG 3-4 | |
| | | | | |
| | | | | |
| | | | | |

▸ Extractor should be ordered separately

# TGB

**Blades for parting and deep grooving**



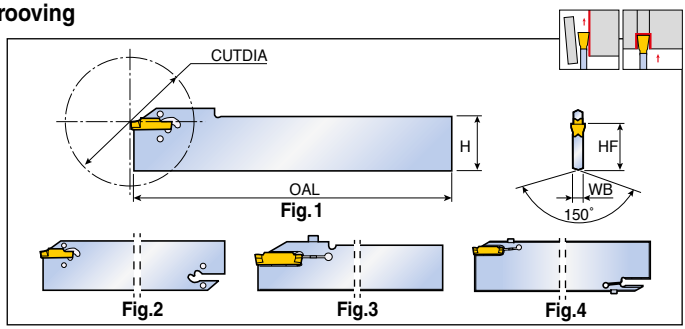



Fig.1 Fig.2 Fig.3 Fig.4

| Designation | Insert seat size | Dimension (mm) H | HF | OAL | WB | CUTDIA | Fig. | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|
| **TGB 26-1.4S**[1] | 1* | 26 | 21.4 | 150 | 1.0[2] | 26 | 1 | TTBN/U..-26 | TDC/J/V/UF |
| **26-2S**[1] | 2 | 26 | 21.4 | 150 | 1.8[2] | 40 | 1 | TTBN/U..-26 | TSC/J |
| **26-3S**[1] | 3 | 26 | 21.4 | 150 | 2.4 | 50 | 1 | TTBN/U..-26 | TDCT/XU/XY/XT/T |
| **26-4S**[1] | 4 | 26 | 21.4 | 150 | 3.2 | 80 | 1 | TTBN/U..-26 | B129-B140 |
| **32-1.4** | 1* | 32 | 24.9 | 150 | 1.0[2] | 26 | 2 | TTBN/U..-32 | |
| **32-2** | 2 | 32 | 24.9 | 150 | 1.8[2] | 50 | 2 | TTBN/U..-32 | |
| **32-3** | 3 | 32 | 24.9 | 150 | 2.4 | 100 | 2 | TTBN/U..-32 | |
| **32-4** | 4 | 32 | 24.9 | 150 | 3.2 | 100 | 2 | TTBN/U..-32 | |
| **32-5** | 5 | 32 | 24.9 | 150 | 4.0 | 120 | 2 | TTBN/U..-32 | |
| **32-6** | 6 | 32 | 24.9 | 150 | 5.2 | 120 | 2 | TTBN/U..-32 | |
| **45-4** | 4 | 45 | 38.1 | 150 | 3.2 | 120 | 2 | TTBN/U..-45 | |
| **32-8S-CL**[1] | 8 | 32 | 24.9 | 150 | 6.2 | 80 | 3 | TTBN/U..-32 | |
| **52-8-CL** | 8 | 52 | 45.2 | 250 | 7.4 | 200 | 4 | TTBN/U..-52 | |
| | | | | | | | | B49-B50 | |

- [1] Single ended blade
- [2] Thickness at DOC area only. Overall thickness is 2.4mm
- *: TDJ 1.4 insert only

## Spare parts

| Designation | Extractor | Screw | Wrench | |
|---|---|---|---|---|
| **TGB 26-1.4S / 32-1.4** | EDG 23B | - | - | |
| **TGB 26 / 32 / 45** | EDG 33B | - | - | |
| **TGB 32-8S-CL** | - | SH M4x0.7x20-MO | L-W 3 | |
| **TGB 52-8-CL** | - | SH M4x0.7x20-MO | L-W 3 | |

- Extractor should be ordered separately

# TGB-TB

**Blades for parting and deep grooving with high pressure coolant**



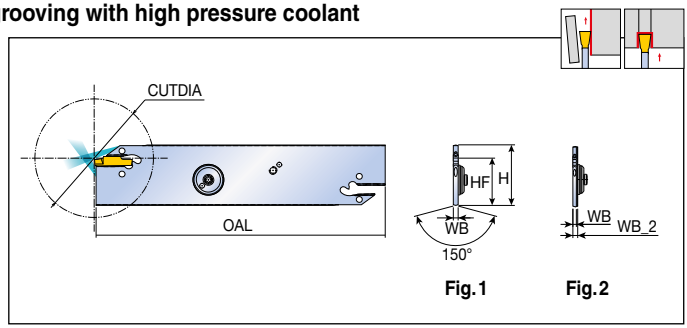




Fig.1 Fig.2

| Designation | Insert seat size | Dimension (mm) | | | | | | Fig. | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | OAL | WB | WB_2 | CUTDIA | | | |
| **TGB 32-2-TB** | 2 | 32 | 24.9 | 150 | 1.8 | 2.5 | 50 | 2 | TTBU..-TB B51 | TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T B129-B140 |
| **32-3-TB** | 3 | 32 | 24.9 | 150 | 2.5 | - | 90 | 1 | | |
| **32-4-TB** | 4 | 32 | 24.9 | 150 | 3.2 | - | 90 | 1 | | |
| **32-5-TB** | 5 | 32 | 24.9 | 150 | 4.0 | - | 110 | 1 | | |
| **32-6-TB** | 6 | 32 | 24.9 | 150 | 5.2 | - | 110 | 1 | | |

## Spare parts

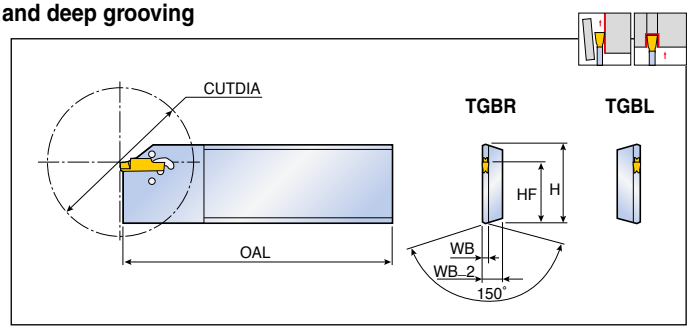
| Designation | Sealing screw set | Extractor | | |
|---|---|---|---|---|
| |  |  | | |
| **TGB-TB** | SGC 340 | EDG 33B | | |
| | | | | |
| | | | | |
| | | | | |

▸ Extractor should be ordered separately

# TGBR/L

**Reinforced blades for parting and deep grooving**






| Designation | | Insert seat size | Dimension (mm) | | | | | | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | OAL | WB | WB_2 | CUTDIA | | |
| **TGBR/L** | **32T24-2** | 2 | 32 | 24.9 | 110 | 1.8 | 8.0 | 42 | TTBN/U..32 | TDC/J/V/UF |
| | **32T33-3** | 3 | 32 | 24.9 | 110 | 2.4 | 8.0 | 60 | B49-B50 | TSC/J |
| | **32T41-4** | 4 | 32 | 24.9 | 110 | 3.2 | 10.0 | 80 | | TDCT/XU/XY/XT/T |
| | | | | | | | | | | B129-B140 |

## Spare parts

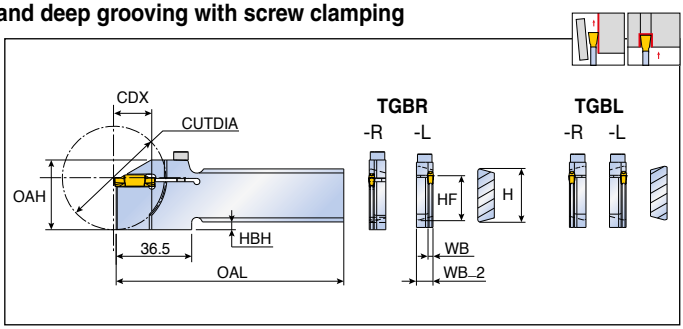
| Designation | Extractor | | | |
|---|---|---|---|---|
| |  | | | |
| **TGBR/L** | EDG 33B | | | |
| | | | | |
| | | | | |
| | | | | |

▸ Extractor should be ordered separately

# TGBR/L -D..R/L

**Reinforced blades for parting and deep grooving with screw clamping**






| Designation | Insert seat size | Dimension (mm) | | | | | | | | | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | OAL | OAH | WB | WB_2 | HBH | CDX | CUTDIA | | |
| **TGBR 26-2-D50R** (1) | 2 | 26 | 21.4 | 110 | 33.7 | 1.8 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | TDC/J/V/UF |
| **26-2-D50L** (2) | 2 | 26 | 21.4 | 110 | 33.7 | 1.8 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | TSC/J |
| **TGBL 26-2-D50R** (2) | 2 | 26 | 21.4 | 110 | 33.7 | 1.8 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | TDCT/XU/XY/XT/T |
| **26-2-D50L** (1) | 2 | 26 | 21.4 | 110 | 33.7 | 1.8 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | B129-B140 |
| **TGBR 26-3-D50R** (1) | 3 | 26 | 21.4 | 110 | 33.7 | 2.4 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | |
| **26-3-D50L** (2) | 3 | 26 | 21.4 | 110 | 33.7 | 2.4 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | |
| **TGBL 26-3-D50R** (2) | 3 | 26 | 21.4 | 110 | 33.7 | 2.4 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | |
| **26-3-D50L** (1) | 3 | 26 | 21.4 | 110 | 33.7 | 2.4 | 8 | 3.6 | 18 | 50 | TTBN/U..-26 | |
| **TGBR 32-2-D50R** (3) | 2 | 32 | 24.9 | 120 | 33.7 | 1.8 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| **32-2-D50L** (2) | 2 | 32 | 24.9 | 120 | 33.7 | 1.8 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| **TGBL 32-2-D50R** (2) | 2 | 32 | 24.9 | 120 | 33.7 | 1.8 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| **32-2-D50L** (3) | 2 | 32 | 24.9 | 120 | 33.7 | 1.8 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| **TGBR 32-3-D50R** (3) | 3 | 32 | 24.9 | 120 | 33.7 | 2.4 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| **32-3-D50L** (2) | 3 | 32 | 24.9 | 120 | 33.7 | 2.4 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| **TGBL 32-3-D50R** (2) | 3 | 32 | 24.9 | 120 | 33.7 | 2.4 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| **32-3-D50L** (3) | 3 | 32 | 24.9 | 120 | 33.7 | 2.4 | 8 | - | 18 | 50 | TTBN/U..-32 | |
| | | | | | | | | | | | B49-B50 | |

▸ (1) for Traub machines, model TNC 30, TNM 28, TNS 26/30/42/112, TNA 300, TNK 260
▸ (2) for Tornos Bechler, model Emco 2000/20, 2000/26
▸ (3) for Traub machines, model TNC 42/65, TNM 42/65, TNS 42/60/65, TNA 300/400

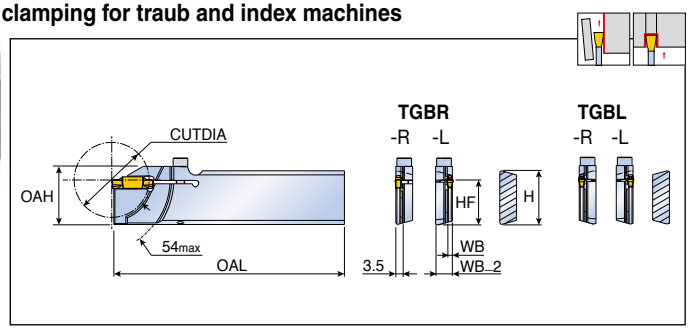
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TGBR/L -DR/L** | SH M4x0.7x16 | L-W 3 | | |
| | | | | |
| | | | | |
| | | | | |

# TGBR/L -TI-D..R/L

**Reinforced blades with screw clamping for traub and index machines**






| Designation | Insert seat size | Dimension (mm) | | | | | | | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | OAL | OAH | WB | WB_2 | CUTDIA | | |
| **TGBR/L 26-2TI-D36R** | 2 | 26 | 21.4 | 110 | 27.9 | 1.6 | 8 | 36 | TTBN/U..-26 B49-B50 | TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T B129-B140 |
| **26-2TI-D36L** | 2 | 26 | 21.4 | 110 | 27.9 | 1.6 | 8 | 36 | | |
| **26-3TI-D36R** | 3 | 26 | 21.4 | 110 | 27.9 | 2.4 | 8 | 36 | | |
| **26-3TI-D36L** | 3 | 26 | 21.4 | 110 | 27.9 | 2.4 | 8 | 36 | | |

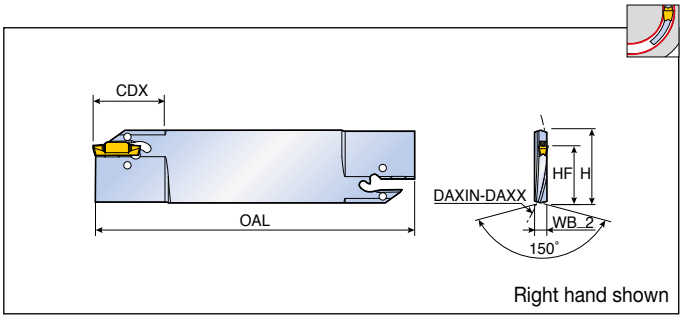
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TGBR/L -TI-DR/L** | SH M4x0.7x16 | L-W 3 | | |

# TGBFR/L

**Blades for face grooving**






| Designation | | Insert seat size | Dimension (mm) | | | | | | | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | OAL | WB_2 | CDX | DAXIN | DAXX | | |
| **TGBFR/L** | **32T20-40-60-3** | 3 | 32 | 24.9 | 150 | 5.2 | 20 | 40 | 60 | TTBN/U..-32 | TDC/J/T |
| | **32T20-54-80-3** | 3 | 32 | 24.9 | 150 | 5.2 | 20 | 54 | 80 | B49-B50 | TDCT/XU/XT/XY |
| | **32T25-74-120-3** | 3 | 32 | 24.9 | 150 | 5.2 | 25 | 74 | 120 | | TDFT |
| | **32T25-114-180-3** | 3 | 32 | 24.9 | 150 | 5.2 | 25 | 114 | 180 | | TSC/J |
| | **32T25-40-60-4** | 4 | 32 | 24.9 | 150 | 5.2 | 25 | 40 | 60 | | TDUF/TDV |
| | **32T25-50-80-4** | 4 | 32 | 24.9 | 150 | 5.2 | 25 | 50 | 80 | | B129-B141 |
| | **32T30-70-130-4** | 4 | 32 | 24.9 | 150 | 5.2 | 30 | 70 | 130 | | |
| | **32T30-120-200-4** | 4 | 32 | 24.9 | 150 | 5.2 | 30 | 120 | 200 | | |
| | **32T30-200-4** | 4 | 32 | 24.9 | 150 | 5.2 | 30 | 200 | N.L. | | |
| | **32T32-60-95-5** | 5 | 32 | 24.9 | 150 | 5.2 | 32 | 60 | 95 | | |
| | **32T35-85-140-5** | 5 | 32 | 24.9 | 150 | 5.2 | 35 | 85 | 140 | | |
| | **32T35-130-250-5** | 5 | 32 | 24.9 | 150 | 5.2 | 35 | 130 | 250 | | |
| | **32T35-250-5** | 5 | 32 | 24.9 | 150 | 5.2 | 35 | 250 | N.L. | | |
| | **32T32-80-180-6** | 6 | 32 | 24.9 | 150 | 5.2 | 32 | 80 | 180 | | |
| | **32T38-168-300-6** | 6 | 32 | 24.9 | 150 | 5.2 | 38 | 168 | 300 | | |
| | **32T38-300-6** | 6 | 32 | 24.9 | 150 | 5.2 | 38 | 300 | N.L. | | |

- Please check insert min. dia for face grooving B83 page
- N.L.: No limit

## Spare parts

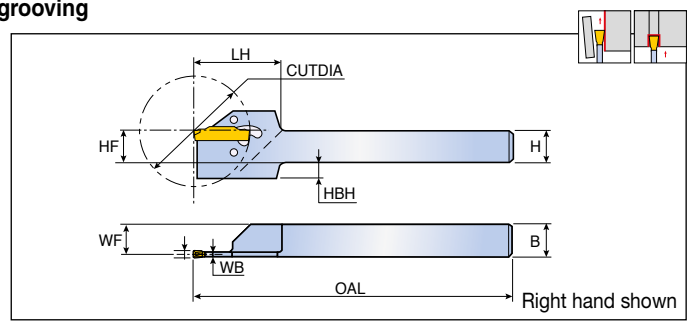
| Designation | Extractor | | | |
|---|---|---|---|---|
| |  | | | |
| **TGBFR/L** | EDG 33B | | | |
| | | | | |
| | | | | |
| | | | | |

- Extractor should be ordered separately

# TGER/L

## Holders for parting and deep grooving






| Designation | | Insert seat size | Dimension (mm) | | | | | | | | CUTDIA | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | OAL | LH | WF | WB | HBH | TDJ/C | TSJ/C | |
| **TGER/L** | **2020-1.4T10** | 1* | 20 | 20 | 20 | 125 | 31 | 19.5 | 1.0 | - | 20 | 20 | TDC/J/V/UF |
| | **1010-2** | 2 | 10 | 10 | 10 | 150 | 31 | 9.1 | 1.8 | 8 | 33 | 33 | TSC/J |
| | **1212-2** | 2 | 12 | 12 | 12 | 150 | 31 | 11.1 | 1.8 | 6 | 35 | 35 | TDCT/XU/XY/XT/T |
| | **1616-2** | 2 | 16 | 16 | 16 | 150 | 31 | 15.1 | 1.8 | 2 | 35 | 35 | B129-B140 |
| | **2012-2** | 2 | 20 | 20 | 12 | 150 | 31 | 11.1 | 1.8 | - | 35 | 35 | |
| | **2020-2** | 2 | 20 | 20 | 20 | 125 | 31 | 19.1 | 1.8 | - | 35 | 35 | |
| | **1212-3** | 3 | 12 | 12 | 12 | 150 | 31 | 10.8 | 2.4 | 6 | 38 | 40 | |
| | **1616-3** | 3 | 16 | 16 | 16 | 150 | 31 | 14.8 | 2.4 | 2 | 38 | 45 | |
| | **2020-3** | 3 | 20 | 20 | 20 | 125 | 31 | 18.8 | 2.4 | - | 38 | 45 | |
| | **2525-3** | 3 | 25 | 25 | 25 | 150 | 31 | 23.8 | 2.4 | - | 38 | 45 | |
| | **2020-4** | 4 | 20 | 20 | 20 | 125 | 33 | 18.4 | 3.2 | - | 38 | 55 | |
| | **2525-4** | 4 | 25 | 25 | 25 | 150 | 33 | 23.4 | 3.2 | - | 38 | 55 | |

▸ *: TDJ 1.4 insert only

## Spare parts

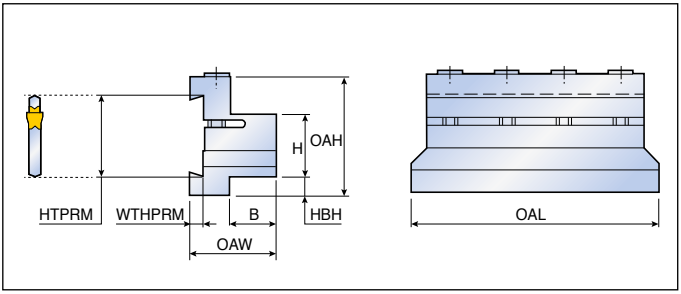
| Designation | Extractor | | | |
|---|---|---|---|---|
| |  | | | |
| **TGER/L....-1.4T10** | EDG 23B | | | |
| **TGER/L....-2** | EDG 33B | | | |
| **TGER/L....-3** | EDG 33B | | | |
| **TGER/L....-4** | EDG 33B | | | |

▸ Extractor should be ordered separately

# TTBN

**Blocks for blades**






| Designation | Dimension (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | HTPRM | H | HBH | OAH | WTHPRM | OAL | B | OAW |
| **TTBN 16-26** | 26 | 16 | 12 | 38 | 4.0 | 87 | 15 | 29 |
| **20-26** | 26 | 20 | 8 | 38 | 4.0 | 87 | 19 | 33 |
| **25-26** | 26 | 25 | 3 | 38 | 4.0 | 110 | 20 | 34 |
| **20-32** | 32 | 20 | 13 | 48 | 5.5 | 100 | 19 | 35 |
| **25-32** | 32 | 25 | 8 | 48 | 5.5 | 110 | 20 | 36 |
| **32-32** | 32 | 32 | 3 | 48 | 5.5 | 120 | 28 | 44 |
| **25-45** | 45 | 25 | 25 | 66 | 5.5 | 110 | 22 | 40 |
| **32-45** | 45 | 32 | 18 | 66 | 5.5 | 120 | 28 | 45 |
| **40-52** | 52 | 40 | 21 | 82 | 8.0 | 160 | 40 | 65 |

## Spare parts

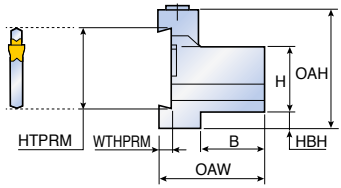
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTBN...26** | SH M6x1x25 | L-W 5 | | |
| **TTBN...32** | SH M6x1x30 | L-W 5 | | |
| **TTBN...45** | SH M6x1x40 | L-W 5 | | |
| **TTBN...52** | SH M8x1.25x45 | L-W 6 | | |

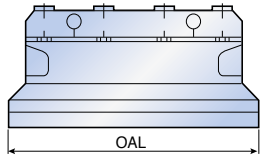


# TTBU

**Blocks for blades with clamp**






| Designation | Dimension (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | HTPRM | H | HBH | OAH | WTHPRM | OAL | B | OAW |
| **TTBU 20-26** | 26 | 20 | 9 | 43 | 4.0 | 86 | 21 | 38 |
| **25-26** | 26 | 25 | 5 | 45 | 4.0 | 110 | 23 | 43 |
| **20-32** | 32 | 20 | 13 | 50 | 5.3 | 100 | 19 | 38 |
| **25-32** | 32 | 25 | 8 | 50 | 5.3 | 110 | 23 | 42 |
| **32-32** | 32 | 32 | 5 | 54 | 5.3 | 110 | 29 | 48 |
| **25-45** | 45 | 25 | 27 | 70 | 5.3 | 110 | 23 | 42 |
| **32-45** | 45 | 32 | 20 | 70 | 5.3 | 110 | 29 | 48 |

## Spare parts

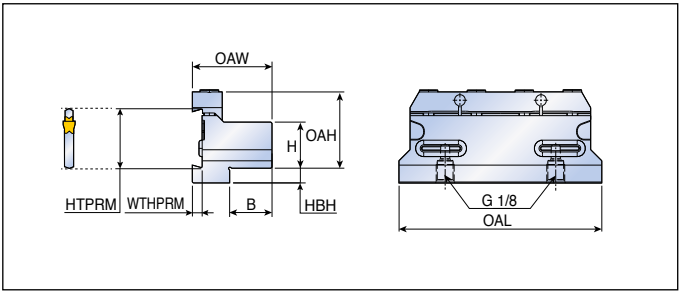
| Designation | Screw | Clamp | Wrench | |
|---|---|---|---|---|
| **TTBU 20-26** | SR M6X30 DIN912 | BKU 86 | L-W 5 | |
| **TTBU 25-26** | SR M6X30 DIN912 | BKU 105 | L-W 5 | |
| **TTBU 20-32** | SR M6X25 DIN912 | BKU 100 | L-W 5 | |
| **TTBU 25-32** | SR M6X25 DIN912 | BKU 110 | L-W 5 | |
| **TTBU 32-32** | SR M6X30 DIN912 | BKU 110 | L-W 5 | |
| **TTBU 25/32-45** | SR M6X30 DIN912 | BKU 110 | L-W 5 | |

B42-B47,B110

# TTBU-TB

**Blocks for blades with high pressure coolant**






| Designation | Dimension (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | HTPRM | H | HBH | OAH | WTHPRM | OAL | B | OAW |
| **TTBU 16-26-TB** | 26 | 16 | 13 | 29.9 | 4.1 | 86 | 17 | 35.6 |
| **20-26-TB** | 26 | 20 | 9 | 33.9 | 4.1 | 86 | 21 | 39.6 |
| **25-26-TB** | 26 | 25 | 5 | 39.0 | 4.1 | 110 | 26 | 44.1 |
| **20-32-TB** | 32 | 20 | 15 | 36.4 | 5.3 | 100 | 19 | 39.2 |
| **25-32-TB** | 32 | 25 | 8 | 41.4 | 5.3 | 110 | 23 | 43.2 |
| **32-32-TB** | 32 | 32 | 5 | 48.4 | 5.3 | 110 | 29 | 49.2 |

## Spare parts

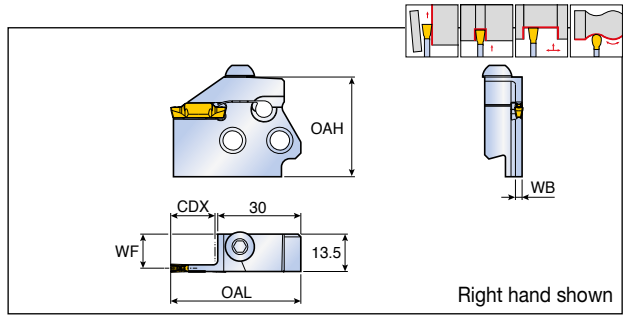
| Designation | Screw | Clamp | O-ring | Wrench |
|---|---|---|---|---|
| **TTBU 16/20-26-TB** | SR M6X16 DIN912 | BKU 86 | O-RING ID14X2.5 | L-W 5 |
| **TTBU 25-26-TB** | SR M6X16 DIN912 | BKU 105 | O-RING ID14X2.5 | L-W 5 |
| **TTBU 20-32-TB** | SR M6X16 DIN912 | BKU 100 | O-RING ID14X2.5 | L-W 5 |
| **TTBU 25/32-32-TB** | SR M6X16 DIN912 | BKU 110 | O-RING ID14X2.5 | L-W 5 |

B43

# TCAER/L

**Cartridges for external grooving**






| Designation | | Insert seat size | Dimension (mm) | | | | | Holder | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | OAL | WF | WB | OAH | CDX | | |
| **TCAER/L** | **1.4T12** | 1* | 47 | 13.0 | 1.0 | 36 | 12 | TCAHR/L<br>TCAHPL/R<br>C..-TCAHN<br>C..-TCAHPN<br>B57-B60 | TDJ 1.4<br>TDC/J/V/UF<br>TSC/J<br>TDCT/XU/XY/XT/T<br>B129-B140 |
| | **2T16** | 2 | 47 | 12.6 | 1.8 | 36 | 16 | | |
| | **2T22** | 2 | 53 | 12.6 | 1.8 | 36 | 22 | | |
| | **3T16** | 3 | 47 | 12.3 | 2.4 | 36 | 16 | | |
| | **3T22** | 3 | 53 | 12.3 | 2.4 | 36 | 22 | | |
| | **4T16** | 4 | 47 | 12.0 | 3.0 | 36 | 16 | | |
| | **4T22** | 4 | 53 | 12.0 | 3.0 | 36 | 22 | | |
| | **5T20** | 5 | 51.5 | 11.6 | 3.9 | 36 | 20 | | |
| | **5T25** | 5 | 56 | 11.6 | 3.9 | 36 | 25 | | |
| | **6T20** | 6 | 51.5 | 11.1 | 4.9 | 36 | 20 | | |
| | **6T25** | 6 | 56 | 11.1 | 4.9 | 36 | 25 | | |

▸ *: TDJ 1.4 insert only

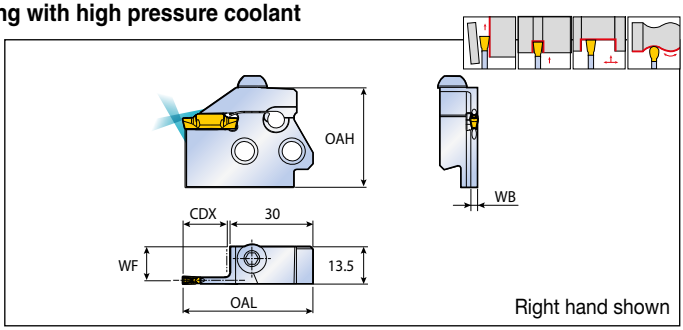
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TCAER/L** | BH M6x1x16 | L-W 4 | | |
| | | | | |
| | | | | |
| | | | | |

# TCAER/L-TB

**Cartridges for external grooving with high pressure coolant**






| Designation | | Insert seat size | Dimension (mm) | | | | | Holder | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | | OAL | WF | WB | OAH | CDX | | |
| **TCAER/L** | **2T16-TB** | 2 | 47 | 12.6 | 1.8 | 36 | 16 | TCAHR/L-TB | TDC/J/V/UF |
| | **3T16-TB** | 3 | 47 | 12.3 | 2.4 | 36 | 16 | TCAHPL/R-TB | TSC/J |
| | **4T16-TB** | 4 | 47 | 12.0 | 3.0 | 36 | 16 | C...TCAHN-TB | TDCT/XU/XY/XT/T |
| | **5T20-TB** | 5 | 51 | 11.5 | 3.9 | 36 | 20 | C...TCAHPN-TB | B129-B140 |
| | | | | | | | | B57-B61 | |

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TCAER/L-TB** | BH M6X1X16 | L-W 4 | | |
| | | | | |
| | | | | |
| | | | | |

# TCAFR/L

**Cartridges for external face grooving**



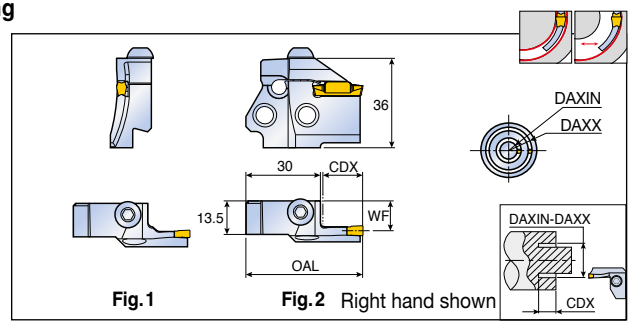



**Fig.1** **Fig.2** Right hand shown

| Designation | | Insert seat size | Dimension (mm) | | | | | Fig. | Holder | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | OAL | WF | CDX | DAXIN | DAXX | | | |
| **TCAFR/L** | **3T10-29-40 RN** | 3 | 40 | 12.4 | 10 | 29 | 40 | 1 | TCAHL/R | TDC/J/V/UF |
| | **3T12-40-55 RN** | 3 | 47 | 12.4 | 12 | 40 | 55 | 1 | TCAHPR/L | TSC/J |
| | **3T12-55-75 RN** | 3 | 47 | 12.4 | 12 | 55 | 75 | 1 | C..-TCAHN | TDCT/XU/XY/XT/T |
| | **3T12-75-100 RN** | 3 | 47 | 12.4 | 12 | 75 | 100 | 1 | C..-TCAHPN | TDFT |
| | **3T12-100-140 RN** | 3 | 47 | 12.4 | 12 | 100 | 140 | 1 | B57-B60 | B129-B141 |
| | **3T12-140-200 RN** | 3 | 47 | 12.4 | 12 | 140 | 200 | 1 | | |
| | **4T16-34-50 RN** | 4 | 47 | 12.0 | 16 | 34 | 50 | 2 | | |
| | **4T16-50-70 RN** | 4 | 47 | 12.0 | 16 | 50 | 70 | 2 | | |
| | **4T16-70-100 RN** | 4 | 47 | 12.0 | 16 | 70 | 100 | 2 | | |
| | **4T16-100-150 RN** | 4 | 47 | 12.0 | 16 | 100 | 150 | 2 | | |
| | **4T16-150-250 RN** | 4 | 47 | 12.0 | 16 | 150 | 250 | 2 | | |
| | **4T16-250 RN** | 4 | 47 | 12.0 | 16 | 250 | N.L. | 2 | | |
| | **5T20-55-80 RN** | 5 | 51.5 | 11.5 | 20 | 55 | 80 | 2 | | |
| | **5T20-80-120 RN** | 5 | 51.5 | 11.5 | 20 | 80 | 120 | 2 | | |
| | **5T20-120-180 RN** | 5 | 51.5 | 11.5 | 20 | 120 | 180 | 2 | | |
| | **5T20-180-300 RN** | 5 | 51.5 | 11.5 | 20 | 180 | 300 | 2 | | |
| | **5T20-300 RN** | 5 | 51.5 | 11.5 | 20 | 300 | N.L. | 2 | | |
| | **6T25-60-90 RN** | 6 | 56 | 11.0 | 25 | 60 | 90 | 2 | | |
| | **6T25-90-150 RN** | 6 | 56 | 11.0 | 25 | 90 | 150 | 2 | | |
| | **6T25-150-250 RN** | 6 | 56 | 11.0 | 25 | 150 | 250 | 2 | | |
| | **6T25-250-400 RN** | 6 | 56 | 11.0 | 25 | 250 | 400 | 2 | | |
| | **6T25-400 RN** | 6 | 56 | 11.0 | 25 | 400 | N.L. | 2 | | |

▸ Please check insert min. dia for face grooving B83 page
▸ N.L.: No limit

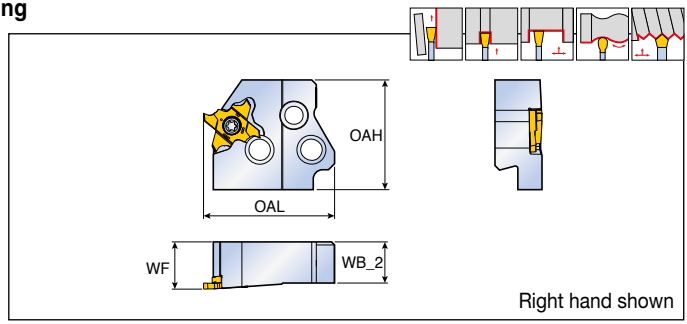
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TCAFR/L** | BH M6x1x16 | L-W 4 | | |
| | | | | |

# TCAQR/L 20

## Cartridges for external grooving





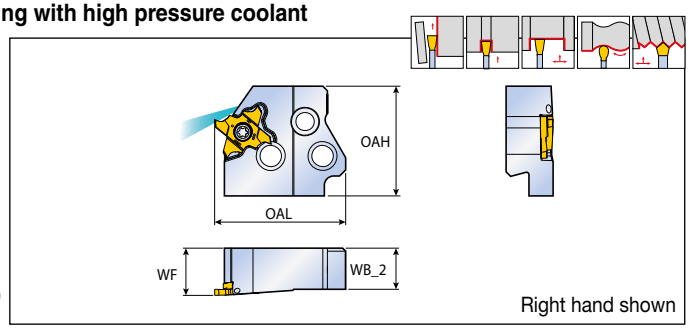

| Designation | | Dimension (mm) | | | | Holder | Insert |
|---|---|---|---|---|---|---|---|
| | | OAL | WF | WB_2 | OAH | | |
| **TCAQR/L** | **20** | 43 | 15.5 | 13.5 | 36 | TCAHR/L, TCAHPL/R<br>C...TCAHN, C...TCAHPN<br>B57-B60 | TQ...20<br>B149-B150 |

▸ CDX: Refer to insert dimension

# TCAQR/L 20-TB

## Cartridges for external grooving with high pressure coolant






| Designation | | Dimension (mm) | | | | Holder | Insert |
|---|---|---|---|---|---|---|---|
| | | OAL | WF | WB_2 | OAH | | |
| **TCAQR/L** | **20-TB** | 43 | 15.5 | 13.5 | 36 | TCAHR/L-TB, TCAHPL/R-TB<br>C...TCAHN-TB, C...TCAHPN-TB<br>B57-B61 | TQ...20<br>B149-B150 |

▸ CDX: Refer to insert dimension

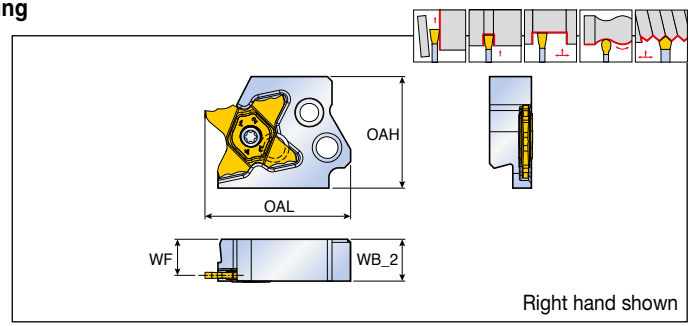
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TCAQR 20(-TB)** | TS 40A100L | T-1508/5 | | |
| **TCAQL 20(-TB)** | TS 40A100 | T-1508/5 | | |

# TCAQR/L 27/34

**Cartridges for external grooving**





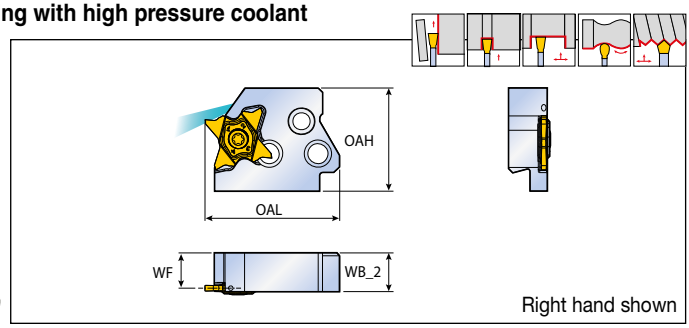

| Designation | | Dimension (mm) | | | | Holder | Insert |
|---|---|---|---|---|---|---|---|
| | | OAL | WF | WB_2 | OAH | | |
| **TCAQR/L** | **27** | 47 | 12.3 | 13.5 | 36 | TCAHR/L, TCAHPL/R<br>C..-TCAHN, C..-TCAHPN<br>B57-B60 | TQ... 27<br>TQ... 34<br>B151-B161 |
| | **34** | 47 | 11.7 | 13.5 | 36 | | |

▸ CDX: Refer to insert dimension

# TCAQR/L 27-TB

**Cartridges for external grooving with high pressure coolant**






| Designation | | Dimension (mm) | | | | Holder | Insert |
|---|---|---|---|---|---|---|---|
| | | OAL | WF | WB_2 | OAH | | |
| **TCAQR/L** | **27-TB** | 47 | 12.3 | 13.5 | 36 | TCAHR/L-TB, TCAHPL/R-TB<br>C...TCAHN-TB, C...TCAHPN-TB<br>B57-B61 | TQ...27<br>B151-B159 |

▸ CDX: Refer to insert dimension

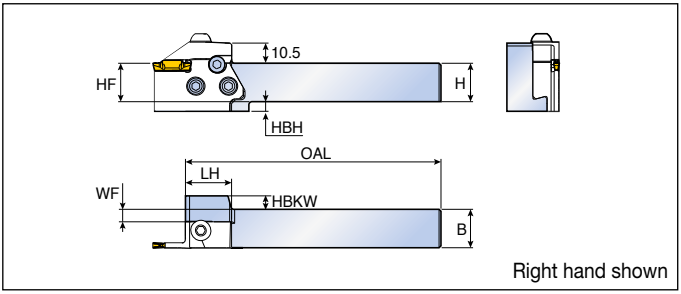
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| | | | | |
| **TCAQR 27/34(-TB)** | TS 50125IL | T 10/20 | | |
| **TCAQL 27/34(-TB)** | TS 50125I | T 10/20 | | |

# TCAHR/L

**Parallel type holders for cartridge**





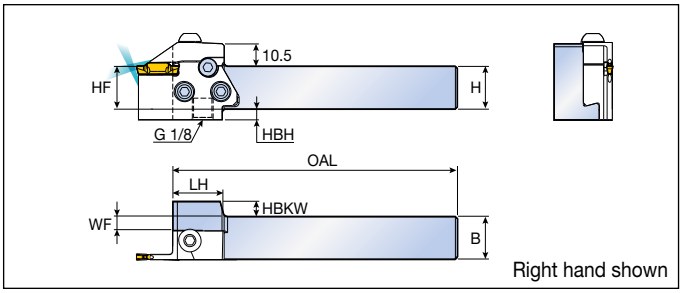

| Designation | | Dimension (mm) | | | | | | | | Cartridge |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | WF | HBH | HBKW | LH | |
| **TCAHR/L** | **2020** | 20 | 20 | 20 | 133 | 6.5 | 5 | 7 | 24 | TCAER/L,TCAFL/R TCAQR/L B52-B56 |
| | **2525** | 25 | 25 | 25 | 133 | 11.5 | - | 2 | 24 | |
| | **3232** | 32 | 32 | 32 | 153 | 18.5 | - | - | 24 | |

▸ Cartridge should be ordered separately

# TCAHR/L-TB

**Parallel type holders for cartridge with high pressure coolant**




| Designation | | Dimension (mm) | | | | | | | | Cartridge |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | WF | HBH | HBKW | LH | |
| **TCAHR/L** | **2020-TB** | 20 | 20 | 20 | 133 | 6.5 | 5 | 7 | 24 | TCAER/L-TB TCAQR/L-TB B53-B56 |
| | **2525-TB** | 25 | 25 | 25 | 133 | 11.5 | - | 2 | 24 | |

▸ Cartridge should be ordered separately
▸ Please refer to B122 page for COOL-BURST accessories

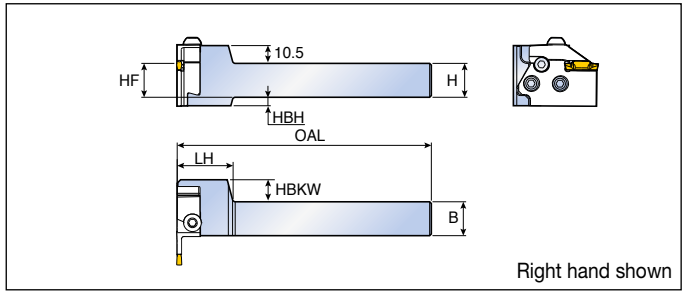
## Spare parts

| Designation | Screw | Security Screw | Sealing Screw | O-Ring | Wrench | |
|---|---|---|---|---|---|---|
| **TCAHR/L** | TS 60190I | SH M5X0.8X16 | - | - | L-W 4 | - |
| **TCAHR/L-TB** | TS 60190I | SH M5X0.8X16 | SS M4X0.7X4-NL | O-RING ID5X1T | L-W 4 | L-W 2 |

# TCAHPR/L

**Perpendicular type holders for cartridge**





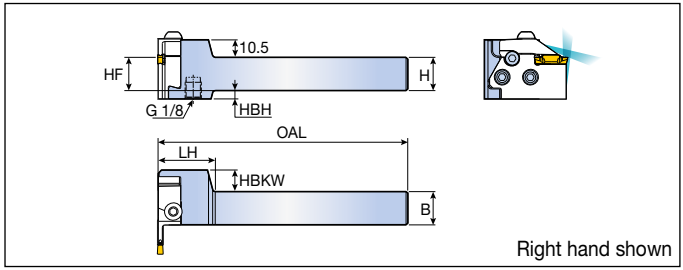

| Designation | | Dimension (mm) | | | | | | | Cartridge |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | HBH | HBKW | LH | |
| **TCAHPR/L** | **2020** | 20 | 20 | 20 | 150 | 5 | 13 | 33 | TCAEL/R, TCAFR/L TCAQL/R |
| | **2525** | 25 | 25 | 25 | 150 | - | 8 | 33 | |
| | **3232** | 32 | 32 | 32 | 170 | - | 1 | 33 | B52-B56 |

▸ Cartridge should be ordered separately

# TCAHPR/L-TB

**Perpendicular type holders for cartridge with high pressure coolant**




| Designation | | Dimension (mm) | | | | | | | Cartridge |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | HBH | HBKW | LH | |
| **TCAHPR/L** | **2020-TB** | 20 | 20 | 20 | 150 | 5 | 13 | 33 | TCAEL/R-TB |
| | **2525-TB** | 25 | 25 | 25 | 150 | - | 8 | 33 | TCAQL/R-TB |
| | | | | | | | | | B53-B56 |

▸ Cartridge should be ordered separately
▸ Please refer to B122 page for COOL-BURST accessories

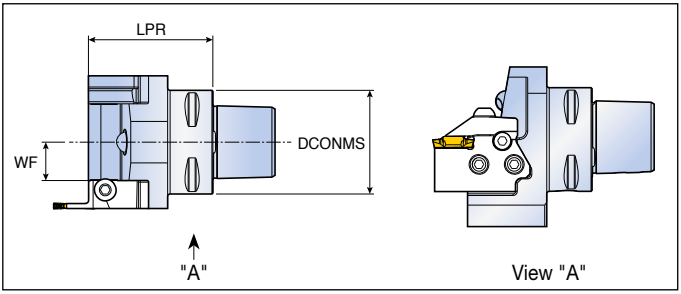
## Spare parts

| Designation | Screw | Security Screw | Sealing Screw | O-Ring | Wrench | |
|---|---|---|---|---|---|---|
| **TCAHPR/L** | TS 60190I | SH M5X0.8X16 | - | - | L-W 4 | - |
| **TCAHPR/L-TB** | TS 60190I | SH M5X0.8X16 | SS M4X0.7X4-NL | O-RING ID5X1T | L-W 4 | L-W 2 |
| | | | | | | |
| | | | | | | |

# C-TCAHN

**Parallel type C-Adapters**





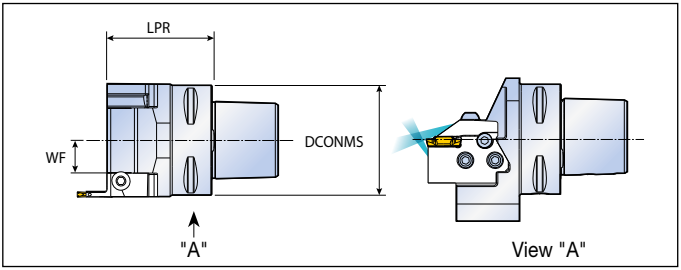

| Designation | Dimension (mm) | | | Cartridge |
|---|---|---|---|---|
| | DCONMS | LPR | WF | |
| **C4-TCAHN** | 40 | 60 | 18.7 | TCAER/L, TCAFR/L |
| **C5-TCAHN** | 50 | 60 | 18.5 | TCAQR/L |
| **C6-TCAHN** | 63 | 60 | 19 | B52-B56 |

▸ Cartridge should be ordered separately

# C-TCAHN-TB

**Parallel type C-Adapters with high pressure coolant**




| Designation | Dimension (mm) | | | Cartridge |
|---|---|---|---|---|
| | DCONMS | LPR | WF | |
| **C4-TCAHN-TB** | 40 | 55 | 11.5 | TCAER/L-TB |
| **C5-TCAHN-TB** | 50 | 58 | 13.7 | TCAQR/L-TB |
| **C6-TCAHN-TB** | 63 | 60 | 18.7 | B53-B56 |

▸ Cartridge should be ordered separately

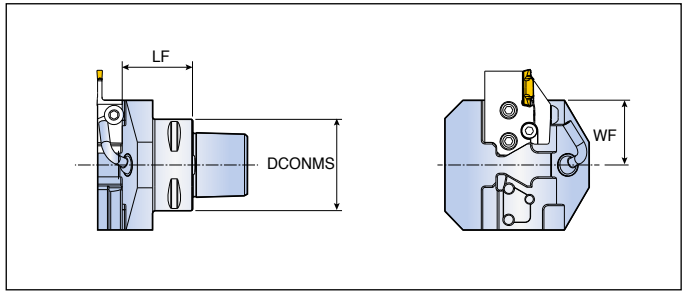
## Spare parts

| Designation | Screw | Security Screw | Sealing Screw | Nozzle | O-Ring | Wrench |
|---|---|---|---|---|---|---|
| **C-TCAHN** | TS 60190I | SH M5X0.8X16 | - | NZ 125 | - | L-W 4 |
| **C-TCAHN-TB** | TS 60190I | SH M5X0.8X16 | SS M4X0.7X4-NL | - | O-RING ID5X1T | L-W 4 / L-W 2 |
| | | | | | | |
| | | | | | | |

# C-TCAHPN

**Perpendicular type C-Adapters**






| Designation | Dimension (mm) | | | Cartridge |
|---|---|---|---|---|
| | DCONMS | LF | WF | |
| **C4-TCAHPN** | 40 | 40.5 | 34 | TCAER/L, TCAFR/L |
| **C5-TCAHPN** | 50 | 38.5 | 35.5 | TCAQR/L |
| **C6-TCAHPN** | 63 | 38.5 | 36 | B52-B56 |

▸ Cartridge should be ordered separately

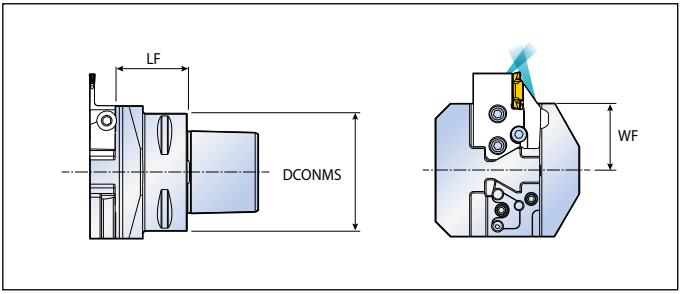
## Spare parts

| Designation | Screw | Security Screw | Nozzle | Pipe | Wrench |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| **C-TCAHPN** | TS 60190I | SH M5X0.8X16 | NZ 125 | NZP 5 | L-W 4 |
| | | | | | |
| | | | | | |
| | | | | | |

# C-TCAHPN-TB

**Perpendicular type C-Adapters with high pressure coolant**






| Designation | Dimension (mm) | | | Cartridge |
|---|---|---|---|---|
| | DCONMS | LF | WF | |
| **C4-TCAHPN-TB** | 40 | 36.5 | 34 | TCAER/L-TB |
| **C5-TCAHPN-TB** | 50 | 36.5 | 35 | TCAQR/L-TB |
| **C6-TCAHPN-TB** | 63 | 38.5 | 35.5 | B53-B56 |

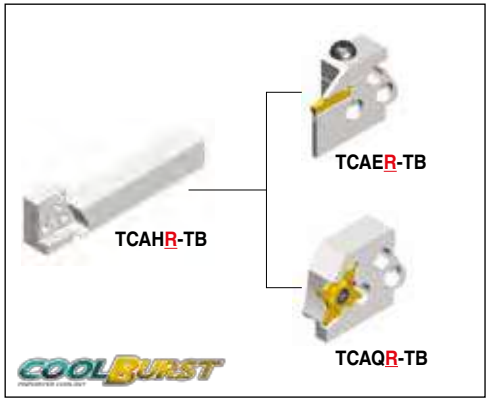
▸ Cartridge should be ordered separately

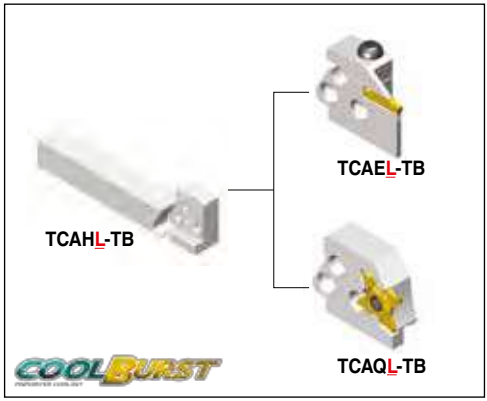
## Spare parts

| Designation | Screw | Security Screw | Sealing Screw | O-Ring | Wrench |
|---|---|---|---|---|---|
| **C-TCAHPN-TB** | TS 60190I | SH M5X0.8X16 | SS M4X0.7X4-NL | O-RING ID5X1T | L-W 4 / L-W 2 |

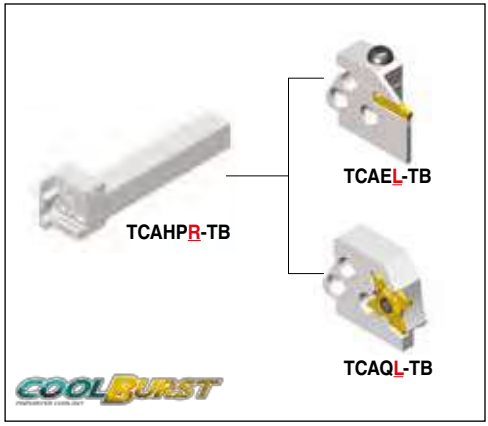
# Cartridge and Holder Selection

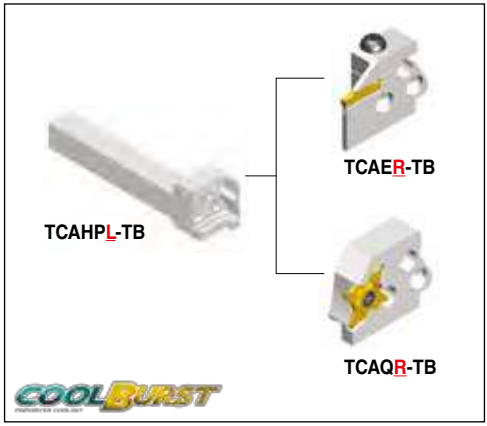
## Parallel type with high pressure coolant



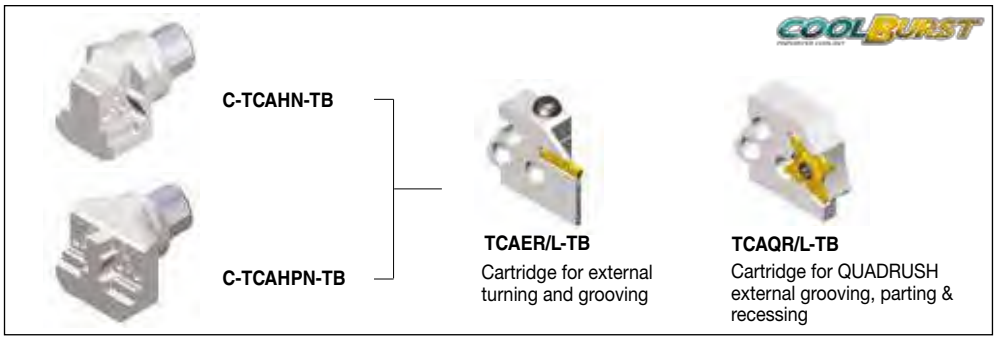




## Perpendicular type with high pressure coolant

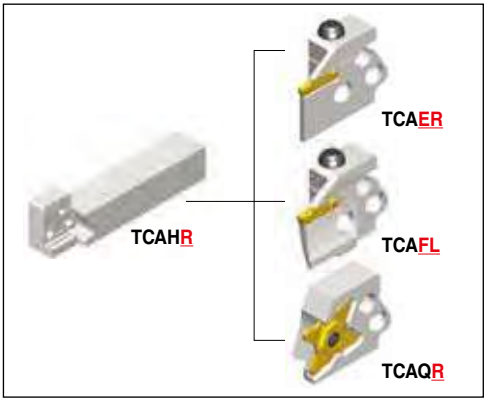


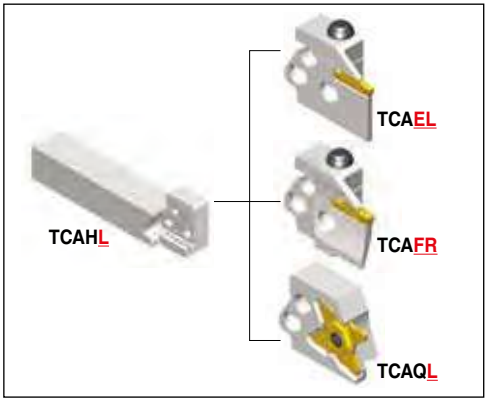




## C-ADAPTER with high pressure coolant

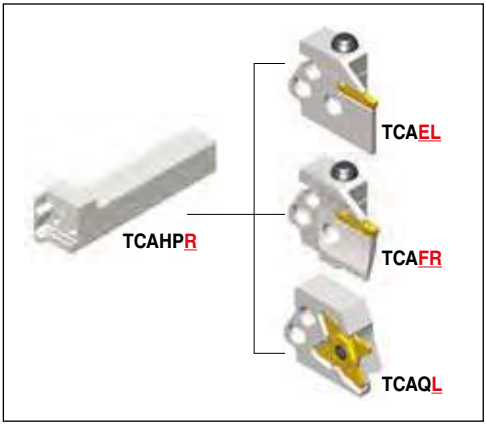


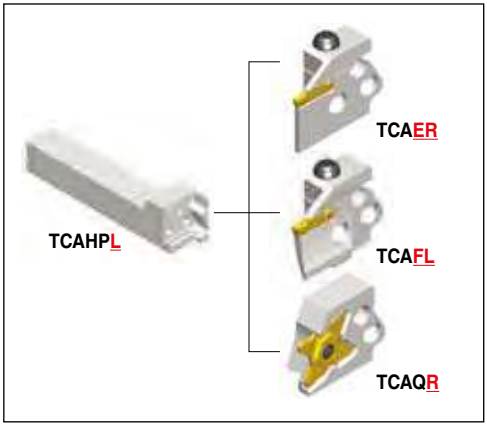
### Parallel type



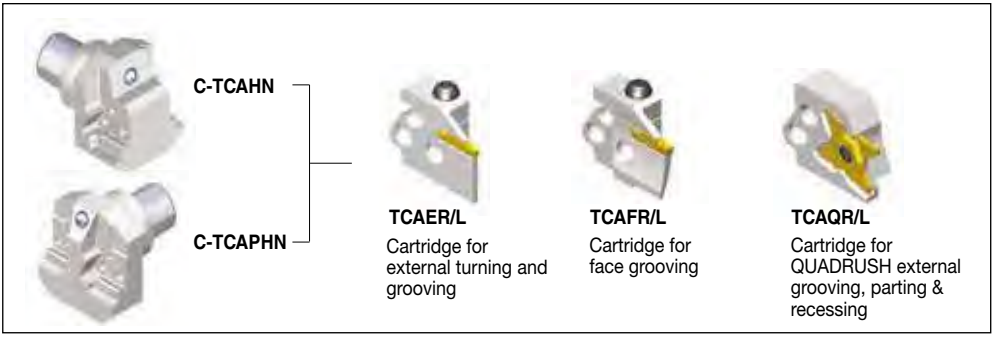




### Perpendicular type



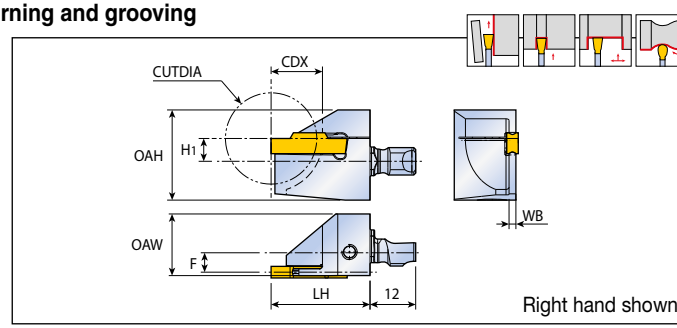

### C-ADAPTER



# QE1 TTER

**Modular heads for external turning and grooving**





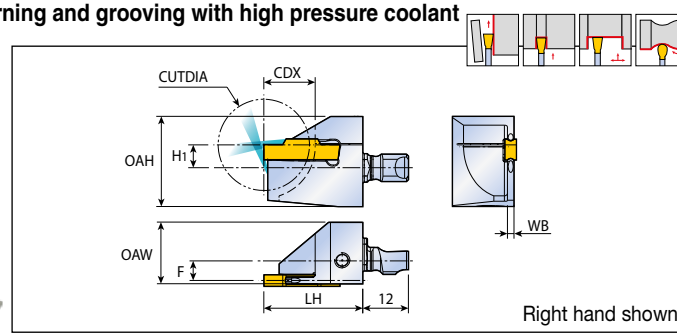

| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OAH | LH | OAW | WB | CDX | CUTDIA | H1 | F | | |
| **QE1 TTER** | **2-12-24** | 2 | 23.7 | 26.0 | 16.2 | 1.8 | 12.0 | 24.0 | 6.0 | 6.1 | QE1 S12N-TB<br>QE1 S16R-TB<br>B68 | TDC/J/V/UF<br>TSC/J<br>TDCT/XU/XY/XT/T<br>B129-B140 |
| | **2-16-32** | 2 | 23.7 | 26.0 | 16.2 | 1.8 | 16.0 | 32.0 | 6.0 | 6.1 | | |
| | **3-12-24** | 3 | 23.7 | 26.0 | 16.2 | 2.4 | 12.0 | 24.0 | 6.0 | 5.8 | | |
| | **3-16-32** | 3 | 23.7 | 26.0 | 16.2 | 2.4 | 16.0 | 32.0 | 6.0 | 5.8 | | |

# QE1 TTER-TB

**Modular heads for external turning and grooving with high pressure coolant**



COOLBURST




| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OAH | LH | OAW | WB | CDX | CUTDIA | H1 | F | | |
| **QE1 TTER** | **2-12-24-TB** | 2 | 23.7 | 26.0 | 16.2 | 1.8 | 12.0 | 24.0 | 6.0 | 6.1 | QE1 S12N-TB<br>QE1 S16R-TB<br>B68 | TDC/J/V/UF<br>TSC/J<br>TDCT/XU/XY/XT/T<br>B129-B140 |
| | **2-16-32-TB** | 2 | 23.7 | 26.0 | 16.2 | 1.8 | 16.0 | 32.0 | 6.0 | 6.1 | | |
| | **3-12-24-TB** | 3 | 23.7 | 26.0 | 16.2 | 2.4 | 12.0 | 24.0 | 6.0 | 5.8 | | |
| | **3-16-32-TB** | 3 | 23.7 | 26.0 | 16.2 | 2.4 | 16.0 | 32.0 | 6.0 | 5.8 | | |

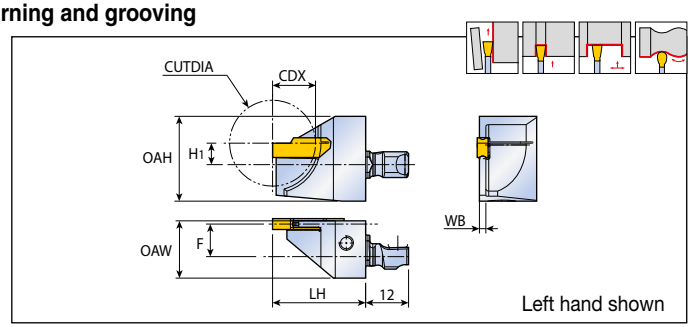
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **QE1 TTER** | SH M4X0.7X16 | L-W 3 | | |
| **QE1 TTER-TB** | SH M4X0.7X16 | L-W 3 | | |

# QE1 TTEL

**Modular heads for external turning and grooving**





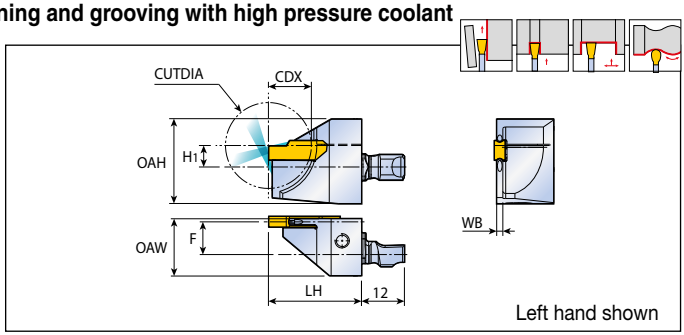

| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OAH | LH | OAW | WB | CDX | CUTDIA | $H_1$ | F | | |
| **QE1 TTEL** | **2-12-24** | 2 | 23.7 | 26.0 | 16.0 | 1.8 | 12.0 | 24.0 | 6.0 | 8.1 | QE1 S12N-TB<br>QE1 S16R-TB<br>B68 | TDC/J/V/UF<br>TSC/J<br>TDCT/XU/XY/XT/T<br>B129-B140 |
| | **2-16-32** | 2 | 23.7 | 26.0 | 16.0 | 1.8 | 16.0 | 32.0 | 6.0 | 8.1 | | |
| | **3-12-24** | 3 | 23.7 | 26.0 | 16.0 | 2.4 | 12.0 | 24.0 | 6.0 | 7.8 | | |
| | **3-16-32** | 3 | 23.7 | 26.0 | 16.0 | 2.4 | 16.0 | 32.0 | 6.0 | 7.8 | | |

# QE1 TTEL-TB

**Modular heads for external turning and grooving with high pressure coolant**



COOLBURST




| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | OAH | LH | OAW | WB | CDX | CUTDIA | $H_1$ | F | | |
| **QE1 TTEL** | **2-12-24-TB** | 2 | 23.7 | 26.0 | 16.0 | 1.8 | 12.0 | 24.0 | 6.0 | 8.1 | QE1 S12N-TB<br>QE1 S16R-TB<br>B68 | TDC/J/V/UF<br>TSC/J<br>TDCT/XU/XY/XT/T<br>B129-B140 |
| | **2-16-32-TB** | 2 | 23.7 | 26.0 | 16.0 | 1.8 | 16.0 | 32.0 | 6.0 | 8.1 | | |
| | **3-12-24-TB** | 3 | 23.7 | 26.0 | 16.0 | 2.4 | 12.0 | 24.0 | 6.0 | 7.8 | | |
| | **3-16-32-TB** | 3 | 23.7 | 26.0 | 16.0 | 2.4 | 16.0 | 32.0 | 6.0 | 7.8 | | |

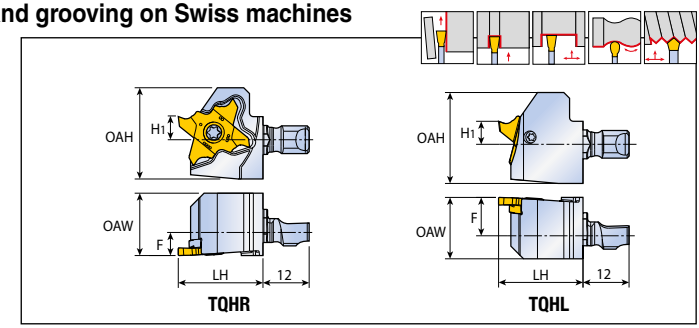
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **QE1 TTEL** | SH M4X0.7X16 | L-W 3 | | |
| **QE1 TTEL-TB** | SH M4X0.7X16 | L-W 3 | | |

# QE1 TQHR/L

## Modular head for parting and grooving on Swiss machines





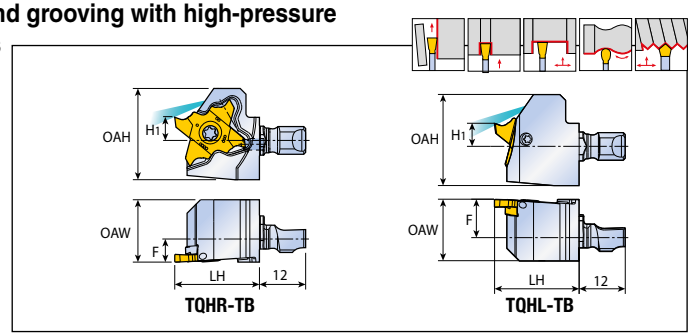

| Designation | | Dimension (mm) | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|
| | | OAH | LH | OAW | H1 | F | | |
| QE1 | **TQHR 20** | 23.7 | 22.0 | 16.2 | 6.0 | 7.0 | QE1 S12N-TB<br>QE1 S16R-TB<br>B68 | TQ...20<br>B149-B150 |
| | **TQHL 20** | 23.7 | 22.0 | 16.0 | 6.0 | 9.0 | | |
| | | | | | | | | |
| | | | | | | | | |

▸ CDX: Refer to insert dimension

# QE1 TQHR/L-TB

## Modular head for parting and grooving with high-pressure coolant on Swiss machines






| Designation | | Dimension (mm) | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|
| | | OAH | LH | OAW | H1 | F | | |
| QE1 | **TQHR 20-TB** | 23.7 | 22.0 | 16.2 | 6.0 | 7.0 | QE1 S12N-TB<br>QE1 S16R-TB<br>B68 | TQ...20<br>B149-B150 |
| | **TQHL 20-TB** | 23.7 | 22.0 | 16.0 | 6.0 | 9.0 | | |
| | | | | | | | | |
| | | | | | | | | |

▸ CDX: Refer to insert dimension

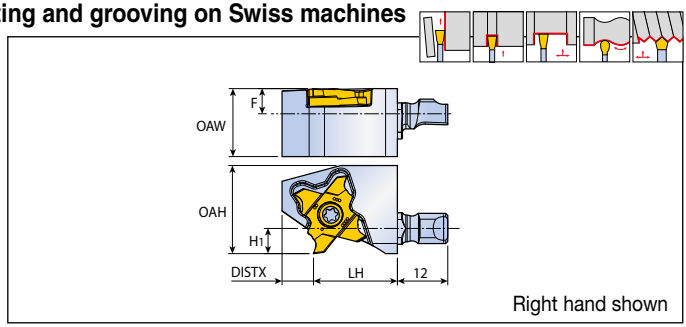
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **QE1 TQHR(-TB)** | TS 40A100L | T-1508/5 | | |
| **QE1 TQHL(-TB)** | TS 40A100 | T-1508/5 | | |

# QE1Y TQHR

**Modular head for Y-axis parting and grooving on Swiss machines**






Right hand shown

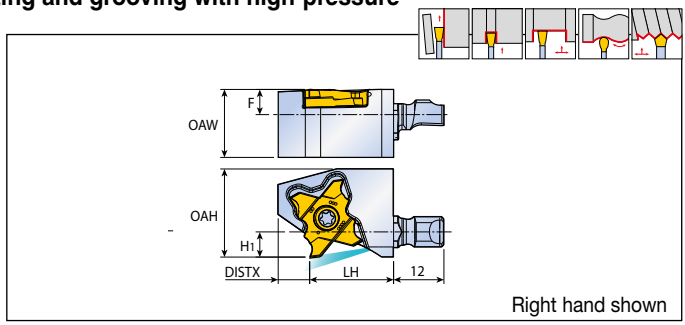
| Designation | Dimensions (mm) | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|
| | OAH | LH | OAW | H1 | F | DISTX | | |
| **QE1Y TQHR 20** | 21.0 | 20.0 | 16.2 | 6.0 | 7.0 | 7.5 | QE1 S12N-TB<br>QE1 S16L-TB<br>B68 | TQ... 20<br>B149-B150 |

▸ CDX: Refer to insert dimension

# QE1Y TQHR-TB

**Modular head for Y-axis parting and grooving with high-pressure coolant on Swiss machines**






Right hand shown

| Designation | Dimensions (mm) | | | | | | Shank | Insert |
|---|---|---|---|---|---|---|---|---|
| | OAH | ALH | OAW | H1 | F | DISTX | | |
| **QE1Y TQHR 20-TB** | 21.0 | 20.0 | 16.2 | 6.0 | 7.0 | 7.5 | QE1 S12N-TB<br>QE1 S16L-TB<br>B68 | TQ... 20<br>B149-B150 |

▸ CDX: Refer to insert dimension

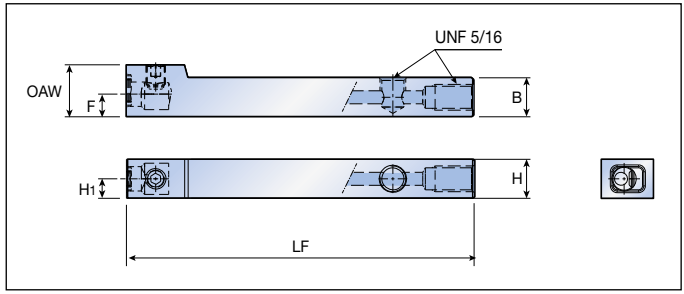
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **QE1Y TQHR 20(-TB)** | TS 40A100L | T-1508/5 | | |
| | | | | |

# QE1 S12N-TB

**High pressure coolant shanks for WIN-SWISS modular head**





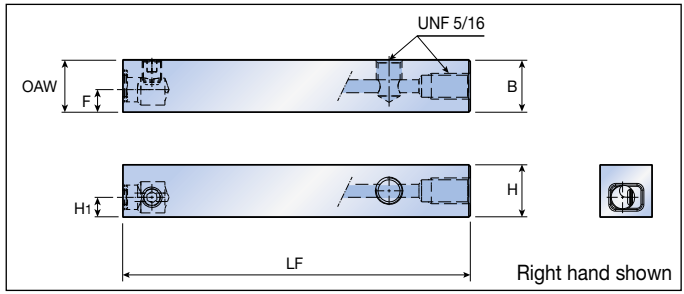

| Designation | Dimension (mm) | | | | | | Modular head |
|---|---|---|---|---|---|---|---|
| | H | H1 | B | LF | OAW | F | |
| **QE1 S12N-TB** | 12 | 6 | 12 | 107 | 16 | 7 | QE1...R/L(-TB) B64-B67 |
| | | | | | | | |
| | | | | | | | |

▸ Please refer to B122 page for COOL-BURST accessories

# QE1 S16R/L-TB

**High pressure coolant shanks for WIN-SWISS modular head**






| Designation | Dimension (mm) | | | | | | Modular head |
|---|---|---|---|---|---|---|---|
| | H | H1 | B | LF | OAW | F | |
| **QE1 S16R/L-TB** | 16 | 6 | 16 | 107 | 16 | 7 | QE1...R/L(-TB) B64-B67 |
| | | | | | | | |
| | | | | | | | |

▸ Please refer to B122 page for COOL-BURST accessories

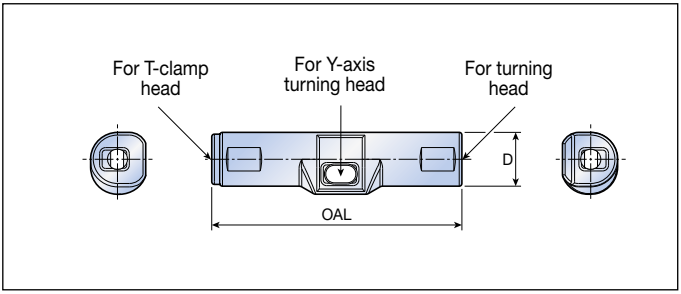
## Spare parts

| Designation | Screw | Plug | Wrench | |
|---|---|---|---|---|
| | | | | |
| **QE1 ...-TB** | SS M6F-7 | PLG 5/16 UNF | L-W 3 | L-W 5/32 |
| | | | | |

# QE1 FIX-20100

**Insert replacement fixture**






| Designation | | Dimensions (mm) | |
|---|---|---|---|
| | | OAL | D |
| **QE1** | **FIX-20100** | 93.0 | 20.0 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

▸ Fixture ordered seperately

# Insert replacement

▸ Due to the WIN-SWISS' small head sizes, replacing the inserts could be difficult.
Please use the fixture to facilitate insert replacement.

▸ Y-axis turning head



▸ T-clamp head



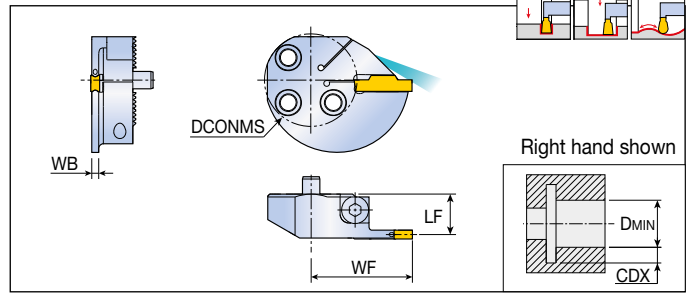
▸ Turning head



# QH-TTIR/L-TB

## Internal boring head for turning and grooving with high pressure coolant






| Designation | Insert seat size | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | DCONMS | LF | WF | WB | CDX | DMIN | |
| **QH25 TTIR/L-2T12-TB** | 2 | 25 | 14.3 | 32.0 | 1.8 | 12 | 58 | TDC/J/V/UF<br>TSC/J<br>TDCT/XU/XY/XT/T<br>B129-B140 |
| **QH32 TTIR/L-2T12-TB** | 2 | 32 | 14.3 | 35.0 | 1.8 | 12 | 58 | |
| **QH25 TTIR/L-3T12-TB** | 3 | 25 | 14.0 | 32.0 | 2.4 | 12 | 58 | |
| **QH32 TTIR/L-3T12-TB** | 3 | 32 | 14.0 | 35.0 | 2.4 | 12 | 58 | |
| **QH40 TTIR/L-3T12-TB *** | 3 | 40 | 14.0 | 38.5 | 2.4 | 12 | 60 * | |
| **QH32 TTIR/L-4T12-TB** | 4 | 32 | 13.7 | 35.0 | 3.0 | 12 | 58 | |
| **QH40 TTIR/L-4T12-TB *** | 4 | 40 | 13.7 | 38.5 | 3.0 | 12 | 60 * | |
| **QH32 TTIR/L-5T17-TB** | 5 | 32 | 15.1 | 40.0 | 3.9 | 17 | 58 | |
| **QH40 TTIR/L-5T17-TB *** | 5 | 40 | 15.1 | 43.0 | 3.9 | 17 | 64 * | |
| **QH40 TTIR/L-6T17-TB *** | 6 | 40 | 14.6 | 43.0 | 4.9 | 17 | 64 * | |

▸ *: When applying Ø50 mm shanks, add +10 mm to the DMIN. When applying Ø60 mm shanks, add +20 mm to the DMIN.

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **QH-TTIR/L-TB** | SH M5X0.8X16 | L-W 4 | | |

## Anti-vibration shanks for boring

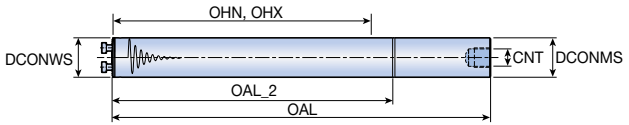





Fig.1



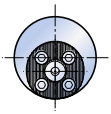



Fig.2

| Designation | Demension (mm) | | | | | | | Coolant hole | Fig. |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | DCONWS | OAL | OAL_2 | OHN | OHX | CNT | | |
| **QS25A-7D** | 25 | 25 | 257.5 | 155 | 88 | 155 | G 1/4 | ● | 1 |
| **QS25A-10D** | 25 | 25 | 332.5 | 255 | 155 | 230 | G 1/4 | ● | 1 |
| **QS25E-12D**(1) | 25 | 25 | 380.0 | - | 230 | 280 | G 1/8 | ● | 1 |
| **QS25E-14D**(1) | 25 | 25 | 430.0 | - | 280 | 330 | G 1/8 | ● | 1 |
| **QS32A-7D** | 32 | 32 | 323.0 | 190 | 120 | 192 | G 3/8 | ● | 1 |
| **QS32A-10D** | 32 | 32 | 419.0 | 320 | 192 | 288 | G 3/8 | ● | 1 |
| **QS32E-12D**(1) | 32 | 32 | 480.0 | - | 288 | 352 | G 1/4 | ● | 1 |
| **QS32E-14D**(1) | 32 | 32 | 544.0 | - | 352 | 416 | G 1/4 | ● | 1 |
| **QS40A-7D** | 40 | 40 | 411.0 | 240 | 128 | 251 | G 1/2 | ● | 1 |
| **QS40A-10D** | 40 | 40 | 531.0 | 410 | 248 | 368 | G 1/2 | ● | 1 |
| **QS40E-12D**(1) | 40 | 40 | 608.0 | - | 368 | 448 | G 3/8 | ● | 1 |
| **QS40E-14D**(1) | 40 | 40 | 688.0 | - | 448 | 528 | G 3/8 | ● | 1 |
| **QS50A-7D** | 50 | 40 | 523.0 | 305 | 168 | 318 | G 1/2 | ● | 2 |
| **QS50A-10D** | 50 | 40 | 673.0 | 520 | 318 | 468 | G 1/2 | ● | 2 |
| **QS50E-12D**(1) | 50 | 40 | 768.0 | - | 468 | 568 | G 1/2 | ● | 2 |
| **QS50E-14D**(1) | 50 | 40 | 868.0 | - | 568 | 668 | G 1/2 | ● | 2 |
| **QS60A-7D** | 60 | 40 | 633.0 | 380 | 208 | 388 | G 3/4 | ● | 2 |
| **QS60A-10D** | 60 | 40 | 813.0 | 630 | 388 | 568 | G 3/4 | ● | 2 |
| **QS60E-12D**(1) | 60 | 40 | 920.0 | - | 588 | 688 | G 3/4 | ● | 2 |
| **QS60E-14D**(1) | 60 | 40 | 1040.0 | - | 688 | 808 | G 3/4 | ● | 2 |
| | | | | | | | | | |
| | | | | | | | | | |

- (1) Carbide shank
- OHN: Minimum overhang
- OHX: Maximum overhang
- OAL_2: Minimum length after shortening(only steel bar can be shortened)
- Refer to A221 page for C-Adapter connection

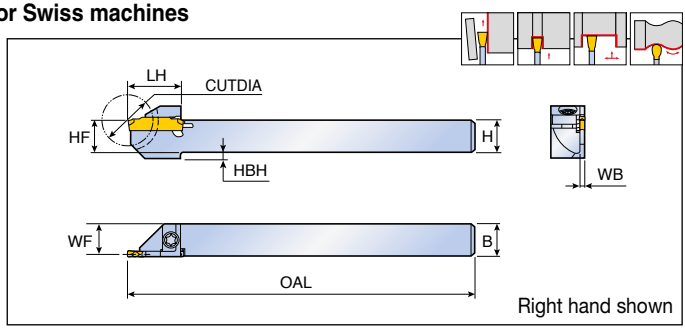
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **QS16** | SH M3x0.5X10 | L-W 2.5 | | |
| **QS20** | SH M3.5x0.6X10 | L-W 2.5 | | |
| **QS25** | SH M4x0.7X12 | L-W 3 | | |
| **QS32** | SH M5x0.8X12 | L-W 4 | | |
| **QS40/50/60** | SH M6x1X16 | L-W 5 | | |

# TTER/L-SH

**Parting and grooving holder for Swiss machines**






| Designation | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H(HF) | B | OAL | LH | WF | WB | HBH | CUTDIA | |
| **TTER/L 10-20-1.4SH** | 1* | 10 | 10 | 125 | 18 | 9.5 | 1.0 | - | 20 | TDJ 1.4 |
| **12-24-1.4SH** | 1* | 12 | 12 | 125 | 19.5 | 11.5 | 1.0 | - | 24 | B131 |
| **16-32-1.4SH** | 1* | 16 | 16 | 125 | 24 | 15.5 | 1.0 | - | 32 | |
| **10-20-2SH** | 2 | 10 | 10 | 125 | 19 | 9.1 | 1.8 | 2 | 20 | TDC/J/V/UF |
| **12-24-2SH** | 2 | 12 | 12 | 125 | 19 | 11.1 | 1.8 | 2 | 24 | TSC/J |
| **14-24-2SH** | 2 | 14 | 14 | 125 | 19 | 13.1 | 1.8 | - | 24 | TDCT/XU/XY/XT/T |
| **16-32-2SH** | 2 | 16 | 16 | 125 | 24 | 15.1 | 1.8 | - | 32 | B129-B140 |
| **12-24-3SH** | 3 | 12 | 12 | 125 | 19 | 10.8 | 2.4 | 2 | 24 | |
| **16-32-3SH** | 3 | 16 | 16 | 125 | 24 | 14.8 | 2.4 | - | 32 | |
| **16-38-3SH** | 3 | 16 | 16 | 125 | 27 | 14.8 | 2.4 | - | 38 | |
| **20-45-3SH** | 3 | 20 | 20 | 125 | 30.5 | 18.8 | 2.4 | - | 45 | |

▸ *: TDJ 1.4 insert only

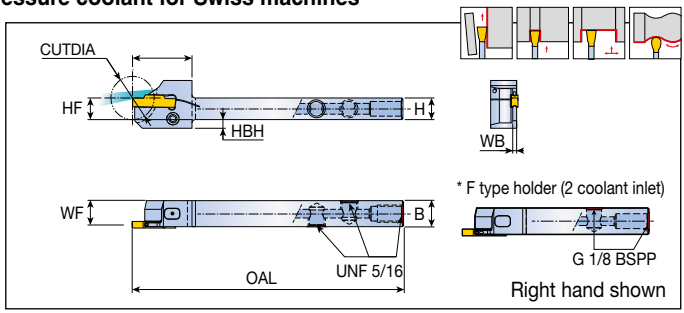
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTER/L- SH** | TS 40A115I | T 15 | | |
| | | | | |
| | | | | |
| | | | | |

# TTER/L-SH-TB

**Side lock holders with high pressure coolant for Swiss machines**




| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H(HF) | B | OAL | LH | WF | WB | HBH | CUTDIA | |
| **TTER/L** | **12-24-2SH-TB-F** | 2 | 12 | 12 | 85 | 27.5 | 11.1 | 1.8 | 2 | 24 | TDC/J/V/UF |
| | **12-24-2SH-TB** | 2 | 12 | 12 | 125 | 27.5 | 11.1 | 1.8 | 2 | 24 | TSC/J |
| | **16-32-2SH-TB** | 2 | 16 | 16 | 125 | 31.5 | 15.1 | 1.8 | - | 32 | TDCT/XU/XY/XT/T |
| | **12-24-3SH-TB** | 3 | 12 | 12 | 125 | 27.5 | 10.8 | 2.4 | 2 | 24 | B129-B140 |
| | **16-32-3SH-TB** | 3 | 16 | 16 | 125 | 31.5 | 14.8 | 2.4 | - | 32 | |
| | **16-38-3SH-TB** | 3 | 16 | 16 | 125 | 34.5 | 14.8 | 2.4 | - | 38 | |
| | **20-45-3SH-TB** | 3 | 20 | 20 | 125 | 38 | 18.8 | 2.4 | - | 45 | |

▸ Please refer to B122 page for COOL-BURST accessories

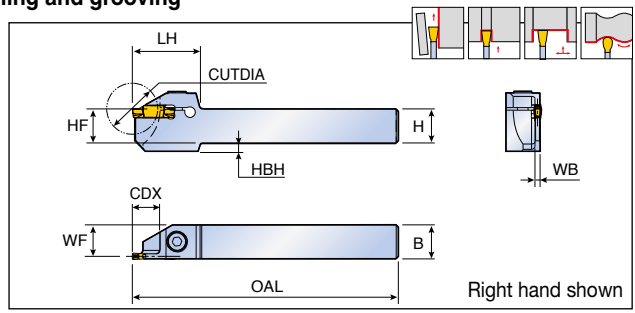
## Spare parts

| Designation | Pin | Clamping screw | Pin plug | Inlet plug | Wrench | |
|---|---|---|---|---|---|---|
| **TTER/L…SH-TB** | PIN-SH-TB-L21 | SS M5-24145 | SS M5x3.5 ULTEM 2300 | PLG 5/16 UNF | L-W 2.5F | L-W 5/32 |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# TTER/L-D

**Reinforced holders for external turning and grooving**






| Designation | Insert seat size | Dimension (mm) | | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H(HF) | B | OAL | LH | WF | WB | HBH | CDX | CUTDIA | |
| **TTER/L 1010-1.4T15-D40** | 1* | 10 | 10 | 125 | 32 | 9.5 | 1.0 | 6 | 15 | 40 | TDJ 1.4 |
| **1212-1.4T15-D40** | 1* | 12 | 12 | 125 | 32 | 11.5 | 1.0 | 4 | 15 | 40 | B131 |
| **1616-1.4T20-D45** | 1* | 16 | 16 | 125 | 38 | 15.5 | 1.0 | 4 | 20 | 45 | |
| **2020-1.4T20-D45** | 1* | 20 | 20 | 125 | 38 | 19.5 | 1.0 | - | 20 | 45 | |
| **1010-2T15-D40** | 2 | 10 | 10 | 125 | 32 | 9.1 | 1.8 | 6 | 15 | 40 | TDC/J/V/UF |
| **1212-2T15-D40** | 2 | 12 | 12 | 125 | 32 | 11.1 | 1.8 | 4 | 15 | 40 | TSC/J |
| **1616-2T20-D45** | 2 | 16 | 16 | 125 | 38 | 15.1 | 1.8 | 4 | 20 | 45 | TDCT/XU/XY/XT/T |
| **2020-2T20-D45** | 2 | 20 | 20 | 125 | 38 | 19.1 | 1.8 | - | 20 | 45 | B129-B140 |
| **2525-2T20-D45** | 2 | 25 | 25 | 150 | 38 | 24.1 | 1.8 | - | 20 | 45 | |
| **1212-3T15-D40** | 3 | 12 | 12 | 125 | 32 | 10.8 | 2.4 | 4 | 15 | 40 | |
| **1616-3T20-D45** | 3 | 16 | 16 | 125 | 38 | 14.8 | 2.4 | 4 | 20 | 45 | |
| **2020-3T20-D45** | 3 | 20 | 20 | 125 | 38 | 18.8 | 2.4 | - | 20 | 45 | |
| **2525-3T20-D45** | 3 | 25 | 25 | 150 | 38 | 23.8 | 2.4 | - | 20 | 45 | |
| **2525-3T25-D60** | 3 | 25 | 25 | 150 | 43 | 23.8 | 2.4 | - | 25 | 60 | |

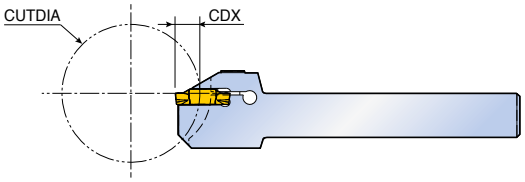
▸ *: TDJ 1.4 insert only

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTER/L-D** | SH M5x0.8x16 | L-W 4 | | |
| | | | | |
| | | | | |
| | | | | |

# TTER/L-D

## Machining depth for diameter of workpiece




| Designation | | CDX | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| **TTER/L 1010-1.4T15-D40** | CUTDIA | | | | | N.L. | | | | | | 269 | 120 | 79 |
| **1212-1.4T15-D40** | | | | | | N.L. | | | | | | 269 | 120 | 79 |
| **1616-1.4T20-D45** | | | | | | N.L. | | | | | | | | 432 |
| **2020-1.4T20-D45** | | | | | | N.L. | | | | | | | | 432 |
| **1010-2T15-D40** | | | | | | N.L. | | | | | | 269 | 120 | 79 |
| **1212-2T15-D40** | | | | | | N.L. | | | | | | 269 | 120 | 79 |
| **1616-2T20-D45** | | | | | | N.L. | | | | | | | | 432 |
| **2020-2T20-D45** | | | | | | N.L. | | | | | | | | 432 |
| **2525-2T20-D45** | | | | | | N.L. | | | | 1468 | 339 | 193 | 136 | 106 |
| **1212-3T15-D40** | | | | | | N.L. | | | | | | 269 | 120 | 79 |
| **1616-3T20-D45** | | | | | | N.L. | | | | | | | | 432 |
| **2020-3T20-D45** | | | | | | N.L. | | | | | | | | 432 |
| **2525-3T20-D45** | | | | | | N.L. | | | | 1468 | 339 | 193 | 136 | 106 |
| **2525-3T25-D60** | | | | | | N.L. | | | | | | | | |

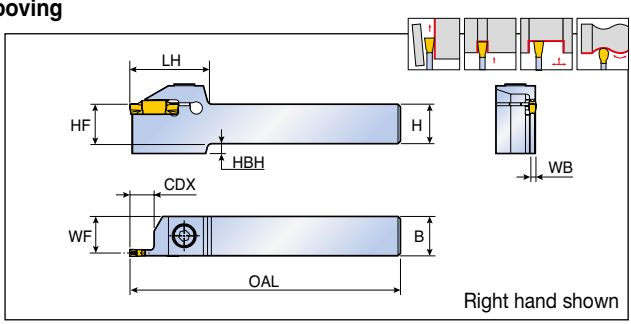
▸ N.L.: No limit

| Designation | | CDX | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | |
| **TTER/L 1010-1.4T15-D40** | CUTDIA | 59 | 40 | | | | | | | | | | | |
| **1212-1.4T15-D40** | | 59 | 40 | | | | | | | | | | | |
| **1616-1.4T20-D45** | | 193 | 125 | 94 | 76 | 64 | 57 | 45 | | | | | | |
| **2020-1.4T20-D45** | | 193 | 125 | 94 | 76 | 64 | 57 | 45 | | | | | | |
| **1010-2T15-D40** | | 59 | 40 | | | | | | | | | | | |
| **1212-2T15-D40** | | 59 | 40 | | | | | | | | | | | |
| **1616-2T20-D45** | | 193 | 125 | 94 | 76 | 64 | 57 | 45 | | | | | | |
| **2020-2T20-D45** | | 193 | 125 | 94 | 76 | 64 | 57 | 45 | | | | | | |
| **2525-2T20-D45** | | 87 | 75 | 67 | 60 | 56 | 52 | 45 | | | | | | |
| **1212-3T15-D40** | | 59 | 40 | | | | | | | | | | | |
| **1616-3T20-D45** | | 193 | 125 | 94 | 76 | 64 | 57 | 45 | | | | | | |
| **2020-3T20-D45** | | 193 | 125 | 94 | 76 | 64 | 57 | 45 | | | | | | |
| **2525-3T20-D45** | | 87 | 75 | 67 | 60 | 56 | 52 | 45 | | | | | | |
| **2525-3T25-D60** | | | | 1810 | 418 | 237 | 167 | 130 | 107 | 91 | 81 | 73 | 60 | |

# TTER/L

## Holders for external turning and grooving



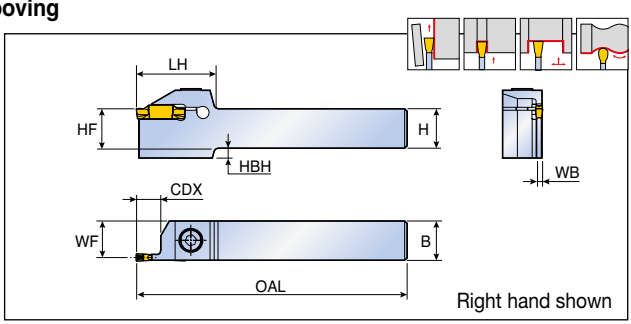



| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H(HF) | B | OAL | LH | WF | WB | HBH | CDX | |
| **TTER/L** | **1616-2T08** | 2 | 16 | 16 | 110 | 30.0 | 15.1 | 1.8 | 4 | 8 | TDC/J/V/UF |
| | **2020-2T08** | 2 | 20 | 20 | 125 | 30.0 | 19.1 | 1.8 | - | 8 | TSC/J |
| | **2525-2T08** | 2 | 25 | 25 | 150 | 30.0 | 24.1 | 1.8 | - | 8 | TDCT/XU/XY/XT/T |
| | **1616-2** | 2 | 16 | 16 | 110 | 32.0 | 15.1 | 1.8 | 4 | 12 | B129-B140 |
| | **2020-2** | 2 | 20 | 20 | 125 | 32.0 | 19.1 | 1.8 | - | 12 | |
| | **2525-2** | 2 | 25 | 25 | 150 | 32.0 | 24.1 | 1.8 | - | 12 | |
| | **1616-2T17** | 2 | 16 | 16 | 110 | 37.0 | 15.1 | 1.8 | 4 | 17 | |
| | **2020-2T17** | 2 | 20 | 20 | 125 | 37.0 | 19.1 | 1.8 | - | 17 | |
| | **2525-2T17** | 2 | 25 | 25 | 150 | 37.0 | 24.1 | 1.8 | - | 17 | |
| **TTER/L** | **1616-3T09** | 3 | 16 | 16 | 110 | 30.0 | 14.8 | 2.4 | 4 | 9 | |
| | **2020-3T09** | 3 | 20 | 20 | 125 | 30.0 | 18.8 | 2.4 | - | 9 | |
| | **2525-3T09** | 3 | 25 | 25 | 150 | 30.0 | 23.8 | 2.4 | - | 9 | |
| | **1616-3** | 3 | 16 | 16 | 110 | 32.0 | 14.8 | 2.4 | 4 | 12 | |
| | **2020-3** | 3 | 20 | 20 | 125 | 32.0 | 18.8 | 2.4 | - | 12 | |
| | **2525-3** | 3 | 25 | 25 | 150 | 32.0 | 23.8 | 2.4 | - | 12 | |
| | **1616-3T20** | 3 | 16 | 16 | 110 | 38.5 | 14.8 | 2.4 | - | 20 | |
| | **2020-3T20** | 3 | 20 | 20 | 125 | 38.5 | 18.8 | 2.4 | - | 20 | |
| | **2525-3T20** | 3 | 25 | 25 | 150 | 38.5 | 23.8 | 2.4 | - | 20 | |
| | **2525-3T25** | 3 | 25 | 25 | 150 | 44.5 | 23.8 | 2.4 | - | 25 | |
| | **3232-3T20** | 3 | 32 | 32 | 170 | 38.5 | 30.8 | 2.4 | - | 20 | |
| **TTER/L** | **1616-4T10** | 4 | 16 | 16 | 110 | 32.0 | 14.5 | 3.0 | 4 | 10 | |
| | **2020-4T10** | 4 | 20 | 20 | 125 | 32.0 | 18.5 | 3.0 | - | 10 | |
| | **2525-4T10** | 4 | 25 | 25 | 150 | 32.0 | 23.5 | 3.0 | - | 10 | |
| | **1616-4** | 4 | 16 | 16 | 110 | 33.0 | 14.5 | 3.0 | 4 | 15 | |
| | **2020-4** | 4 | 20 | 20 | 125 | 33.0 | 18.5 | 3.0 | - | 15 | |
| | **2525-4** | 4 | 25 | 25 | 150 | 33.0 | 23.5 | 3.0 | - | 15 | |
| | **1616-4T25** | 4 | 16 | 16 | 110 | 45.0 | 14.5 | 3.0 | - | 25 | |
| | **2020-4T25** | 4 | 20 | 20 | 125 | 45.0 | 18.5 | 3.0 | - | 25 | |
| | **2525-4T25** | 4 | 25 | 25 | 150 | 45.0 | 23.5 | 3.0 | - | 25 | |
| | **2525-4T30** | 4 | 25 | 25 | 150 | 51.0 | 23.5 | 3.0 | - | 30 | |
| | **3232-4T25** | 4 | 32 | 32 | 170 | 45.0 | 30.5 | 3.0 | - | 25 | |
| **TTER/L** | **2020-5T12** | 5 | 20 | 20 | 125 | 35.0 | 18.1 | 3.9 | - | 12 | |
| | **2525-5T12** | 5 | 25 | 25 | 150 | 35.0 | 23.1 | 3.9 | - | 12 | |
| | **2020-5** | 5 | 20 | 20 | 125 | 37.0 | 18.1 | 3.9 | - | 20 | |
| | **2525-5** | 5 | 25 | 25 | 150 | 37.0 | 23.1 | 3.9 | - | 20 | |
| | **2525-5T32** | 5 | 25 | 25 | 150 | 56.0 | 23.0 | 3.9 | - | 32 | |
| | **3232-5T20** | 5 | 32 | 32 | 170 | 39.0 | 30.0 | 3.9 | - | 20 | |
| | **3232-5T32** | 5 | 32 | 32 | 170 | 56.0 | 30.0 | 3.9 | - | 32 | |

# TTER/L

## Holders for external turning and grooving






| Designation | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H(HF) | B | OAL | LH | WF | WB | HBH | CDX | |
| **TTER/L 2020-6T12** | 6 | 20 | 20 | 125 | 37 | 17.6 | 4.9 | - | 12 | TDC/J/V/UF |
| **2525-6T12** | 6 | 25 | 25 | 150 | 37 | 22.6 | 4.9 | 7 | 12 | TSC/J |
| **2020-6** | 6 | 20 | 20 | 125 | 41 | 17.6 | 4.9 | - | 20 | TDCT/XU/XY/XT/T |
| **2525-6** | 6 | 25 | 25 | 150 | 41 | 22.6 | 4.9 | 7 | 20 | B129-B140 |
| **2525-6T32** | 6 | 25 | 25 | 150 | 56 | 22.5 | 4.9 | 7 | 32 | |
| **3232-6T20** | 6 | 32 | 32 | 170 | 41 | 29.5 | 4.9 | - | 20 | |
| **3232-6T25** | 6 | 32 | 32 | 170 | 46 | 29.5 | 4.9 | - | 25 | |
| **3232-6T32** | 6 | 32 | 32 | 170 | 56 | 29.5 | 4.9 | - | 32 | |
| **TTER/L 2525-8T16** | 8 | 25 | 25 | 150 | 40 | 22.1 | 5.9 | 7 | 16 | |
| **2525-8** | 8 | 25 | 25 | 150 | 47 | 22.1 | 5.9 | 7 | 25 | |
| **3232-8** | 8 | 32 | 32 | 170 | 47 | 29.1 | 5.9 | - | 25 | |
| **2525-8T36** | 8 | 25 | 25 | 150 | 60 | 22.1 | 5.9 | 7 | 36 | |
| **3232-8T36** | 8 | 32 | 32 | 170 | 60 | 29.1 | 5.9 | - | 36 | |
| **TTER/L 2525-10T25** | 10 | 25 | 25 | 150 | 50 | 21.1 | 7.9 | 7 | 25 | |
| **3232-10T25** | 10 | 32 | 32 | 170 | 50 | 28.1 | 7.9 | - | 25 | |
| **4040-10T25** | 10 | 40 | 40 | 200 | 50 | 36.1 | 7.9 | - | 25 | |

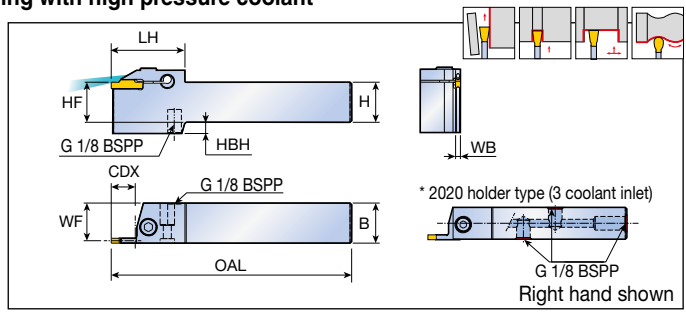
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TTER/L 1616-2/3** | SH M5x0.8x16 | L-W 4 | | |
| **TTER/L 2020-2/3** | SH M5x0.8x20 | L-W 4 | | |
| **TTER/L 2525-2/3** | SH M5x0.8x25 | L-W 4 | | |
| **TTER/L 3232-3** | SH M5x0.8x25 | L-W 4 | | |
| **TTER/L 1616-4/5** | SH M6x1x16 | L-W 5 | | |
| **TTER/L 2020-4/5** | SH M6x1x20 | L-W 5 | | |
| **TTER/L 2525-4/5** | SH M6x1x25 | L-W 5 | | |
| **TTER/L 3232-4/5** | SH M6x1x25 | L-W 5 | | |
| **TTER/L 2020-6** | SH M8x1.25x20 | L-W 6 | | |
| **TTER/L 2525-6/8** | SH M8x1.25x25 | L-W 6 | | |
| **TTER/L 3232-6/8/10** | SH M8x1.25x25 | L-W 6 | | |
| **TTER/L 4040-10** | SH M8x1.25x25 | L-W 6 | | |

# TTER/L-TB

**Holders for turning and grooving with high pressure coolant**






| Designation | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H(HF) | B | OAL | LH | WF | WB | HBH | CDX | |
| **TTER/L2020-2T12-TB** | 2 | 20 | 20 | 125 | 43 | 19.1 | 1.8 | - | 12 | TDC/J/V/UF |
| **2525-2T12-TB** | 2 | 25 | 25 | 150 | 43 | 24.1 | 1.8 | - | 12 | TSC/J |
| **2020-3-TB** | 3 | 20 | 20 | 125 | 43 | 18.8 | 2.4 | - | 12 | TDCT/XU/XY/XT/T |
| **2020-4-TB** | 4 | 20 | 20 | 125 | 46 | 18.5 | 3.0 | - | 15 | B129-B140 |
| **2525-3-TB** | 3 | 25 | 25 | 150 | 43 | 23.8 | 2.4 | - | 12 | |
| **2525-3T25-TB** | 3 | 25 | 25 | 150 | 51 | 23.8 | 2.4 | - | 25 | |
| **2525-4-TB** | 4 | 25 | 25 | 150 | 46 | 23.5 | 3.0 | - | 15 | |
| **2525-5-TB** | 5 | 25 | 25 | 150 | 49 | 23.1 | 3.9 | - | 20 | |
| **2525-6-TB** | 6 | 25 | 25 | 150 | 52 | 22.6 | 4.9 | 7 | 20 | |
| **2525-8-TB** | 8 | 25 | 25 | 150 | 58 | 22.1 | 5.9 | 7 | 25 | |

▸ Please refer to B122 page for COOL-BURST accessories

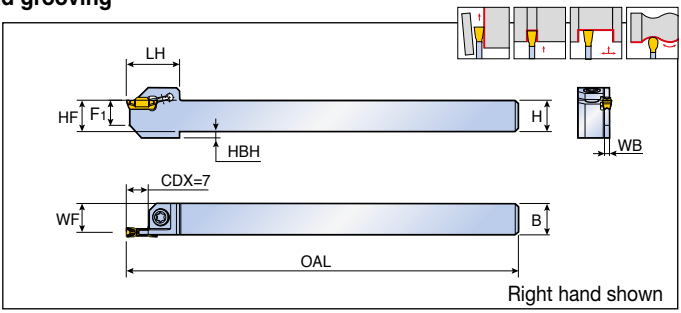
## Spare parts

| Designation | Screw | Plug | | Wrench |
|---|---|---|---|---|
| **TTER/L 2020-2/3-TB** | SH M5x0.8x20 | PLG G1/8-L6.5 | - | L-W 4, L-W 5 |
| **TTER/L 2020-4-TB** | SH M6x1.0x20 | PLG G1/8-L6.5 | - | L-W 5 |
| **TTER/L 2525-2/3-TB** | SH M5x0.8x20 | - | PLG G1/8-T8.0-L12.3 | L-W 4, L-W 5 |
| **TTER/L 2525-4/5-TB** | SH M6x1.0x20 | - | PLG G1/8-T8.0-L12.3 | L-W 5 |
| **TTER/L 2525-6/8-TB** | SH M8x1.25x20 | - | PLG G1/8-T8.0-L12.3 | L-W 5, L-W 6 |

# TTSER/L

## Holders for external turning and grooving






| Designation | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H(HF) | B | OAL | LH | WF | WB | F1 | HBH | |
| **TTSER/L 1010-2T7** | 2 | 10 | 10 | 125 | 17 | 9.2 | 1.6 | 8 | 2 | TDIM/TDIP |
| **1212-2T7** | 2 | 12 | 12 | 125 | 17 | 11.2 | 1.6 | 8 | - | |
| **1616-2T7** | 2 | 16 | 16 | 125 | 20 | 15.2 | 1.6 | 11 | - | B142,B143 |
| **2020-2T7** | 2 | 20 | 20 | 125 | 20 | 19.2 | 1.6 | 14 | - | |
| **2525-2T7** | 2 | 25 | 25 | 125 | 20 | 24.2 | 1.6 | 18 | - | |
| **1010-3T7** | 3 | 10 | 10 | 125 | 17 | 8.8 | 2.4 | 8 | 2 | |
| **1212-3T7** | 3 | 12 | 12 | 125 | 17 | 10.8 | 2.4 | 8 | - | |
| **1616-3T7** | 3 | 16 | 16 | 125 | 20 | 14.8 | 2.4 | 11 | - | |
| **2020-3T7** | 3 | 20 | 20 | 125 | 20 | 18.8 | 2.4 | 14 | - | |
| **2525-3T7** | 3 | 25 | 25 | 125 | 20 | 23.8 | 2.4 | 18 | - | |

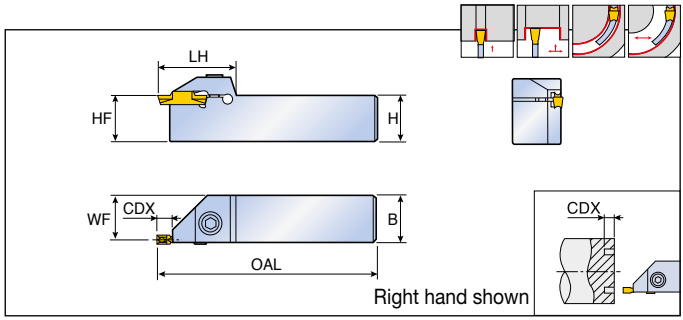
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TTSER/L** | TS 40097I | T 15 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# TGFR/L

## Holders for shallow grooving






| Designation | Insert seat size | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H(HF) | B | OAL | LH | WF | CDX | |
| **TGFR/L 1616-4** | 2, 3, 4 | 16 | 16 | 110 | 33 | 14.5 | 4.8 | TDC/J/V/UF |
| **2020-4** | 2, 3, 4 | 20 | 20 | 125 | 33 | 18.5 | 4.8 | TSC/J |
| **2525-4** | 2, 3, 4 | 25 | 25 | 150 | 33 | 23.5 | 4.8 | TDCT/XU/XY/XT/T |
| **2020-6** | 5, 6 | 20 | 20 | 125 | 37 | 17.6 | 4.8 | TDFT |
| **2525-6** | 5, 6 | 25 | 25 | 150 | 37 | 22.6 | 4.8 | TDMV |
| | | | | | | | | B129-B141 |

- External turning & grooving is available depending on the insert type
- Please check insert min. dia for face grooving B83 page

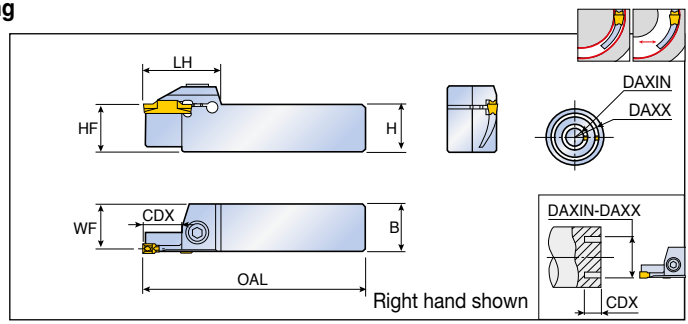
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TGFR/L 1616** | SH M6x1x16 | L-W 5 | | |
| **TGFR/L 2020** | SH M6x1x20 | L-W 5 | | |
| **TGFR/L 2525** | SH M6x1x25 | L-W 5 | | |
| | | | | |

# TTFR/L

## Holders for deep face grooving






| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H(HF) | B | OAL | LH | WF | CDX | DAXIN | DAXX | |
| **TTFR/L** | **25-30-3** | 3 | 25 | 25 | 150 | 32 | 24.0 | 10 | 24 | 35 | TDC/J/V/UF |
| | **25-35-3** | 3 | 25 | 25 | 150 | 32 | 24.0 | 10 | 29 | 40 | TSC/J |
| | **25-40-3** | 3 | 25 | 25 | 150 | 32 | 24.0 | 10 | 34 | 50 | TDCT/XU/XY/XT/T |
| | **25-50-3** | 3 | 25 | 25 | 150 | 32 | 24.0 | 15 | 44 | 60 | TDFT |
| | **25-60-3** | 3 | 25 | 25 | 150 | 32 | 24.0 | 15 | 54 | 85 | B129-B141 |
| | **25-30-4** | 4 | 25 | 25 | 150 | 33 | 23.6 | 12 | 22 | 40 | |
| | **25-40-4** | 4 | 25 | 25 | 150 | 33 | 23.6 | 15 | 32 | 50 | |
| | **25-50-4** | 4 | 25 | 25 | 150 | 33 | 23.6 | 15 | 42 | 60 | |
| | **25-60-4** | 4 | 25 | 25 | 150 | 33 | 23.6 | 15 | 52 | 85 | |
| | **25-60-5** | 5 | 25 | 25 | 150 | 41 | 23.1 | 20 | 50 | 80 | |
| | **25-80-5** | 5 | 25 | 25 | 150 | 41 | 23.1 | 20 | 70 | 110 | |
| | **25-110-5** | 5 | 25 | 25 | 150 | 41 | 23.1 | 20 | 110 | 150 | |
| | **25-150-5** | 5 | 25 | 25 | 150 | 41 | 23.1 | 20 | 140 | 200 | |
| | **25-60-6** | 6 | 25 | 25 | 150 | 41 | 22.6 | 20 | 48 | 85 | |
| | **25-85-6** | 6 | 25 | 25 | 150 | 41 | 22.6 | 20 | 73 | 150 | |
| | **25-150-6** | 6 | 25 | 25 | 150 | 41 | 22.6 | 20 | 138 | 250 | |
| | **25-250-6** | 6 | 25 | 25 | 150 | 41 | 22.6 | 20 | 250 | N.L. | |

- Please check insert min. dia for face grooving B83 page
- N.L.: No limit

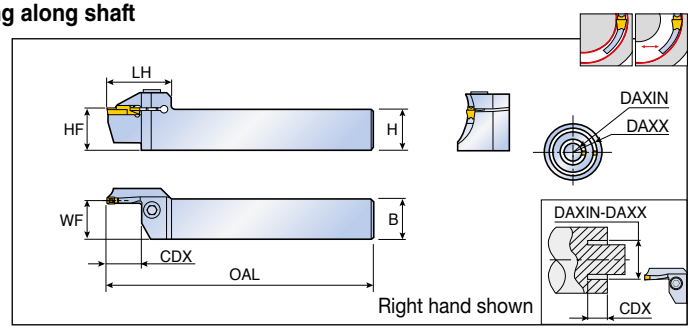
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TTFR/L...-3** | SH M5x0.8x25 | L-W 4 | | |
| **TTFR/L...-4** | SH M6x1x25 | L-W 5 | | |
| **TTFR/L...-5** | SH M8X1.25X25 | L-W 5 | | |
| **TTFR/L...-6** | SH M8X1.25X25 | L-W 5 | | |

# TTFR/L-RN

**Holders for deep face grooving along shaft**





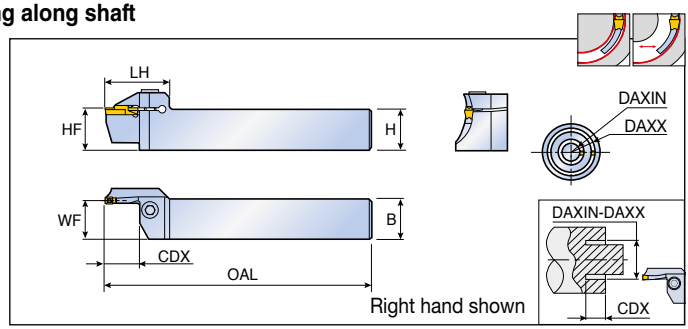

| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H(HF) | B | OAL | LH | WF | CDX | DAXIN | DAXX | |
| **TTFR/L** | **20-21-30-3T10 RN** | 3 | 20 | 20 | 140 | 31 | 19.0 | 10 | 21 | 30 | TDC/J/V/UF |
| | **20-24-35-3T10 RN** | 3 | 20 | 20 | 140 | 31 | 19.0 | 10 | 24 | 35 | TSC/J |
| | **20-29-40-3T10 RN** | 3 | 20 | 20 | 140 | 31 | 19.0 | 10 | 29 | 40 | TDCT/XU/XY/XT/T |
| | **20-34-50-3T10 RN** | 3 | 20 | 20 | 140 | 31 | 19.0 | 10 | 34 | 50 | TDFT |
| | **20-44-70-3T15 RN** | 3 | 20 | 20 | 140 | 35 | 19.0 | 15 | 44 | 70 | B129-B141 |
| | **20-64-100-3T15 RN** | 3 | 20 | 20 | 140 | 35 | 19.0 | 15 | 64 | 100 | |
| | **25-30-3 RN** | 3 | 25 | 25 | 150 | 35 | 24.0 | 10 | 24 | 35 | |
| | **25-35-3 RN** | 3 | 25 | 25 | 150 | 35 | 24.0 | 10 | 29 | 40 | |
| | **25-40-3 RN** | 3 | 25 | 25 | 150 | 35 | 24.0 | 10 | 34 | 50 | |
| | **25-50-3 RN** | 3 | 25 | 25 | 150 | 35 | 24.0 | 15 | 44 | 70 | |
| | **25-70-3 RN** | 3 | 25 | 25 | 150 | 35 | 24.0 | 15 | 64 | 100 | |
| | **20-19-30-4T10 RN** | 4 | 20 | 20 | 140 | 31 | 18.6 | 10 | 19 | 30 | |
| | **20-22-36-4T10 RN** | 4 | 20 | 20 | 140 | 31 | 18.6 | 10 | 22 | 36 | |
| | **20-28-42-4T16 RN** | 4 | 20 | 20 | 140 | 36 | 18.6 | 16 | 28 | 42 | |
| | **20-34-50-4T16 RN** | 4 | 20 | 20 | 140 | 36 | 18.6 | 16 | 34 | 50 | |
| | **20-42-70-4T16 RN** | 4 | 20 | 20 | 140 | 36 | 18.6 | 16 | 42 | 70 | |
| | **20-62-120-4T16 RN** | 4 | 20 | 20 | 140 | 36 | 18.6 | 16 | 62 | 120 | |
| | **20-112-200-4T16 RN** | 4 | 20 | 20 | 140 | 36 | 18.6 | 16 | 112 | 200 | |
| | **25-30-4 RN** | 4 | 25 | 25 | 150 | 35 | 23.6 | 10 | 22 | 36 | |
| | **25-36-4 RN** | 4 | 25 | 25 | 150 | 39 | 23.6 | 20 | 28 | 42 | |
| | **25-42-4 RN** | 4 | 25 | 25 | 150 | 39 | 23.6 | 20 | 34 | 50 | |
| | **25-50-4 RN** | 4 | 25 | 25 | 150 | 39 | 23.6 | 20 | 42 | 70 | |
| | **25-70-4 RN** | 4 | 25 | 25 | 150 | 39 | 23.6 | 20 | 62 | 120 | |
| | **25-120-4 RN** | 4 | 25 | 25 | 150 | 39 | 23.6 | 20 | 112 | 200 | |
| | **25-200-4 RN** | 4 | 25 | 25 | 150 | 39 | 23.6 | 20 | 200 | N.L. | |
| | **25-60-5T15 RN** | 5 | 25 | 25 | 150 | 41 | 23.1 | 15 | 50 | 80 | |
| | **25-60-5 RN** | 5 | 25 | 25 | 150 | 49 | 23.1 | 25 | 50 | 80 | |
| | **25-80-5T15 RN** | 5 | 25 | 25 | 150 | 41 | 23.1 | 15 | 70 | 110 | |
| | **25-80-5 RN** | 5 | 25 | 25 | 150 | 49 | 23.1 | 25 | 70 | 110 | |
| | **25-110-5 RN** | 5 | 25 | 25 | 150 | 49 | 23.1 | 25 | 100 | 150 | |
| | **25-150-5 RN** | 5 | 25 | 25 | 150 | 49 | 23.1 | 25 | 140 | 200 | |
| | **25-200-5 RN** | 5 | 25 | 25 | 150 | 49 | 23.1 | 25 | 200 | N.L. | |

- Please check insert min. dia for face grooving B83 page
- N.L.: No limit

# TTFR/L-RN

## Holders for deep face grooving along shaft






| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H(HF) | B | OAL | LH | WF | CDX | DAXIN | DAXX | |
| **TTFR/L** | **25-60-6 RN** | 6 | 25 | 25 | 150 | 49 | 22.6 | 25 | 48 | 70 | TDC/J/V/UF |
| | **25-70-6 RN** | 6 | 25 | 25 | 150 | 49 | 22.6 | 25 | 58 | 100 | TSC/J |
| | **25-100-6 RN** | 6 | 25 | 25 | 150 | 49 | 22.6 | 25 | 88 | 180 | TDCT/XU/XY/XT/T |
| | **25-180-6 RN** | 6 | 25 | 25 | 150 | 49 | 22.6 | 25 | 168 | 400 | TDFT |
| | **25-400-6 RN** | 6 | 25 | 25 | 150 | 49 | 22.6 | 25 | 400 | N.L. | B129-B141 |

- Please check insert min. dia for face grooving B83 page
- N.L.: No limit

### Insert initial min.Dia ($D_{min}$) for face grooving

| Machining | Insert | Size (mm) | Min. dia. (mm) | Insert | Size (mm) | Min. dia. (mm) |
|---|---|---|---|---|---|---|
| Facing<br>Min. dia. of face machining | **TDJ/C TDUF / TDV** | 3 | 54 | **TDT RU TDT RS** | 3 | 41 |
| | | 4 | 34 | | 4 | 36 |
| | | 5 | 49 | | 5 | 54 |
| | | 6 | 46 | | 6 | 54 |
| | **TDT** | 3 | 44 | **TDCT TDXU TDXT TDXY TDFT** | 3 | 18 |
| | | 4 | 42 | | 4 | 18 |
| | | 5 | 50 | | 5 | 20 |
| | | 6 | 48 | | 6 | 18 |

## Spare parts

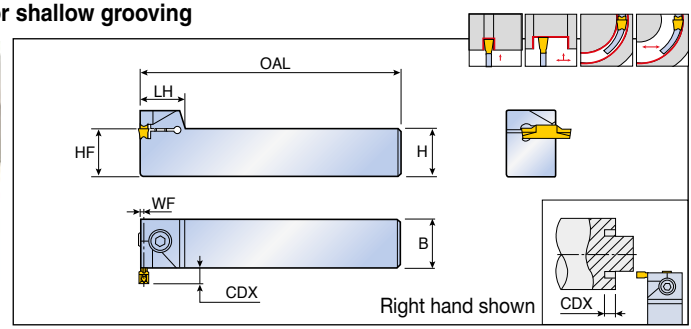
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTFR/L 20...RN** | SH M6x1x20 | L-W 5 | | |
| **TTFR/L 25...3/4 RN** | SH M6x1x25 | L-W 5 | | |
| **TTFR/L 25...5/6 RN** | SH M8x1.25x25 | L-W 6 | | |

# TGFPR/L

T-CLAMP

## Perpendicular type holders for shallow grooving






| Designation | Insert seat size | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | LH | WF | CDX | |
| **TGFPR/L 2020-4** | 2, 3, 4 | 20 | 20 | 20 | 125 | 18 | 1.5 | 4.8 | TDC/J/V/UF |
| **2525-4** | 2, 3, 4 | 25 | 25 | 25 | 150 | 18 | 1.5 | 4.8 | TSC/J |
| **2525-6** | 5, 6 | 25 | 25 | 25 | 150 | 22 | 2.5 | 4.8 | TDCT/XU/XY/XT/T |
| | | | | | | | | | TDFT |
| | | | | | | | | | TDMV |
| | | | | | | | | | B129-B141 |

▸ External Turning & Grooving is available depending on the insert
▸ Please check insert min. dia for face grooving B83 page

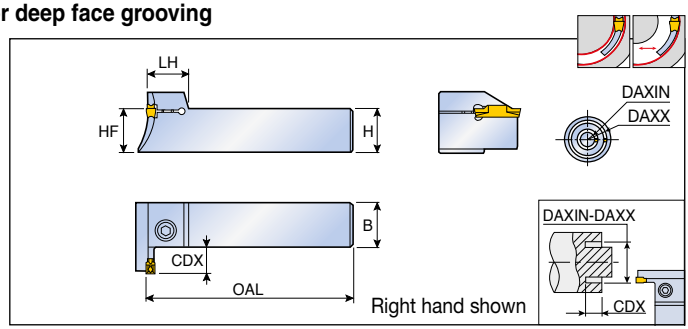
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TGFPR/L 2020** | SH M6x1x20 | L-W 5 | | |
| **TGFPR/L 2525** | SH M6x1x25 | L-W 5 | | |
| **TGFPR/L 2525** | SH M6x1x25 | L-W 5 | | |
| | | | | |

# TTFPR/L

## Perpendicular type holders for deep face grooving






| Designation | | Insert seat size | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | H(HF) | B | OAL | LH | CDX | DAXIN | DAXX | |
| **TTFPR/L** | **25-30-3** | 3 | 25 | 25 | 150 | 18.0 | 10 | 24 | 35 | TDC/J/V/UF |
| | **25-35-3** | 3 | 25 | 25 | 150 | 18.0 | 10 | 29 | 40 | TSC/J |
| | **25-40-3** | 3 | 25 | 25 | 150 | 18.0 | 10 | 34 | 50 | TDCT/XU/XY/XT/T |
| | **25-50-3** | 3 | 25 | 25 | 150 | 18.0 | 15 | 44 | 60 | TDFT |
| | **25-60-3** | 3 | 25 | 25 | 150 | 18.0 | 15 | 54 | 85 | B129-B141 |
| | **25-30-4** | 4 | 25 | 25 | 150 | 18.5 | 12 | 22 | 40 | |
| | **25-40-4** | 4 | 25 | 25 | 150 | 18.5 | 15 | 32 | 50 | |
| | **25-50-4** | 4 | 25 | 25 | 150 | 18.5 | 15 | 42 | 60 | |
| | **25-60-4** | 4 | 25 | 25 | 150 | 18.5 | 15 | 52 | 85 | |
| | **25-60-5** | 5 | 25 | 25 | 150 | 22.0 | 20 | 50 | 80 | |
| | **25-80-5** | 5 | 25 | 25 | 150 | 22.0 | 20 | 70 | 110 | |
| | **25-110-5** | 5 | 25 | 25 | 150 | 22.0 | 20 | 100 | 150 | |
| | **25-150-5** | 5 | 25 | 25 | 150 | 22.0 | 20 | 140 | 200 | |
| | **25-200-5** | 5 | 25 | 25 | 150 | 22.0 | 20 | 200 | N.L. | |
| | **25-60-6** | 6 | 25 | 25 | 150 | 22.0 | 20 | 48 | 85 | |
| | **25-85-6** | 6 | 25 | 25 | 150 | 22.0 | 20 | 73 | 150 | |
| | **25-150-6** | 6 | 25 | 25 | 150 | 22.0 | 20 | 138 | 250 | |
| | **25-250-6** | 6 | 25 | 25 | 150 | 22.0 | 20 | 250 | N.L. | |

▸ Please check insert min. dia for face grooving B83 page
▸ N.L.: No limit

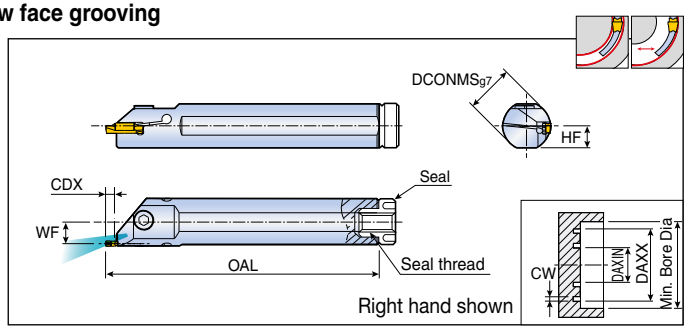
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TTFPR/L...-3** | SH M5x0.8x25 | L-W 4 | | |
| **TTFPR/L...-4** | SH M6x1x25 | L-W 5 | | |
| **TTFPR/L...-5** | SH M8x1.25x25 | L-W 6 | | |
| **TTFPR/L...-6** | SH M8x1.25x25 | L-W 6 | | |

# TGIFR/L

## Internal boring bars for shallow face grooving



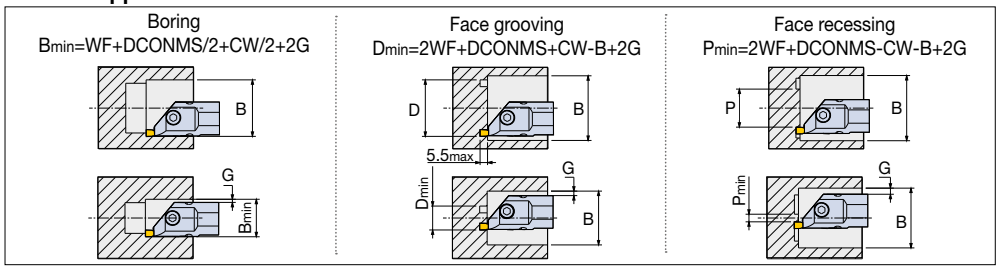



| Designation | Insert seat size | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONMS | OAL | WF | HF | CDX | |
| **TGIFR/L 25-4C-T5.5** | 3, 4 | 25 | 200 | 11.3 | 11.5 | 5.5 | TDC/J/V/UF |
| **32-4C-T5.5** | 3, 4 | 32 | 250 | 14.8 | 15.0 | 5.5 | TSC/J |
| **25-6C-T5.5** | 5, 6 | 25 | 200 | 10.3 | 11.5 | 5.5 | TDCT/XU/XY/XT/T |
| **32-6C-T5.5** | 5, 6 | 32 | 250 | 13.8 | 15.0 | 5.5 | TDFT |
| | | | | | | | B129-B141 |
| | | | | | | | |
| | | | | | | | |

▸ Please check insert min. dia for face grooving B83 page

| CW | Min. Bore Dia | | DAXIN | | | | DAXX |
|---|---|---|---|---|---|---|---|
| | DCONMS ø25 | DCONMS ø32 | TDC/J/UF/V | TDFT / TDXU / TDXT | TDT | TDT-RU/RS | |
| **3** | 26.3 | 33.3 | 54 | 18 | 44 | 41 | No limit |
| **4** | 26.8 | 33.8 | 34 | 18 | 42 | 36 | |
| **5** | 26.3 | 33.3 | 49 | 20 | 50 | 54 | |
| **6** | 26.8 | 33.8 | 46 | 18 | 48 | 54 | |

## TGIFR/L Application



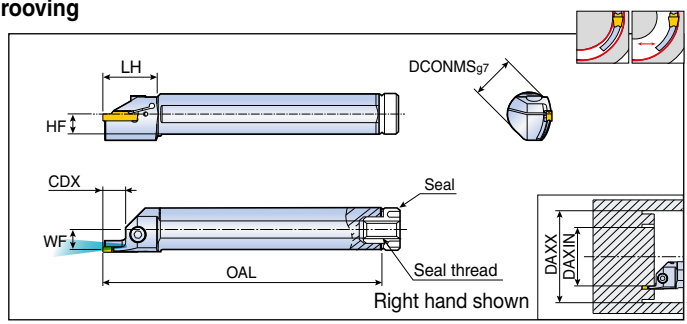

## Spare parts

| Designation | Screw | Wrench | Seal | |
|---|---|---|---|---|
| |  |  |  | |
| **TGIFR/L 25** | SH M6x1x16 | L-W 5 | PL 25 (R1/8) | |
| **TGIFR/L 32** | SH M6x1x16 | L-W 5 | PL 32 (R1/8) | |
| | | | | |
| | | | | |

# TTFIR/L

## Internal boring bars for face grooving






| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DCONMS | OAL | LH | WF | HF | CDX | DAXIN | DAXX | |
| **TTFIR/L** | **25-3T12 20-33** | 3 | 25 | 200 | 31 | 11.5 | 11.5 | 12 | 20 | 33 | TDC/J/V/UF |
| | **25-3T12 26-39** | 3 | 25 | 200 | 31 | 11.5 | 11.5 | 12 | 26 | 39 | TSC/J |
| | **25-3T12 33-48** | 3 | 25 | 200 | 31 | 11.5 | 11.5 | 12 | 33 | 48 | TDCT/XU/XY/XT/T |
| | **25-3T12 42-60** | 3 | 25 | 200 | 31 | 11.5 | 11.5 | 12 | 42 | 60 | TDFT |
| | **25-3T12 54-85** | 3 | 25 | 200 | 31 | 11.5 | 11.5 | 12 | 54 | 85 | B129-B141 |
| | **25-3T12 79-150** | 3 | 25 | 200 | 31 | 11.5 | 11.5 | 12 | 79 | 150 | |
| | **25-4T12 18-34** | 4 | 25 | 200 | 31 | 11.0 | 11.5 | 12 | 18 | 34 | |
| | **25-4T12 26-42** | 4 | 25 | 200 | 31 | 11.0 | 11.5 | 12 | 26 | 42 | |
| | **25-4T12 34-55** | 4 | 25 | 200 | 31 | 11.0 | 11.5 | 12 | 34 | 55 | |
| | **32-4T12 47-70** | 4 | 32 | 250 | 31 | 14.5 | 15.0 | 12 | 47 | 70 | |
| | **32-4T12 62-100** | 4 | 32 | 250 | 31 | 14.5 | 15.0 | 12 | 62 | 100 | |
| | **32-4T12 92-180** | 4 | 32 | 250 | 31 | 14.5 | 15.0 | 12 | 92 | 180 | |

▸ Please check insert min. dia for face grooving B83 page

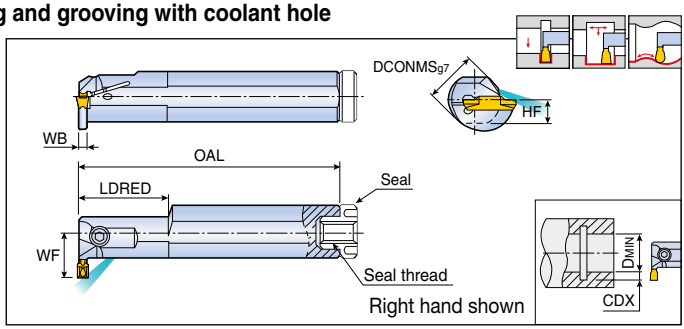
## Spare parts

| Designation | Screw | Wrench | Seal | |
|---|---|---|---|---|
| **TTFIR/L 25** | SH M5x0.8x16 | L-W 4 | PL 25 (R1/8) | |
| **TTFIR/L 32** | SH M5x0.8x16 | L-W 4 | PL 32 (R1/8) | |
| | | | | |
| | | | | |

# TTIR/L-C

**Internal boring bars for turning and grooving with coolant hole**





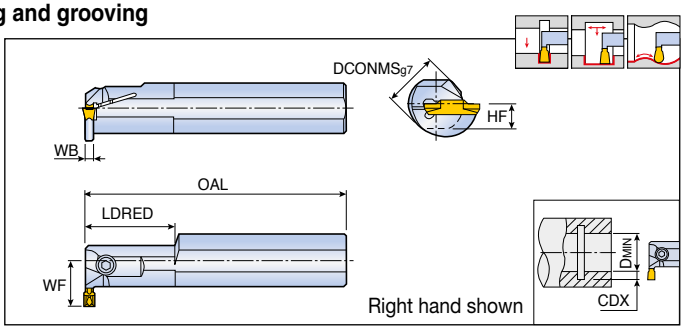

| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DCONMS | OAL | LDRED | WF | HF | WB | CDX | DMIN | |
| **TTIR/L** | **16-2C** | 2 | 16 | 125 | - | 16.5 | 7.5 | 1.8 | 8.5 | 25 | TDC/J/V/UF |
| | **20-2C** | 2 | 20 | 160 | 40 | 15.8 | 9.0 | 1.6 | 6.0 | 25 | TSC/J |
| | **25-2C** | 2 | 25 | 200 | 40 | 17.5 | 11.5 | 1.6 | 5.0 | 25 | TDCT/XU/XY/XT/T |
| | **32-2C-T8** | 2 | 32 | 250 | 40 | 24.8 | 14.0 | 1.8 | 8.0 | 36 | TDIT |
| | **20-3C** | 3 | 20 | 160 | 40 | 15.8 | 9.0 | 2.1 | 6.0 | 25 | B129-B142 |
| | **25-3C** | 3 | 25 | 200 | 40 | 17.5 | 11.5 | 2.1 | 5.1 | 25 | |
| | **25-3C-T8** | 3 | 25 | 200 | 40 | 21.5 | 11.5 | 2.4 | 8 | 32 | |
| | **32-3C** | 3 | 32 | 250 | 60 | 20.8 | 14.0 | 2.1 | 4.7 | 31 | |
| | **32-3C-T10** | 3 | 32 | 250 | 60 | 27.0 | 15.0 | 2.4 | 10 | 40 | |
| | **40-3C-T12** | 3 | 40 | 300 | 65 | 33.0 | 19.0 | 2.4 | 12 | 50 | |
| | **20-4C** | 4 | 20 | 160 | 40 | 15.8 | 9.0 | 2.9 | 6.0 | 25 | |
| | **25-4C** | 4 | 25 | 200 | 40 | 17.5 | 11.5 | 2.9 | 5.2 | 25 | |
| | **25-4C-T8** | 4 | 25 | 200 | 40 | 21.5 | 11.5 | 3.0 | 8 | 32 | |
| | **32-4C** | 4 | 32 | 250 | 60 | 20.8 | 14.0 | 2.9 | 4.7 | 31 | |
| | **32-4C-T10** | 4 | 32 | 250 | 60 | 27.0 | 15.0 | 3.0 | 10 | 40 | |
| | **40-4C-T12** | 4 | 40 | 300 | 65 | 33.0 | 19.0 | 3.0 | 12 | 50 | |
| | **50-4C-T14** | 4 | 50 | 350 | 70 | 40.0 | 23.5 | 3.0 | 14 | 60 | |
| | **25-5C** | 5 | 25 | 200 | 40 | 17.3 | 11.5 | 3.9 | 5.2 | 31 | |
| | **32-5C** | 5 | 32 | 250 | 60 | 20.8 | 14.0 | 3.9 | 4.7 | 31 | |
| | **32-5C-T10** | 5 | 32 | 250 | 60 | 27.0 | 15.0 | 3.9 | 10 | 40 | |
| | **40-5C-T12** | 5 | 40 | 300 | 65 | 33.0 | 19.0 | 3.9 | 12 | 50 | |
| | **50-5C-T14** | 5 | 50 | 350 | 70 | 40.0 | 23.5 | 3.9 | 14 | 60 | |
| | **32-6C** | 6 | 32 | 250 | 60 | 20.8 | 14.0 | 4.9 | 4.7 | 31 | |
| | **32-6C-T10** | 6 | 32 | 250 | 60 | 27.0 | 15.0 | 4.9 | 10 | 40 | |
| | **40-6C-T12** | 6 | 40 | 300 | 65 | 33.0 | 19.0 | 4.9 | 12 | 50 | |
| | **50-6C-T14** | 6 | 50 | 350 | 70 | 40.0 | 23.5 | 4.9 | 14 | 60 | |
| | **32-8C** | 8 | 32 | 250 | 60 | 21.3 | 14.5 | 5.9 | 5.5 | 37 | |
| | **40-8C** | 8 | 40 | 300 | 65 | 25.8 | 19.0 | 5.9 | 5.8 | 42 | |

▸ Please check insert min. dia for internal grooving B89 page

# TTIR/L

**Internal boring bars for turning and grooving**






| Designation | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | OAL | LDRED | WF | HF | WB | CDX | DMIN | |
| **TTIR/L 16-2** | 2 | 16 | 125 | - | 16.5 | 7.5 | 1.8 | 8.5 | 25 | TDC/J/V/UF |
| **20-2** | 2 | 20 | 160 | 40 | 15.8 | 9.0 | 1.6 | 6.0 | 25 | TSC/J |
| **25-2** | 2 | 25 | 200 | 40 | 17.5 | 11.5 | 1.6 | 5.0 | 25 | TDCT/XU/XY/XT/T |
| **32-2** | 2 | 32 | 250 | 60 | 20.8 | 14.0 | 1.5 | 4.7 | 31 | TDIT |
| **20-3** | 3 | 20 | 160 | 40 | 15.8 | 9.0 | 2.1 | 6.0 | 25 | B129-B142 |
| **25-3** | 3 | 25 | 200 | 40 | 17.5 | 11.5 | 2.1 | 5.1 | 25 | |
| **32-3** | 3 | 32 | 250 | 60 | 20.8 | 14.0 | 2.1 | 4.7 | 31 | |
| **20-4** | 4 | 20 | 160 | 40 | 15.8 | 9.0 | 2.9 | 6.0 | 25 | |
| **25-4** | 4 | 25 | 200 | 40 | 17.5 | 11.5 | 2.9 | 5.2 | 25 | |
| **32-4** | 4 | 32 | 250 | 60 | 20.8 | 14.0 | 2.9 | 4.7 | 31 | |

- Without "C" on the description: non-coolant hole type
- Please check insert min. dia for internal grooving B89 page

| Machining | TDJ/C/UF/V | | TDT | | TDT RU/RS | | TDCT/TDXU/TDIT/TDXT/TDXY | |
|---|---|---|---|---|---|---|---|---|
| | Size (mm) | Min. dia. (mm) | Size (mm) | Min. dia. (mm) | Size (mm) | Min. dia. (mm) | Size (mm) | Min. dia. (mm) |
| Internal grooving<br>Min. dia. of internal machining | 2 | 40 | 3 | 40 | 2 | 41 | 2 | 24 |
| | 3 | 50 | 4 | 40 | 3 | 38 | 3 | 24 |
| | 4 | 50 | 5 | 50 | 4 | 38 | 4 | 21 |
| | 5 | 60 | 6 | 50 | 5 | 43 | 5 | 30 |
| | 6 | 60 | 8 | 62 | 6 | 46 | 6 | 31 |
| | 8 | 70 | | | 8 | 56 | 8 | 33 |

## Spare parts

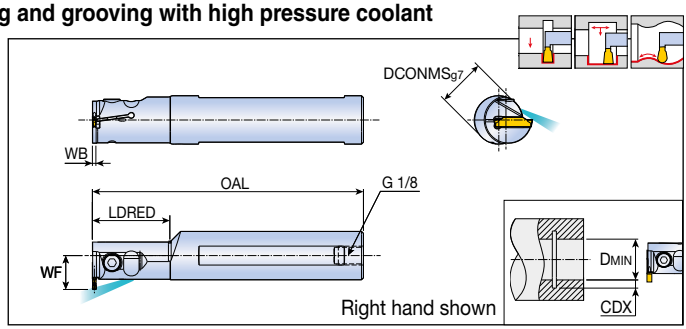
| Designation | Screw | Wrench | Seal* | |
|---|---|---|---|---|
| **TTIR/L 16-2** | SH M5x0.8x10 | L-W 4 | PL 16 (M6) | |
| **TTIR/L 20-2/3/4** | SH M5x0.8x12 | L-W 4 | PL 20 (M6) | |
| **TTIR/L 25-2/3/4** | SH M5x0.8x16 | L-W 4 | PL 25 (R1/8) | |
| **TTIR/L 32-2/3/4** | SH M5x0.8x16 | L-W 4 | PL 32 (R1/8) | |
| **TTIR/L 40-3/4** | SH M5x0.8x16 | L-W 4 | PL 40 (R1/8) | |
| **TTIR/L 50-4** | SH M5x0.8x20 | L-W 4 | PL 40 (R1/8) | |
| **TTIR/L 25-5/6** | SH M6x1x16 | L-W 5 | PL 25 (R1/8) | |
| **TTIR/L 32-5/6** | SH M6x1x20 | L-W 5 | PL 32 (R1/8) | |
| **TTIR/L 40/50-5/6** | SH M6x1x25 | L-W 5 | PL 40 (R1/8) | |

- *: For through coolant type only

# TTIR/L-TB

**Internal boring bars for turning and grooving with high pressure coolant**




| Designation | | Insert seat size | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DCONMS | OAL | LDRED | WF | WB | CDX | DMIN | |
| **TTIR/L** | **20-2T06-TB** | 2 | 20 | 120 | 40 | 17 | 1.8 | 6 | 27 | TDC/J/V/UF<br>TSC/J<br>TDCT/XU/XY/XT/T<br>TDIT<br>B129-B142 |
| | **25-2T06-TB** | 2 | 25 | 150 | 40 | 19.5 | 1.8 | 6 | 29 | |
| | **20-3T06-TB** | 3 | 20 | 120 | 40 | 17 | 2.4 | 6 | 27 | |
| | **25-3T06-TB** | 3 | 25 | 150 | 40 | 19.5 | 2.4 | 6 | 29 | |
| | **32-3T10-TB** | 3 | 32 | 150 | 60 | 27 | 2.4 | 10 | 40 | |
| **TTIR** | **20-4T06-TB** | 4 | 20 | 120 | 40 | 17 | 3 | 6 | 27 | |
| | **25-4T06-TB** | 4 | 25 | 150 | 40 | 19.5 | 3 | 6 | 29 | |
| | **32-4T10-TB** | 4 | 32 | 150 | 60 | 27 | 3 | 10 | 40 | |

- Please refer to B122 page for COOL-BURST accessories
- Please check insert min. dia for internal grooving B89 page

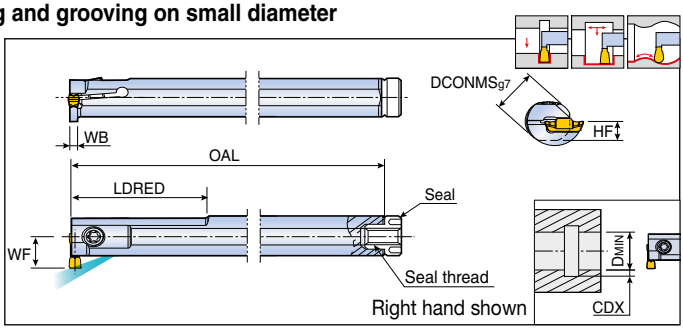
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTIR/L-20-TB** | SH M5X0.8X12 | L-W 4 | | |
| **TTIR/L-25/32-TB** | SH M5X0.8X16 | L-W 4 | | |
| | | | | |
| | | | | |

# TTSIR/L

**Internal boring bars for turning and grooving on small diameter**






| Designation | | Insert seat size | Dimension (mm) | | | | | | | | Coolant inlet | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | DCONMS | OAL | LDRED | WF | HF | WB | CDX | DMIN | | |
| **TTSIR/L** | **10-12.5-2** | 2 | 10 | 125 | 25 | 7.5 | 4.5 | 1.6 | 2.4 | 12.5 | Ø4 | TDIM/TDIP |
| | **12-14-2** | 2 | 12 | 125 | 35 | 9.1 | 5.5 | 1.6 | 2.6 | 14.0 | Ø6 | |
| | **16-12.5-2** | 2 | 16 | 150 | 20 | 10.5 | 7.5 | 1.6 | 2.4 | 12.5 | - | B141-B142 |
| | **16-14-2** | 2 | 16 | 150 | 25 | 11.0 | 7.5 | 1.6 | 2.6 | 14.0 | - | |
| | **16-16-2** | 2 | 16 | 150 | 40 | 11.0 | 7.5 | 1.6 | 3.0 | 16.0 | - | |
| | **12-14-3** | 3 | 12 | 125 | 35 | 9.1 | 5.5 | 2.0 | 2.6 | 14.0 | Ø6 | |
| | **16-12.5-3** | 3 | 16 | 150 | 20 | 10.5 | 7.5 | 2.0 | 2.4 | 12.5 | - | |
| | **16-14-3** | 3 | 16 | 150 | 25 | 11.0 | 7.5 | 2.0 | 2.6 | 14.0 | - | |
| | **16-16-3** | 3 | 16 | 150 | 40 | 11.0 | 7.5 | 2.0 | 3.0 | 16.0 | - | |
| | **20-20-3** | 3 | 20 | 150 | 40 | 14.0 | 9.0 | 2.0 | 4.0 | 20.0 | - | |

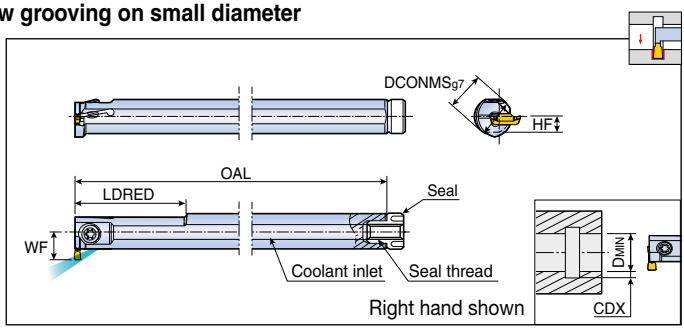
## Spare parts

| Designation | Screw | Wrench | Seal | |
|---|---|---|---|---|
| **TTSIR/L 10/12** | TS 40093I | T 15 | - | |
| **TTSIR/L 16-12/14** | TS 40093I | T 15 | PL 16 (M6) | |
| **TTSIR/L 16-16** | TS 50125I | T 20 | PL 16 (M6) | |
| **TTSIR/L 20** | TS 50125I | T 20 | PL 20 (M6) | |

# TGSIR/L

**Internal boring bars for shallow grooving on small diameter**






| Designation | | Insert seat size | Dimension (mm) DCONMS | OAL | LDRED | WF | HF | CDX | DMIN | Coolant inlet | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **TGSIR/L** | **10-13-2** | 2, 3 | 10 | 125 | 25 | 7.6 | 5 | 2.5 | 12.5 | Ø4 | TDIM/TDIP |
| | **12-14-2** | 2, 3 | 12 | 125 | 32 | 9.0 | 6 | 2.5 | 14.0 | Ø6 | |
| | **16-13-2** | 2, 3 | 16 | 150 | 20 | 10.6 | 8 | 2.5 | 13.0 | - | B141-B142 |
| | **16-14-2** | 2, 3 | 16 | 150 | 25 | 10.9 | 8 | 2.5 | 14.0 | - | |
| | **16-16-2** | 2, 3 | 16 | 150 | 40 | 10.5 | 8 | 2.5 | 16.0 | - | |

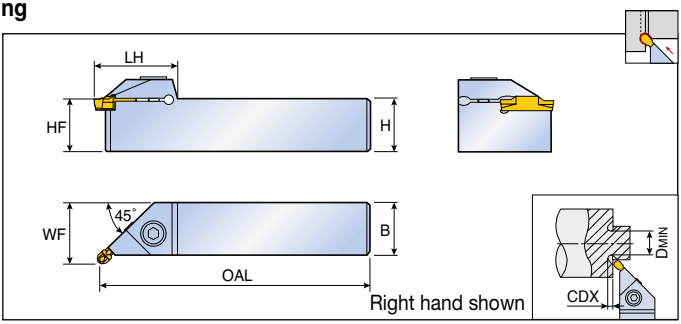
## Spare parts

| Designation | Screw | Wrench | Seal | |
|---|---|---|---|---|
| **TGSIR/L 10/12** | TS 40093I | T 15 | - | |
| **TGSIR/L 16** | TS 40093I | T 15 | PL 16 (M6) | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# TGEUR/L

## Holders for external undercutting






| Designation | Insert seat size | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | LH | WF | CDX | DMIN | |
| **TGEUR/L 1616-3** | 3 | 16 | 16 | 16 | 110 | 30 | 19.3 | 2.8 | 32 | TDT(Full R) |
| **2020-3** | 3 | 20 | 20 | 20 | 125 | 30 | 23.3 | 2.8 | 32 | TDIT(Full R) |
| **2525-3** | 3 | 25 | 25 | 25 | 150 | 30 | 28.3 | 2.8 | 32 | TDT-RU/RS |
| **1616-4** | 4 | 16 | 16 | 16 | 110 | 31 | 19.5 | 2.8 | 32 | |
| **2020-4** | 4 | 20 | 20 | 20 | 125 | 31 | 23.5 | 2.8 | 32 | B139-B140 |
| **2525-4** | 4 | 25 | 25 | 25 | 150 | 31 | 28.5 | 2.8 | 32 | |
| **2525-6** | 5, 6 | 25 | 25 | 25 | 150 | 35 | 28.9 | 3.4 | 34 | |

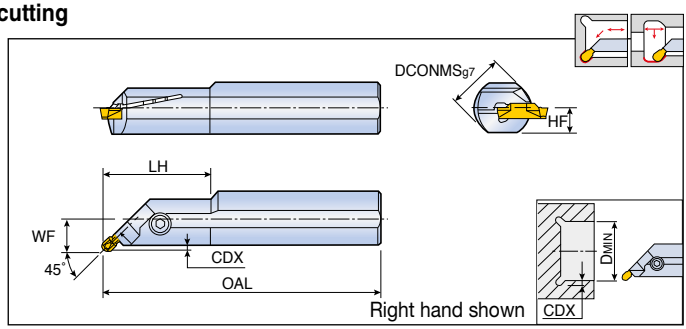
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TGEUR/L 1616-3** | SH M5x0.8x16 | L-W 4 | | |
| **TGEUR/L 2020-3** | SH M5x0.8x20 | L-W 4 | | |
| **TGEUR/L 2525-3** | SH M5x0.8x25 | L-W 4 | | |
| **TGEUR/L 1616-4** | SH M6x1x16 | L-W 5 | | |
| **TGEUR/L 2020-4** | SH M6x1x20 | L-W 5 | | |
| **TGEUR/L 2525-4/6** | SH M6x1x25 | L-W 5 | | |

# TGIUR/L

## Internal boring bars for undercutting






| Designation | | Insert seat size | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DCONMS | OAL | LH | WF | HF | CDX | DMIN | |
| **TGIUR/L** | **20-3** | 3 | 20 | 160 | - | 12.8 | 9.5 | 2.8 | 38 | TDT(Full R)<br>TDIT(Full R)<br>TDT-RU/RS<br>B139-B140 |
| | **25-3** | 3 | 25 | 200 | 40 | 14.8 | 11.5 | 2.8 | 38 | |
| | **20-4** | 4 | 20 | 160 | - | 12.9 | 9.5 | 2.8 | 38 | |
| | **25-4** | 4 | 25 | 200 | 40 | 14.9 | 11.5 | 2.8 | 38 | |
| | **25-6** | 5, 6 | 25 | 200 | - | 15.2 | 11.5 | 2.8 | 46 | |

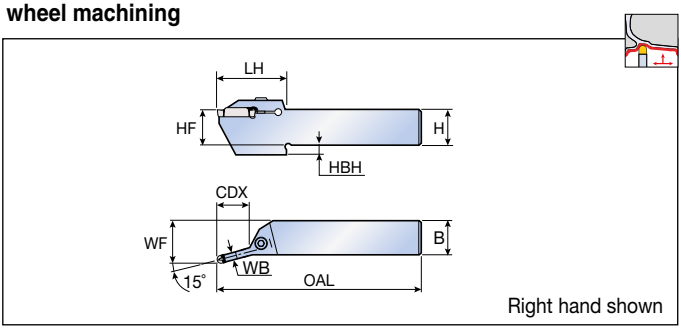
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TGIUR/L 20-3** | SH M5x0.8x12 | L-W 4 | | |
| **TGIUR/L 20-4** | SH M5x0.8x16 | L-W 4 | | |
| **TGIUR/L 25-3/4** | SH M5x0.8x16 | L-W 4 | | |
| **TGIUR/L 25-6** | SH M6x1x16 | L-W 5 | | |

# TTER/L-15A

**Holders for external aluminum wheel machining**






Right hand shown

| Designation | | Insert seat size | Dimension (mm) | | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | H | HF | B | OAL | LH | WF | WB | HBH | CDX | |
| **TTER/L** | **2525-6-15A** | 6 | 25 | 25 | 25 | 150 | 51 | 30 | 4.90 | 7 | 25.0 | TDA/TSA |
| | **2525-8-15A** | 8 | 25 | 25 | 25 | 150 | 55 | 30 | 5.90 | 7 | 30.0 | B145 |

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TTER/L** | SH M6x1x25 | L-W 5 | | |
| | | | | |
| | | | | |
| | | | | |

# TGIUR/L-15A

**Internal boring bars for aluminum wheel machining**



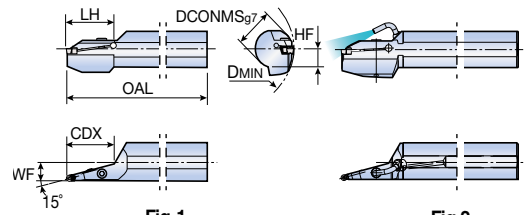



**Fig.1** **Fig.2**

Right hand shown

| Designation | Insert seat size | Dimension (mm) DCONMS | OAL | LH | WF | HF | CDX | DMIN | Fig. | Coolant hole | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **TGIUR/L 40-6-15A** | 6 | 40 | 320 | 60 | 19.8 | 19.0 | 50.00 | 160 | 1 | x | TDA/TSA |
| **40-6C-15A** | 6 | 40 | 320 | 60 | 19.8 | 19.0 | 50.00 | 160 | 2 | ● | B145 |
| **50-6C-15A** | 6 | 50 | 350 | 85 | 25.2 | 23.5 | 85.00 | 200 | 2 | ● | |
| **40-8-15A** | 8 | 40 | 320 | 65 | 20.2 | 19.0 | 81.35 | 160 | 1 | x | |
| **40-8C-15A** | 8 | 40 | 320 | 85 | 20.2 | 19.0 | 83.00 | 160 | 2 | ● | |
| **50-8C-15A** | 8 | 50 | 350 | 85 | 25.9 | 23.5 | 85.00 | 200 | 2 | ● | |

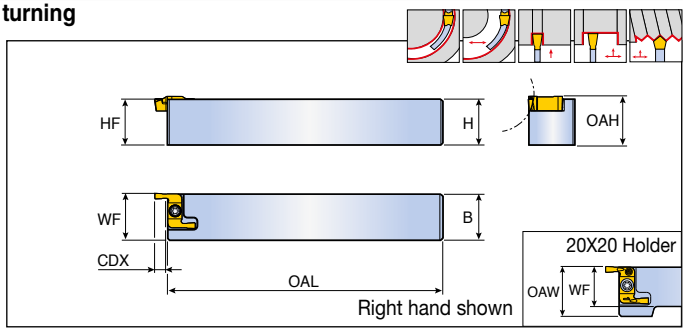
## Spare parts

| Designation | Screw | Wrench | Seal | Pipe | Nozzle |
|---|---|---|---|---|---|
| **TGIUR/L** | SH M6x1x25 | L-W 5 | PL 40 (R1/8) | NZP 5 | NZ 125 |
| | | | | | |
| | | | | | |
| | | | | | |

# TXFR/L

## Holders for face grooving and turning






| Designation | | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | OAH | WF | CDX | OAW | |
| **TXFR/L** | **2020** | 20 | 20 | 20 | 125 | 21.5 | 20.5 | 6 | 25.5 | TDF(G)X ... |
| | **2525** | 25 | 25 | 25 | 150 | 26.5 | 25.5 | 6 | 25.5 | B146 |

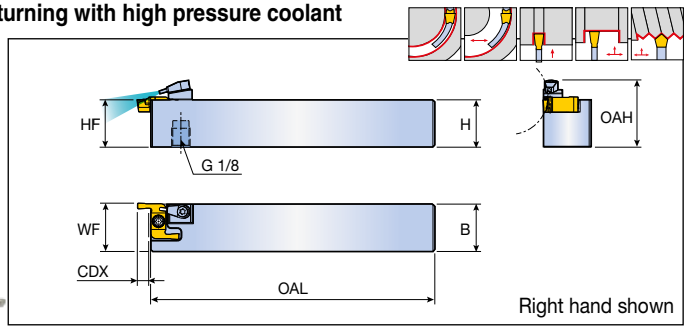
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TXFR** | TS 40E113I/HG | L-T15 | | |
| **TXFL** | TS 40E113IL/HG | L-T15 | | |
| | | | | |
| | | | | |

# TXFR/L-TB

**Holders for face grooving and turning with high pressure coolant**






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | H | HF | B | OAL | OAH | WF | CDX | |
| **TXFR/L 2525-TB** | 25 | 25 | 25 | 150 | 35.5 | 25.5 | 6 | TDF(G)X ... B146 |

▸ Please refer to B122 page for COOL-BURST accessories

## Spare parts

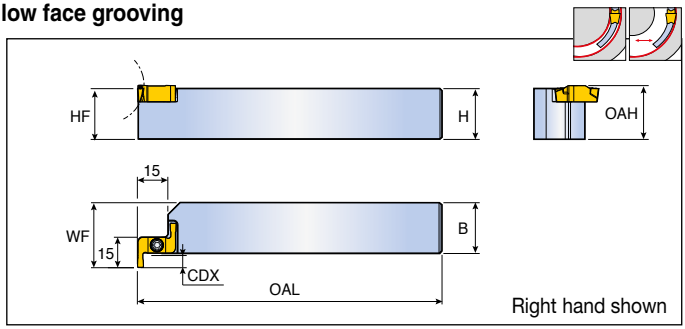
| Designation | Screw | Wrench | Cooling unit | |
|---|---|---|---|---|
| **TXFR-TB** | TS 40E113I/HG | L-T15 | S-CU-TB | |
| **TXFL-TB** | TS 40E113IL/HG | L-T15 | S-CU-TB | |
| | | | | |
| | | | | |

# TXFPR/L

FACERUSH

## Perpendicular holders for shallow face grooving






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | H | HF | B | OAL | OAH | WF | CDX | |
| **TXFPR/L 2020** | 20 | 20 | 20 | 125 | 21.5 | 27 | 6 | TDFX ... |
| **2525** | 25 | 25 | 25 | 150 | 26.5 | 32 | 6 | B146 |

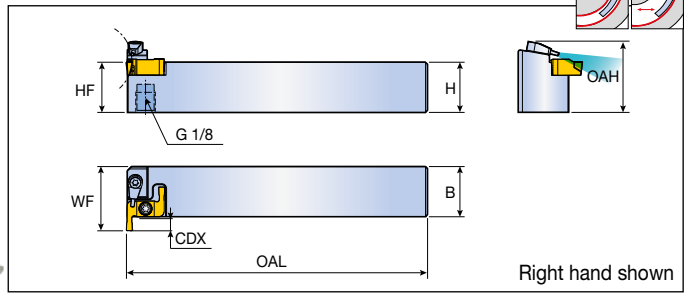
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TXFPR** | TS 40E113I/HG | L-T15 | | |
| **TXFPL** | TS 40E113IL/HG | L-T15 | | |
| | | | | |
| | | | | |

# TXFPR/L-TB

**Perpendicular holders for shallow face grooving with high pressure coolant**




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | H | HF | B | OAL | OAH | WF | CDX | |
| **TXFPR/L 2525-TB** | 25 | 25 | 25 | 150 | 35.5 | 32 | 6 | TDFX ... B146 |

▸ Please refer to B122 page for COOL-BURST accessories

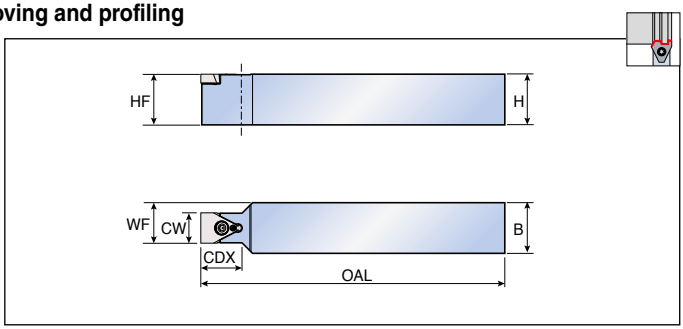
## Spare parts

| Designation | Screw | Wrench | Cooling unit | |
|---|---|---|---|---|
| **TXFPR-TB** | TS 40E113I/HG | L-T15 | S-CU-TB | |
| **TXFPL-TB** | TS 40E113IL/HG | L-T15 | S-CU-TB | |
| | | | | |
| | | | | |

# TTLEN

## Holders for external wide grooving and profiling






| Designation | | Dimension (mm) | | | | | | | Insert [1] |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | WF | CDX | CW | |
| **TTLEN** | **1212 K10** | 12 | 12 | 12 | 125 | 11.0 | 20 | 10 | TGUX B147 |
| | **1616 K10** | 16 | 16 | 16 | 125 | 13.0 | 20 | 10 | |
| | **2020 M10** | 20 | 20 | 20 | 150 | 15.0 | 20 | 10 | |
| | **2525 M10** | 25 | 25 | 25 | 150 | 17.5 | 20 | 10 | |
| | **1616 K15** | 16 | 16 | 16 | 125 | 15.5 | 20 | 15 | |
| | **2020 M15** | 20 | 20 | 20 | 150 | 17.5 | 20 | 15 | |
| | **2525 M15** | 25 | 25 | 25 | 150 | 20.0 | 20 | 15 | |
| | **2020 K20** | 20 | 20 | 20 | 125 | 20.0 | 35 | 20 | |
| | **2525 M20** | 25 | 25 | 25 | 150 | 22.5 | 35 | 20 | |
| | **3232 P20** | 32 | 32 | 32 | 170 | 26.0 | 35 | 20 | |
| | **2020 K25** | 20 | 20 | 20 | 125 | 22.5 | 35 | 25 | |
| | **2525 M25** | 25 | 25 | 25 | 150 | 25.0 | 35 | 25 | |
| | **3232 P25** | 32 | 32 | 32 | 170 | 28.5 | 35 | 25 | |

▸ [1] Designation of final insert will be different to the semi finished blank

## Spare parts

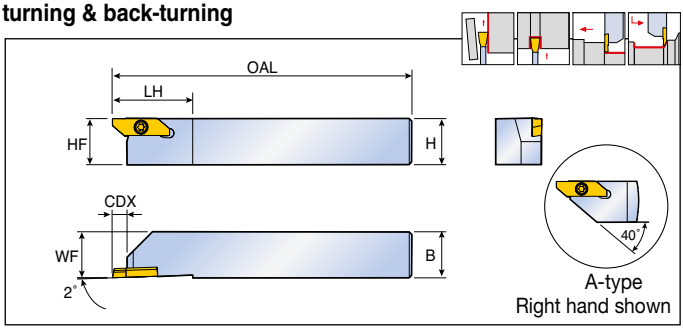
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTLEN ...K10/K15/M10/M15** | TS 40B100I | T 15 | | |
| **TTLEN ...K20/M20/P20** | TS 45120I | T 20 | | |
| **TTLEN ...K25/M25/P25** | TS 45120I | T 20 | | |

# TTVER/L

TOPCUT

## Holders for grooving, parting, turning & back-turning






| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | LH | WF | CDX | |
| **TTVER/L** | **1010-4-A** | 10 | 10 | 10 | 125 | 29 | 10 | 6.7 | TVER/L |
| | **1212-4-A** | 12 | 12 | 12 | 125 | 29 | 12 | 6.7 | TVRR/L |
| | **1616-4** | 16 | 16 | 16 | 125 | 29 | 16 | 6.5 | TVPR/L |
| | **2020-4** | 20 | 20 | 20 | 125 | 29 | 20 | 6.5 | B165,B167 |
| | **2525-4** | 25 | 25 | 25 | 125 | 29 | 25 | 6.5 | |

▸ Please keep in your mind selecting right insert

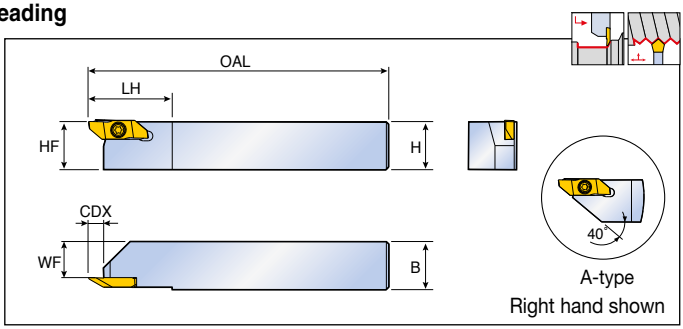
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTVER/L** | CSTB-4SD | T 8 | | |
| | | | | |
| | | | | |
| | | | | |

# TTVBR/L

## Holders for back turning & threading






| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | LH | WF | CDX | |
| **TTVBR/L** | **1010-4-A** | 10 | 10 | 10 | 125 | 29 | 5.7 | 6.7 | TVBR/L |
| | **1212-4-A** | 12 | 12 | 12 | 125 | 29 | 7.7 | 6.7 | TVTR/L |
| | **1616-4** | 16 | 16 | 16 | 125 | 29 | 11.7 | 6.4 | B166 |
| | **2020-4** | 20 | 20 | 20 | 125 | 29 | 15.7 | 6.4 | |
| | **2525-4** | 25 | 25 | 25 | 125 | 29 | 20.7 | 6.4 | |

▸ Please keep in your mind selecting right insert

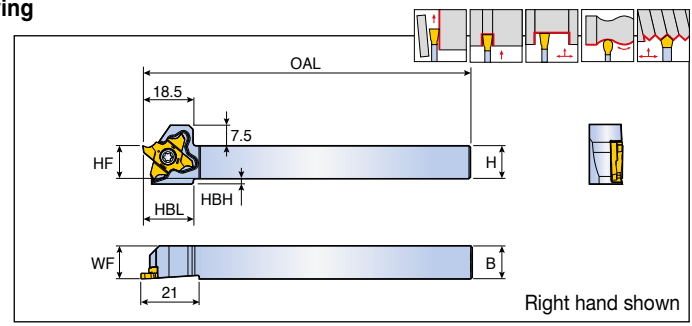
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TTVBR/L** | CSTB-4SD | T 8 | | |
| | | | | |
| | | | | |
| | | | | |

# TQHR/L-20

## Holders for parting and grooving





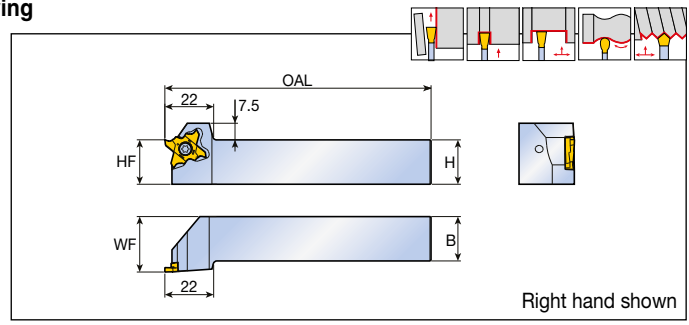

| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | WF | OAL | HBL | HBH | |
| **TQHR/L** | **10-20** | 10 | 10 | 10 | 10 | 120 | 18.5 | 4 | TQ... 20 |
| | **12-20** | 12 | 12 | 12 | 12 | 120 | 18.5 | 2 | B149-B150 |
| | **16-20** | 16 | 16 | 16 | 16 | 120 | - | - | |
| | **20-20** | 20 | 20 | 20 | 20 | 120 | - | - | |
| | **25-20** | 25 | 25 | 25 | 25.3 | 135 | - | - | |

▸ CDX: Refer to insert dimension

# TQHR/L-20-Q

## Holders for parting and grooving






| Designation | | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | WF | |
| **TQHR/L** | **20-20-Q** | 20 | 20 | 20 | 120 | 25 | TQ... 20 |
| | **25-20-Q** | 25 | 25 | 25 | 135 | 30.3 | B149-B150 |

▸ CDX: Refer to insert dimension

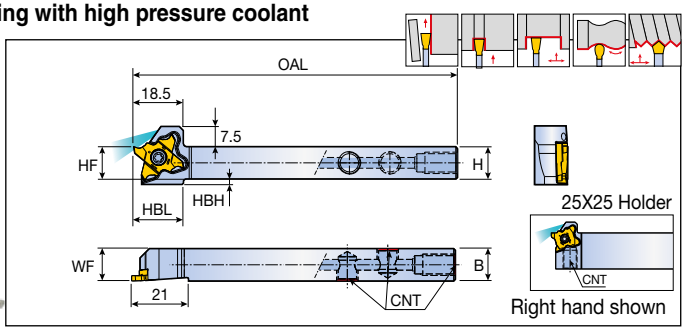
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TQHR...** | TS 40A100L | T-1508/5 | | |
| **TQHL...** | TS 40A100 | T-1508/5 | | |
| | | | | |
| | | | | |

# TQHR/L-20-TB

**Holders for parting and grooving with high pressure coolant**





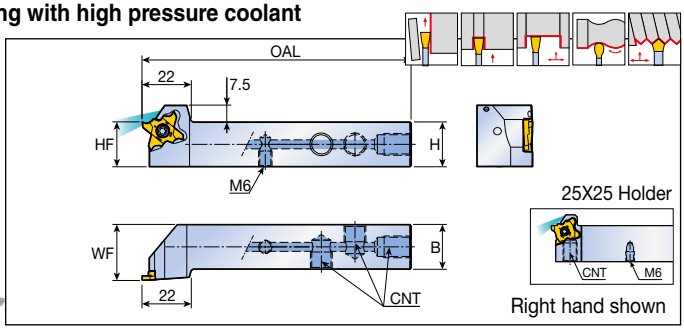

| Designation | | Dimension (mm) | | | | | | | CNT | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | WF | OAL | HBL | HBH | | |
| **TQHR/L** | **12-20-TB** | 12 | 12 | 12 | 12 | 120 | 18.5 | 2 | UNF 5/16 | TQ... 20 |
| | **16-20-TB** | 16 | 16 | 16 | 16 | 120 | - | - | UNF 5/16 | B149-B150 |
| | **20-20-TB** | 20 | 20 | 20 | 20 | 120 | - | - | G 1/8 | |
| | **25-20-TB** | 25 | 25 | 25 | 25.3 | 135 | - | - | G 1/8 | |

- Please refer to B122 page for COOL-BURST accessories
- CDX: Refer to insert dimension

# TQHR/L-20-TB-Q

**Holders for pating and grooving with high pressure coolant**






| Designation | | Dimension (mm) | | | | | CNT | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | WF | | |
| **TQHR/L** | **20-20-TB-Q** | 20 | 20 | 20 | 120 | 25 | G 1/8 | TQ... 20 |
| | **25-20-TB-Q** | 25 | 25 | 25 | 135 | 30.3 | G 1/8 | B149-B150 |

- Please refer to B122 page for COOL-BURST accessories
- CDX: Refer to insert dimension

## Spare parts

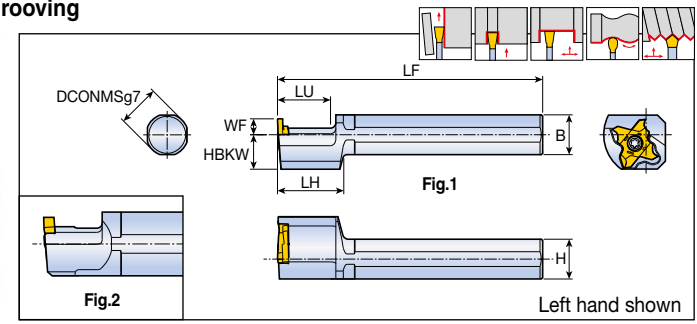
| Designation | Screw | Plug 1 | Plug 2 | Wrench | | |
|---|---|---|---|---|---|---|
| **TQHR/L 12/16-20-TB** | TS 40A100L (1) TS 40A100 (2) | PLG 5/16 UNF | - | T-1508/5 | L-W 5/32 | - |
| **TQHR/L 20-20-TB** | | PLG G1/8-L6.5 | - | T-1508/5 | L-W 5 | - |
| **TQHR/L 25-20-TB** | | - | - | T-1508/5 | - | - |
| **TQHR/L-TB-Q** | | PLG G1/8-L6.5 | SS M6X1X6-NL | T-1508/5 | L-W 5 | L-W 3 |

- (1) For right holder
- (2) For left holder

# TMS-TQHL

## Sleeve holders for external grooving






| Designation | | Dimension (mm) | | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H=B | LF | LU | LH | WF | HBKW | | |
| **TMS-TQHL** | **16-20** | 16 | 15 | 100 | 20 | 25 | 6 | 13 | 1 | TQ... 20-R |
| | **19.05-20** | 19.05 | 18 | 100 | 20 | 25 | 6 | 13 | 1 | |
| | **20-20** | 20 | 19 | 100 | 20 | 25 | 6 | 13 | 1 | B149-B150 |
| | **22-20** | 22 | 21 | 100 | 20 | 25 | 6 | 13 | 1 | |
| | **25-20** | 25 | 24 | 100 | 20 | - | 10 | 12 | 2 | |
| | **25.4-20** | 25.4 | 24.4 | 100 | 20 | - | 10 | 12.2 | 2 | |

- TQ... 20-R insert for L-hand toolholder
- CDX: Refer to insert dimension

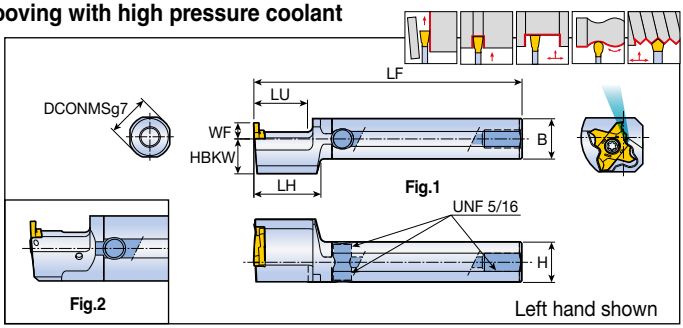
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TMS-TQHL** | TS 40A100L | T-1508/5 | | |
| | | | | |
| | | | | |
| | | | | |

# TMS-TQHL-TB

**Sleeve holders for external grooving with high pressure coolant**






| Designation | | Dimension (mm) | | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H=B | LF | LU | LH | WF | HBKW | | |
| **TMS-TQHL** | **16-20-TB** | 16 | 15 | 100 | 20 | 25 | 6 | 13 | 1 | TQ... 20-R |
| | **25-20-TB** | 25 | 24 | 100 | 20 | - | 10 | 12 | 2 | B149-B150 |

- Please refer to B122 page for COOL-BURST accessories
- TQ... 20-R insert for L-hand toolholder
- CDX: Refer to insert dimension

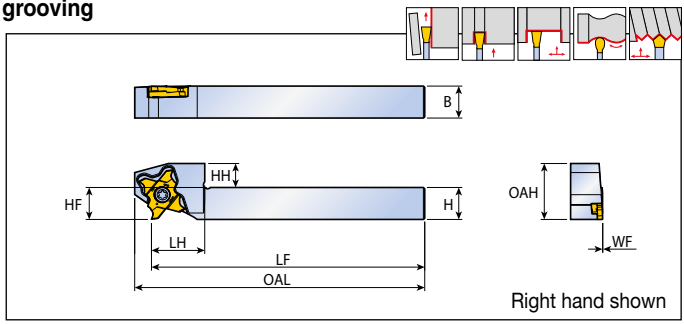
## Spare parts

| Designation | Screw | Wrench | | Plug |
|---|---|---|---|---|
| |  |  |  |  |
| **TMS-TQHL-TB** | TS 40A100L | T-1508/5 | L-W 5/32 | PLG 5/16 UNF |
| | | | | |
| | | | | |
| | | | | |

# TMY-TQHR

## Y-axis holders for parting and grooving






| Designation | | Dimension (mm) | | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H | B | HH | LH | HF | WF | OAH | LF | OAL | |
| **TMY-TQHR** | **10-20** | 10 | 10 | 11 | 20 | 10 | 0 | 21 | 125 | 131.3 | TQ... 20-R |
| | **12-20** | 12 | 12 | 9 | 20 | 12 | 0 | 21 | 125 | 131.3 | |
| | **16-20** | 16 | 16 | 5 | 20 | 16 | 0 | 21 | 125 | 131.3 | B149-B150 |

▸ CDX: Refer to insert dimension

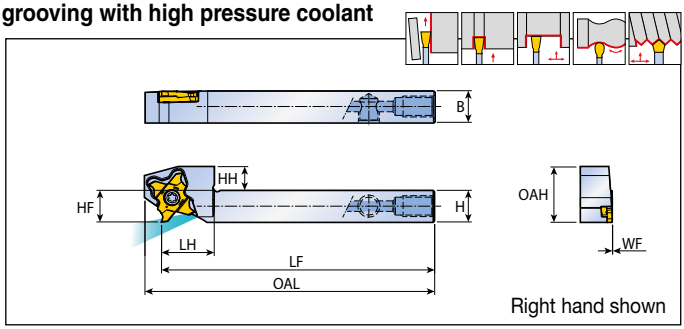
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TMY-TQHR** | TS 40A100L | T-1508/5 | | |
| | | | | |
| | | | | |
| | | | | |

# TMY-TQHR-TB

**Y-axis holders for parting and grooving with high pressure coolant**






| Designation | | Dimension (mm) | | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H | B | HH | LH | HF | WF | OAH | LF | OAL | |
| **TMY-TQHR** | **12-20-TB** | 12 | 12 | 9 | 20 | 12 | 0 | 21 | 125 | 131.3 | TQ... 20-R |
| | **16-20-TB** | 16 | 16 | 5 | 20 | 16 | 0 | 21 | 125 | 131.3 | B149-B150 |

- Please refer to B122 page for COOL-BURST accessories
- CDX: Refer to insert dimension

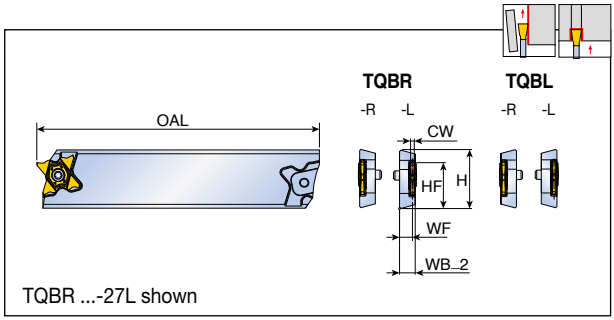
## Spare parts

| Designation | Screw | Wrench | | Plug |
|---|---|---|---|---|
| **TMY-TQHR-TB** | TS 40A100L | T-1508/5 | L-W 5/32 | PLG 5/16 UNF |

# TQBR/L-27

**Blades for parting and grooving**






TQBR ...-27L shown

| Designation | | Dimension (mm) | | | | | | Block | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | OAL | WF* | WB_2 | CW range | | |
| **TQBR/L** | **26-27R** | 26 | 21.4 | 150 | 7 | 8.5 | 0.5 ≤ CW < 5.3 | TTBN/U..-26 | TQ.. 27 |
| | **26-27L** | 26 | 21.4 | 150 | 7 | 8.5 | 0.5 ≤ CW < 5.3 | TTBN/U..-26 | |
| | **32-27R** | 32 | 24.9 | 150 | 7 | 8.5 | 0.5 ≤ CW < 5.3 | TTBN/U..-32 | B151-B159 |
| | **32-27L** | 32 | 24.9 | 150 | 7 | 8.5 | 0.5 ≤ CW < 5.3 | TTBN/U..-32 | |
| | | | | | | | | B49-B50 | |

- *: To the center of inserts up to 3.2mm width
- CDX: Refer to insert dimension

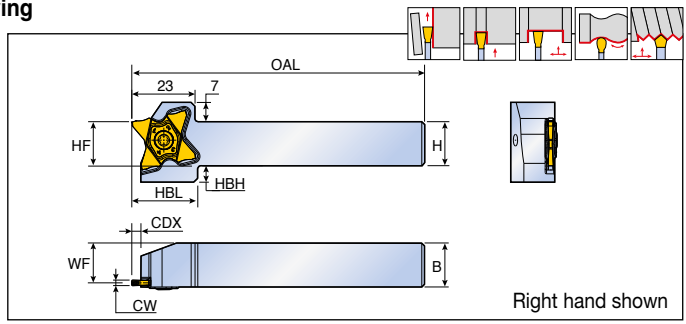
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| **TQBR/L 26-27R** | TS 50125I | T 10/20 | | |
| **TQBR/L 26-27L** | TS 50125IL | T 10/20 | | |
| **TQBR/L 32-27R** | TS 50125I | T 10/20 | | |
| **TQBR/L 32-27L** | TS 50125IL | T 10/20 | | |

# TQHR/L-27

## Holders for parting and grooving






| Designation | | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | OAL | WF | HBL | HBH | CW range | |
| **TQHR/L** | **10-27** | 10 | 10 | 10 | 120 | 8.5 | 24 | 9 | 0.5 ≤ CW < 5.3 | TQ.. 27 |
| | **12-27** | 12 | 12 | 12 | 120 | 10.5 | 24 | 8 | 0.5 ≤ CW < 5.3 | |
| | **16-27** | 16 | 16 | 16 | 120 | 14.5 | 24 | 6 | 0.5 ≤ CW < 5.3 | B151-B159 |
| | **20-27** | 20 | 20 | 20 | 120 | 18.5 | 24 | 2 | 0.5 ≤ CW < 5.3 | |
| | **25-27** | 25 | 25 | 25 | 135 | 23.5 | - | - | 0.5 ≤ CW < 5.3 | |
| | **16-27-8** (1) | 16 | 16 | 16 | 120 | 14.0 | 24 | 6 | 5.3 ≤ CW ≤ 8.2 | TQS 27 |
| | **20-27-8** (1) | 20 | 20 | 20 | 120 | 18.0 | 24 | 2 | 5.3 ≤ CW ≤ 8.2 | Special |
| | **25-27-8** (1) | 25 | 25 | 25 | 135 | 23.0 | - | - | 5.3 ≤ CW ≤ 8.2 | |

▸ (1) Only for TQS wider inserts from 5.3mm-8.2mm width
▸ CDX: Refer to insert dimension

## Spare parts

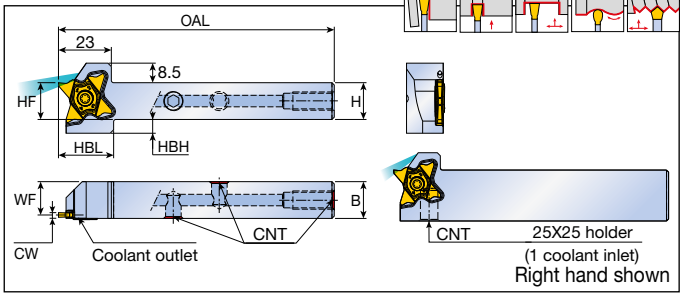
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TQHR/L 10/12/16/20/25** | TS 50125I (1) | T 10/20 | | |
| | TS 50125IL (2) | T 10/20 | | |
| **TQHR/L 16/20/25-27-8** | TS 50170I-IC (1) | T 15 | | |
| | TS 50170IL-IC (2) | T 15 | | |

▸ (1) For left holder ▸ (2) For right holder

# TQHR/L-27-TB

**Holders for parting and grooving with high pressure coolant**




| Designation | Dimension (mm) | | | | | | | CNT | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | H(HF) | B | OAL | WF | HBL | HBH | CW range | | |
| **TQHR/L 12-27-TB** | 12 | 12 | 120 | 10.5 | 24 | 8 | 0.5 ≤ CW < 5.3 | UNF 5/16 | TQ.. 27 |
| **16-27-TB** | 16 | 16 | 120 | 14.5 | 24 | 6 | 0.5 ≤ CW < 5.3 | UNF 5/16 | B151-B159 |
| **20-27-TB** | 20 | 20 | 120 | 18.5 | 24 | 2 | 0.5 ≤ CW < 5.3 | G1/8 BSPP | |
| **25-27-TB** | 25 | 25 | 135 | 23.5 | - | - | 0.5 ≤ CW < 5.3 | G1/8 BSPP | |

▸ Please refer to B122 page for COOL-BURST accessories
▸ CDX: Refer to insert dimension

## Spare parts

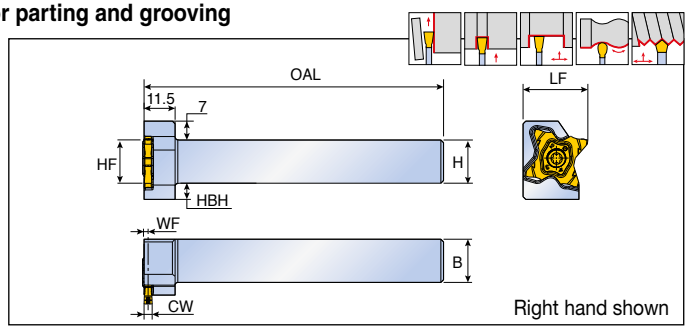
| Designation | Screw | Plug | Wrench | |
|---|---|---|---|---|
| **TQHR/L 12-27-TB** | TS 50125I (1)<br>TS 50125IL (2) | PLG 5/16 UNF | T 10/20 | L-W 5/32 |
| **TQHR/L 16-27-TB** | | PLG 5/16 UNF | T 10/20 | L-W 5/32 |
| **TQHR/L 20-27-TB** | | PLG G1/8-L6.5 | T 10/20 | L-W 5 |
| **TQHR/L 25-27-TB** | | - | T 10/20 | - |

▸ (1) For left holder ▸ (2) For right holder

# TQHPR/L-27

## Perpendicular type holders for parting and grooving






| Designation | Dimension (mm) | | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | H | HF | B | WF | OAL | LF | HBH | CW range | |
| **TQHPR/L 16-27** | 16 | 16 | 16 | 1.5 | 120 | 24 | 6 | 0.5 ≤ CW < 5.3 | TQ.. 27 |
| **20-27** | 20 | 20 | 20 | 1.5 | 120 | 28 | 2 | 0.5 ≤ CW < 5.3 | B151-B159 |
| **25-27** | 25 | 25 | 25 | 1.5 | 135 | 33 | - | 0.5 ≤ CW < 5.3 | |
| **20-27-8** (1) | 20 | 20 | 20 | 2.0 | 120 | 28 | 2 | 5.3 ≤ CW ≤ 8.2 | TQS 27 Special |
| **25-27-8** (1) | 25 | 25 | 25 | 2.0 | 135 | 33 | - | 5.3 ≤ CW ≤ 8.2 | |

▸ (1) Only for TQS wider inserts from 5.3mm-8.2mm width

## Spare parts

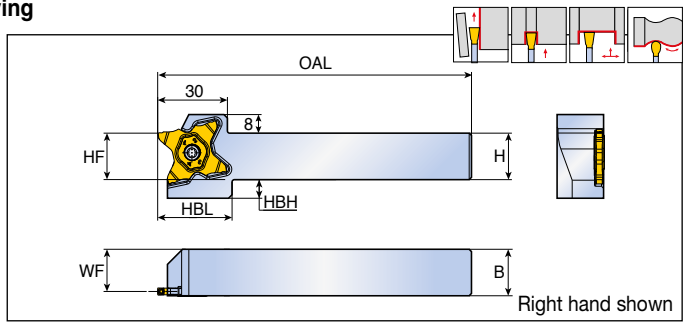
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TQHPR/L 16/20/25** | TS 50125I (1) | T 20 | | |
| | TS 50125IL(2) | T 20 | | |
| **TQHPR/L 16/20/25-8** | TS 50170I-IC (1) | T 15 | | |
| | TS 50170IL-IC (2) | T 15 | | |

▸ (1) For right holder ▸ (2) For left holder

# TQHR/L-34

## Holders for parting and grooving






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | H | HF | B | WF | OAL | HBL | HBH | |
| **TQHR/L 16-34** | 16 | 16 | 16 | 14.2 | 135 | 32 | 12 | TQC 34 |
| **20-34** | 20 | 20 | 20 | 18.2 | 135 | 32 | 8 | |
| **25-34** | 25 | 25 | 25 | 23.2 | 135 | 32 | 3 | B160-B161 |
| **32-34** | 32 | 32 | 32 | 30.2 | 135 | - | - | |

▸ CDX: Refer to insert dimension

## Spare parts

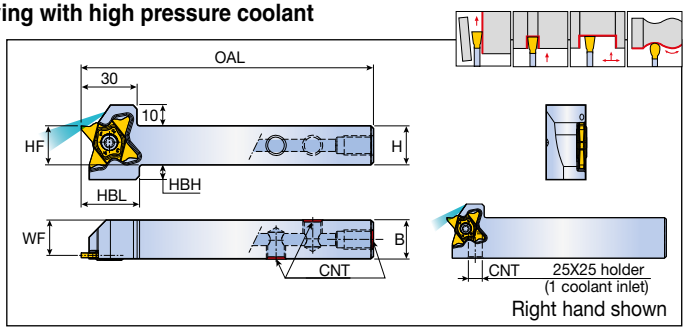
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TQHR/L-34** | TS 50125I [1]<br>TS 50125IL [2] | T 10/20 | | |
| | | | | |
| | | | | |

▸ [1] For left holder ▸ [2] For right holder

# TQHR/L-34-TB

## Holders for parting and grooving with high pressure coolant






| Designation | Dimension (mm) | | | | | | | CNT | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | H | HF | B | WF | OAL | HBL | HBH | | |
| **TQHR/L 16-34-TB** | 16 | 16 | 16 | 14.2 | 135 | 32 | 12 | UNF 5/16 | TQC 34 |
| **20-34-TB** | 20 | 20 | 20 | 18.2 | 135 | 32 | 8 | G 1/8 | |
| **25-34-TB** | 25 | 25 | 25 | 23.2 | 135 | 32 | 3 | G 1/8 | B160-B161 |

- Please refer to B122 page for COOL-BURST accessories
- CDX: Refer to insert dimension

## Spare parts

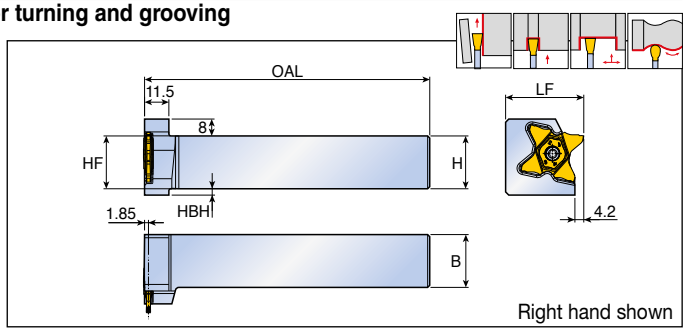
| Designation | Screw | Plug | Wrench | |
|---|---|---|---|---|
| | | | | |
| **TQHR/L 16-34-TB** | TS 50125I (1)<br>TS 50125IL(2) | PLG 5/16 UNF | T 10/20 | L-W 5/32 |
| **TQHR/L 20-34-TB** | | PLG G1/8-L6.5 | T 10/20 | L-W 5 |
| **TQHR/L 25-34-TB** | | - | T 10/20 | - |
| | | | | |

- (1) For left holder
- (2) For right holder

# TQHPR/L-34

## Perpendicular type holders for turning and grooving






| Designation | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|
| | H | HF | B | OAL | LF | HBH | |
| **TQHPR/L 20-34** | 20 | 20 | 20 | 135 | 32 | 8 | TQC 34 |
| **25-34** | 25 | 25 | 25 | 135 | 37 | 3 | B160-B161 |

▸ CDX: Refer to insert dimension

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TQHPR/L-34** | TS 50125I [1]<br>TS 50125IL [2] | T 10/20 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

▸ [1] For right holder ▸ [2] For left holder

# TQHR/L...EW-TB

**Holders for external wide grooving and profiling with high-pressure coolant**



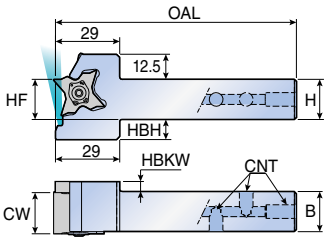




**Fig.1**

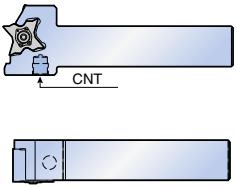



**Fig.2**

Right hand shown

| Designation | Dimension (mm) | | | | | | Fig. | CNT | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | H(HF) | B | OAL | CW | HBH | HBKW | | | |
| **TQHR/L 20-27-10EW-TB** | 20 | 20 | 120 | 10.5 | 13 | - | 1 | G 1/8 | TQBS 27-10EW |
| **20-27-15EW-TB** | 20 | 20 | 120 | 15.5 | 13 | - | 1 | G 1/8 | TQBS 27-15EW |
| **20-27-20EW-TB** | 20 | 20 | 120 | 20.5 | 13 | 5.0 | 1 | G 1/8 | TQBS 27-20EW |
| **25-27-10EW-TB** | 25 | 25 | 135 | 10.5 | 8 | - | 2 | G 1/8 | TQBS 27-10EW |
| **25-27-15EW-TB** | 25 | 25 | 135 | 15.5 | 8 | - | 2 | G 1/8 | TQBS 27-15EW |
| **25-27-20EW-TB** | 25 | 25 | 135 | 20.5 | 8 | - | 2 | G 1/8 | TQBS 27-20EW |
| | | | | | | | | | B159 |

▸ Please refer to B122 page for COOL-BURST accessories

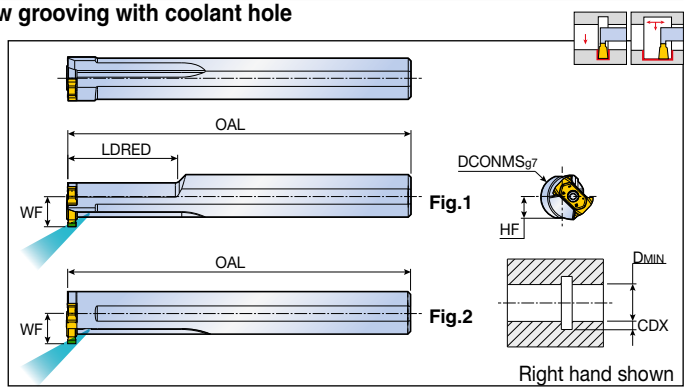
## Spare parts

| Designation | Clamping Pin | Pin Screw | Side screw | Plug | Wrench | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  | |
| **TQHR/L 20...10EW-TB** | PIN-TQ-W-T | TS 40F120A | BH M4X0.7X16-D7 | PLG G1/8-L6.5 | T 15 | L-W 2.5 | L-W 5 |
| **TQHR/L 20...15EW-TB** | PIN-TQ-W-T | TS 40F120A | BH M4X0.7X20-D7 | PLG G1/8-L6.5 | T 15 | L-W 2.5 | L-W 5 |
| **TQHR/L 20...20EW-TB** | PIN-TQ-W-T | TS 40F120A | BH M4X0.7X23-D7 | PLG G1/8-L6.5 | T 15 | L-W 2.5 | L-W 5 |
| **TQHR/L 25...10EW-TB** | PIN-TQ-W-T | TS 40F120A | BH M4X0.7X16-D7 | - | T 15 | L-W 2.5 | - |
| **TQHR/L 25...15EW-TB** | PIN-TQ-W-T | TS 40F120A | BH M4X0.7X20-D7 | - | T 15 | L-W 2.5 | - |
| **TQHR/L 25...20EW-TB** | PIN-TQ-W-T | TS 40F120A | BH M4X0.7X23-D7 | - | T 15 | L-W 2.5 | - |

# TQHIR/L

**Internal boring bars for shallow grooving with coolant hole**






| Designation | Dimension (mm) | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|
| | DCONMS | OAL | LDRED | WF | DMIN | HF | | |
| **TQHIR/L 16-16.5-14** | 16 | 125 | 40 | 11 | 16.5 | 7.5 | 1 | TQIS 14 |
| **16-16.5-14-L20** | 16 | 125 | 20 | 11 | 16.5 | 7.5 | 1 | B162 |
| **20-16.5-14** | 20 | 125 | 40 | 13 | 16.5 | 9 | 1 | |
| **20-16.5-14-L20** | 20 | 125 | 20 | 13 | 16.5 | 9 | 1 | |
| **16-20-14** | 16 | 125 | - | 11 | 20 | 7.5 | 2 | |
| **20-24-14** | 20 | 125 | - | 13 | 24 | 9 | 2 | |
| **25-29-14** | 25 | 200 | - | 15.5 | 29 | 11.5 | 2 | |
| **32-36-14** | 32 | 200 | - | 19 | 36 | 15 | 2 | |

▸ CDX: Refer to insert dimension

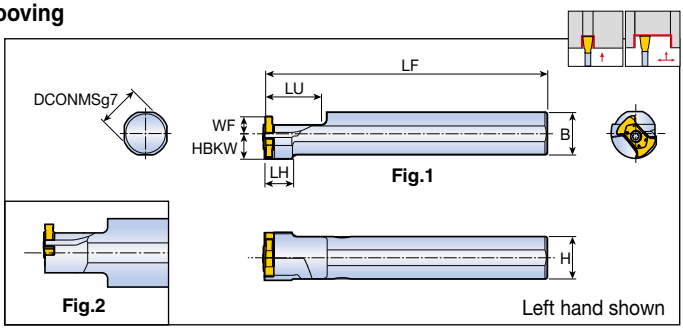
## Spare parts

| Designation | Screw | Wrench | Seal | |
|---|---|---|---|---|
| **TQHIR/L 16** | TS 25075I/HG | T 8 | PL 16 (M6) | |
| **TQHIR/L 20** | TS 25075I/HG | T 8 | PL 20 (M6) | |
| **TQHIR/L 25** | TS 25075I/HG | T 8 | PL 25 (R1/8) | |
| **TQHIR/L 32** | TS 25075I/HG | T 8 | PL 32 (R1/8) | |

# TMS-TQHIL

## Sleeve holders for external grooving





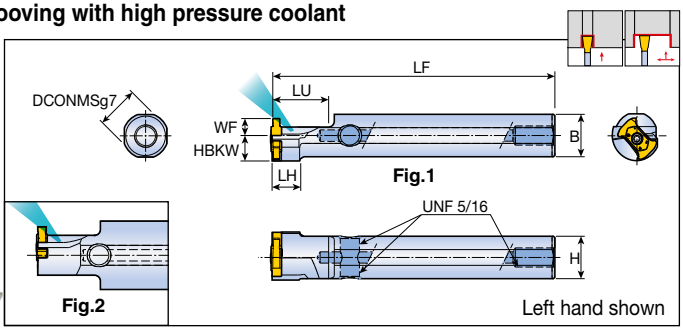

| Designation | | Dimension (mm) | | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H=B | LF | LU | LH | WF | HBKW | | |
| **TMS-TQHIL** | **16-14** | 16 | 15 | 100 | 20 | 10 | 6 | 9 | 1 | TQIS 14 B162 |
| | **19.05-14** | 19.05 | 18 | 100 | 20 | - | 6 | 9 | 1 | |
| | **20-14** | 20 | 19 | 100 | 20 | 20 | 6 | 9 | 2 | |
| | **22-14** | 22 | 21 | 100 | 20 | 22 | 10 | 7 | 2 | |
| | **25-14** | 25 | 24 | 100 | 20 | 22 | 10 | 7 | 2 | |
| | **25.4-14** | 25.4 | 24.4 | 100 | 20 | 22 | 10 | 7 | 2 | |

▸ CDX: Refer to insert dimension

# TMS-TQHIL-TB

## Sleeve holders for external grooving with high pressure coolant






| Designation | | Dimension (mm) | | | | | | | Fig. | Insert |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | H=B | LF | LU | LH | WF | HBKW | | |
| **TMS-TQHIL** | **16-14-TB** | 16 | 15 | 100 | 20 | 10 | 6 | 9 | 1 | TQIS 14 B162 |
| | **25-14-TB** | 25 | 24 | 100 | 20 | 22 | 10 | 5 | 2 | |

▸ Please refer to B122 page for COOL-BURST accessories
▸ CDX: Refer to insert dimension

## Spare parts

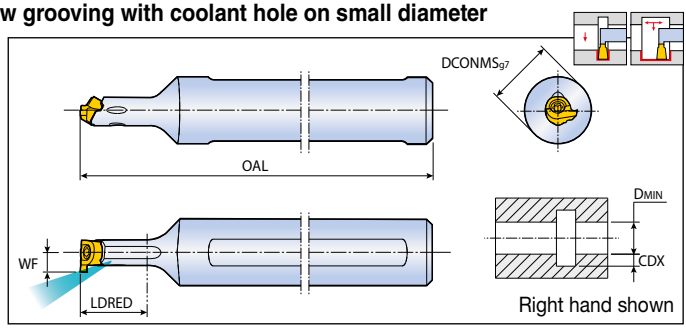
| Designation | Screw | Wrench | | Plug |
|---|---|---|---|---|
| |  |  |  |  |
| **TMS-TQHIL** | TS 25075I/HG | T 8 | - | - |
| **TMS-TQHIL-TB** | TS 25075I/HG | T 8 | L-W 5/32 | PLG 5/16 UNF |

# TMIHR/L

WINGROOVE

**Internal boring bars for shallow grooving with coolant hole on small diameter**






| Designation | | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONMS | OAL | LDRED | WF | DMIN | |
| **TMIHR/L** | **12-12-6** | 12 | 80 | 12 | 3.5 | 6.0 | TMIR/L 6 |
| | **12-16-8** | 12 | 80 | 16 | 4.7 | 8.0 | TMIR/L 8 |

B163

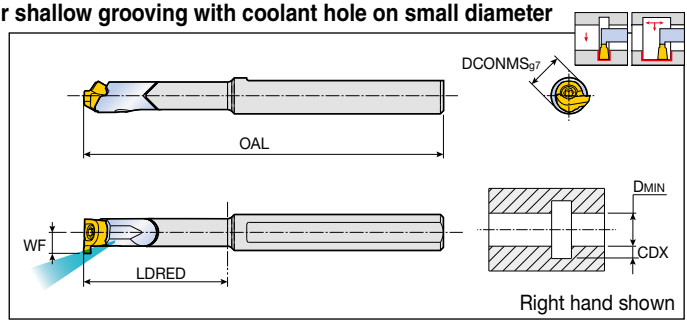
▸ CDX: Refer to insert dimension

# TMIHR/L-C

WINGROOVE

**Internal carbide boring bars for shallow grooving with coolant hole on small diameter**






| Designation | | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONMS | OAL | LDRED | WF | DMIN | |
| **TMIHR/L** | **06C-18-6** | 6 | 54 | 18 | 3.5 | 6.0 | TMIR/L 6 |
| | **06C-24-6** | 6 | 60 | 24 | 3.5 | 6.0 | TMIR/L 6 |
| | **12C-24-8** | 12 | 92 | 24 | 4.7 | 8.0 | TMIR/L 8 |
| | **12C-32-8** | 12 | 100 | 32 | 4.7 | 8.0 | TMIR/L 8 |

B163

▸ CDX: Refer to insert dimension

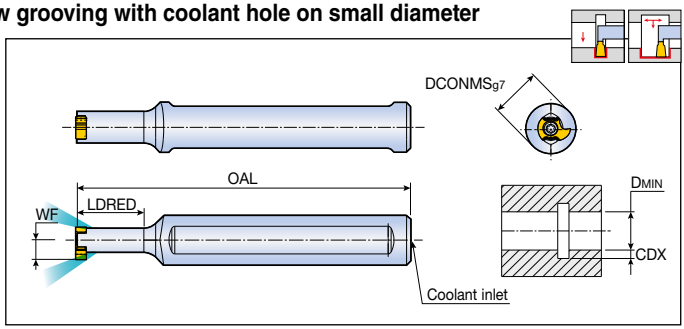
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TMIHR/L 12-12-6** | TS 18049/HG-P | T 6P | | |
| **TMIHR/L 12-16-8** | TS 20055I | T 6 | | |
| **TMIHR/L 06C** | TS 18049/HG-P | T 6P | | |
| **TMIHR/L 12C** | TS 20055I | T 6 | | |

# TMIHN

**Internal boring bars for shallow grooving with coolant hole on small diameter**





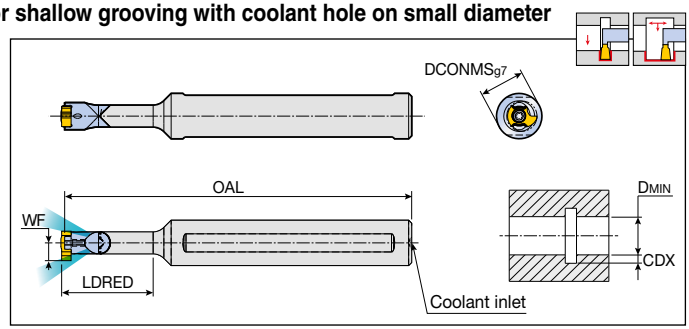

| Designation | Dimension (mm) | | | | | Coolant inlet | Insert |
|---|---|---|---|---|---|---|---|
| | DCONMS | OAL | LDRED | WF | DMIN | | |
| **TMIHN 12-16-8** | 12 | 80 | 16 | 4.7 | 10 | Ø3 | TMIS 8 B163 |
| | | | | | | | |
| | | | | | | | |

▸ CDX: Refer to insert dimension

# TMIHN-C

**Internal carbide boring bars for shallow grooving with coolant hole on small diameter**






| Designation | Dimension (mm) | | | | | Coolant inlet | Insert |
|---|---|---|---|---|---|---|---|
| | DCONMS | OAL | LDRED | WF | DMIN | | |
| **TMIHN 12C-24-8** | 12 | 92 | 24 | 4.7 | 10 | Ø2 | TMIS 8 B163 |
| **12C-32-8** | 12 | 100 | 32 | 4.7 | 10 | Ø2 | |
| | | | | | | | |
| | | | | | | | |

▸ CDX: Refer to insert dimension

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TMIHN** | TS 22052I/HG | T 7 | | |
| **TMIHN -C** | TS 22052I/HG | T 7 | | |
| | | | | |
| | | | | |

## Hose

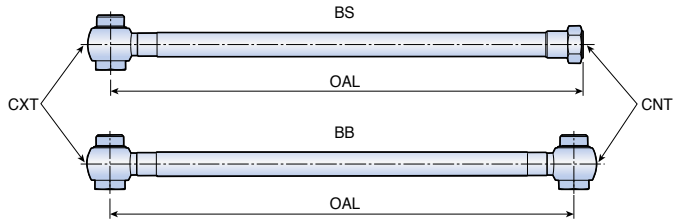



Fig.1

Fig.2

| Designation | | Dimension | | | | Fig. |
|---|---|---|---|---|---|---|
| | | OAL (mm) | CXT | CNT | Max.pressure (Bar) | |
| **TB HOSE** | **G1/8-7/16-200BS** | 200 | G1/8-28 BSPP | 7/16-20 UNF (Flare 37°) | 260 | 1 |
| | **G1/8-7/16-250BS** | 250 | G1/8-28 BSPP | 7/16-20 UNF (Flare 37°) | 260 | 1 |
| | **G1/8-G1/8-200BB** | 200 | G1/8-28 BSPP | G1/8-28 BSPP | 260 | 2 |
| | **G1/8-G1/8-250BB** | 250 | G1/8-28 BSPP | G1/8-28 BSPP | 260 | 2 |
| | **5/16-7/16-200BS** | 200 | 5/16-24 UNF | 7/16-20 UNF (Flare 37°) | 200 | 1 |
| | **5/16-G1/8-200BS** | 200 | 5/16-24 UNF | G1/8-28 BSPP | 200 | 1 |

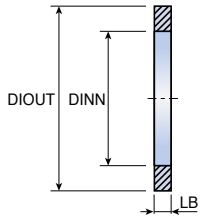
▸ Hose is ordered separately

## Spare parts

| Designation | Bolt | Seal washer | |
|---|---|---|---|
| |  |  | |
| **TB HOSE 5/16-7/16-200BS** | TB BANJO BOLT 5/16" UNF | TB COPPER SEAL 5/16" | |
| **TB HOSE G1/8-G1/8-200BB** | TB BANJO BOLT G1/8" | TB COPPER SEAL 1/8" | |
| **TB HOSE G1/8-G1/8-250BB** | TB BANJO BOLT G1/8" | TB COPPER SEAL 1/8" | |

▸ Bolt and Seal washer are ordered separately

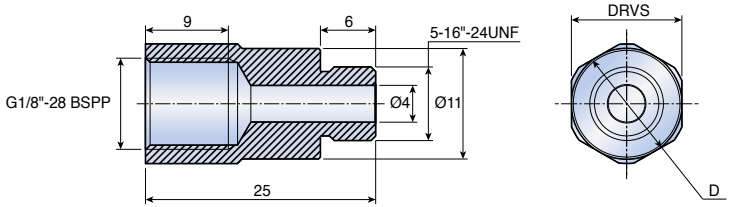
## Seal washer




| Designation | | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | DIOUT | DINN | LB | | | | |
| **TB COPPER** | **SEAL 1/8"** | 15 | 10 | 1 | | | | |
| | **SEAL 5/16"** | 12 | 8 | 1 | | | | |
| | | | | | | | | |

▸ Seal washer is ordered separately

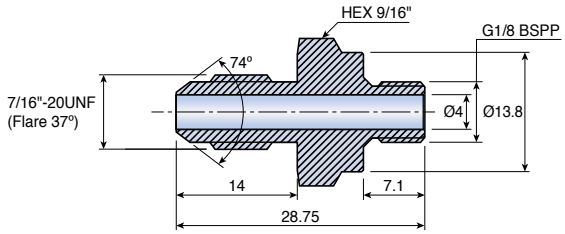
## Connector




| Designation | | Dimension (mm) | |
|---|---|---|---|
| | | D | DRVS |
| **TB CONECTOR** | **5/16"-G1/8"** | 13 | 12 |
| | **5/16"-G1/8"-12** | 12 | 11 |

▸ Connector is ordered separately

## Adapter

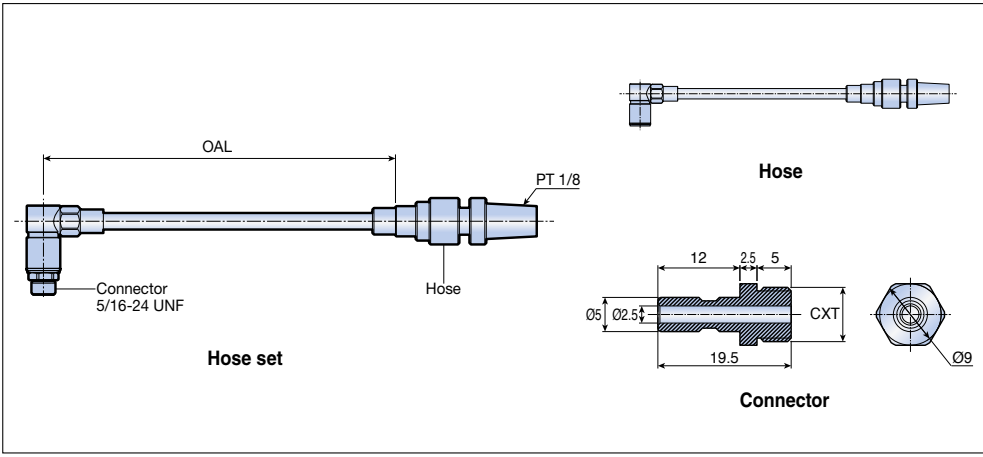



| Designation |
|---|
| **TB NIPPLE G1/8-7/16 UNF** |

▸ Adapter is ordered separately

# Accessories

## Coupling system




| Components | Designation | | Dimension | | |
|---|---|---|---|---|---|
| | | | OAL (mm) | CXT | Maximum pressure (Bar) |
| **Hose set** | **S-TB HOSE** | **R1/8-COUPLE-100** | 100 | - | 140 |
| | | **R1/8-COUPLE-200** | 200 | - | 140 |
| | | **R1/8-COUPLE-300** | 300 | - | 140 |
| **Hose** | **TB HOSE** | **R1/8-COUPLE-200** | 200 | - | 140 |
| | | **R1/8-COUPLE-300** | 300 | - | 140 |
| **Connector** | **TB CONECTOR** | **5/16-COUPLE** | - | 5/16-24 UNF | - |
| | | **G1/8-COUPLE** | - | G1/8-28 BSPP | - |
| | | **R1/8-COUPLE** | - | PT 1/8 | - |

▸ Hose set, hose and connector are ordered separately

# Parting & Grooving Inserts and Solid Bars



# Insert Designation System

**Parting and grooving**

Only for handed insert

| T | D | C | 3 | - | 6 | R | S |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | | 5 | 6 | 7 |

## 1 TaeguTec

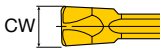
## 2 Cutting edge type

| S | D |
|---|---|
| Single-ended insert | Double-ended insert |

## 3 Chip breaker type

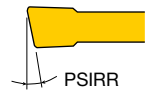
| | |
|---|---|
| C | J |
| V | UF |
| For medium | For light |

## 4 Width of insert




**2** = 2.0 mm
**3** = 3.0 mm
**4** = 4.0 mm
**5** = 5.0 mm
**6** = 6.0 mm

## 5 Lead angle




Right hand shown

## 6 Hand of insert

| L | R |
|---|---|
| Left hand | Right hand |

## 7 Corner type

| S | |
|---|---|
| Sharp corner | Standard corner radius |

# Insert Designation System

**Turning, grooving and face machining**

| T | D | (F) | T | 3.00 | E | - | 0.40 | R |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | | 7 | 8 |

## 1 TaeguTec

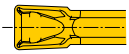
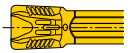
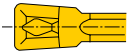
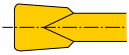
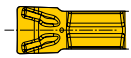
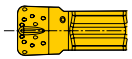
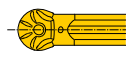
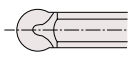
## 2 Cutting edge type

| S | D |
|---|---|
|  |  |
| Single-ended insert | Double-ended insert |

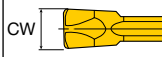
## 3 Application type

| | |
|---|---|
| **F** | Face turning and grooving |
| **I** | Internal turning and grooving |
| **X** | Universal |

## 4 Chip breaker type

| XU | XY | CT | T | G |
|---|---|---|---|---|
|  |  |  |  |  |
| Universal chip breaker (General) | Universal chip breaker (Roughing) | Universal chip breaker (Negative land) | For steel, high-temp. alloy and cast iron | Without chip breaker |
| **M** | **P** | **RU** | **RS** | **A** |
|  |  |  |  |  |
| Pressed for small diameter | Ground for small diameter | General profiling | Precision profiling | For aluminum |

## 5 Width of insert (mm)

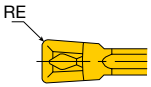



| | |
|---|---|
| □.□□ | Precision insert |
| □ | Pressed insert |

## 6 Application type

| | |
|---|---|
| **E** | For turning and grooving |
| **No designation** | For precision grooving |

## 7 Corner radius (mm)



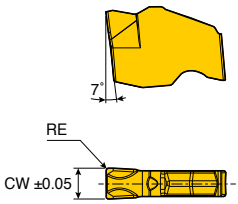

| | |
|---|---|
| □.□□ | Precision insert |
| □.□ | Pressed insert |

## 8 Hand of insert - For face machining

| L | R |
|---|---|
|  |  |
| Left hand insert on left hand holder | Right hand insert on right hand holder |

# SFC

**Single-ended inserts for parting and deep grooving with C-Type chip breaker**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | | | |
| **1.6** | 1.6 | 0.2 | | | |
| **2** | 2.0 | 0.2 | | | |
| **3** | 3.0 | 0.2 | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

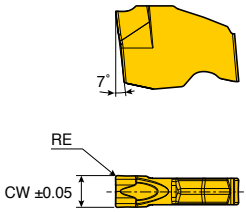
| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **SFC 1.6** | 1 | 0.05-0.15 | | | | | ● | | ● | |
| | **2** | 2 | 0.08-0.20 | | | | | ● | | ● | ● |
| | **3** | 3 | 0.10-0.25 | | | | | ● | | ● | ● |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

B34-B41 Cutting Condition B187

●: Standard items

# SFJ

**Single-ended inserts for parting and deep grooving with J-Type chip breaker**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | | | |
| **2** | 2.0 | 0.2 | | | |
| **3** | 3.0 | 0.2 | | | |
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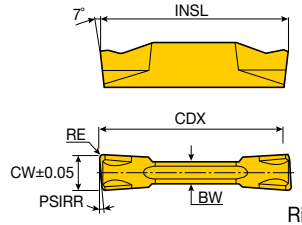
| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **SFJ 2** | 2 | 0.05-0.15 | | | | | ● | | ● | ● |
| | **3** | 3 | 0.08-0.20 | | | | | ● | | ● | ● |
| | | | | | | | | | | | |
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B34-B41 Cutting Condition B187

●: Standard items

# TDC

## Double-ended inserts for parting and grooving with C-Type chip breaker




Right hand shown

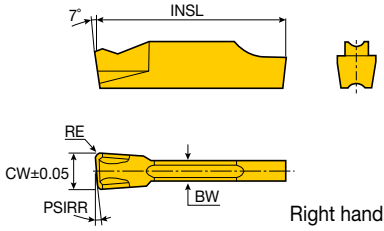
| Size | Dimension (mm) | | | | | |
|---|---|---|---|---|---|---|
| | CW | RE | BW | INSL | PSIRR/L | CDX |
| **2 (..R/L)** | 2.0 | 0.20 | 1.7 | 20.0 | 0°-15° | 19 |
| **2 RS/LS** | 2.0 | 0.02 | 1.7 | 19.6 | 15° | 19 |
| **3 (..R/L)** | 3.0 | 0.20 | 2.4 | 20.0 | 0°-15° | 19 |
| **3 RS/LS** | 3.0 | 0.02 | 2.4 | 19.6 | 6°-15° | 19 |
| **3.18** | 3.18 | 0.20 | 2.4 | 20.0 | - | 19 |
| **4 (..R/L)** | 4.0 | 0.30 | 3.0 | 20.0 | 0°-15° | 19 |
| **5 (..R/L)** | 5.0 | 0.30 | 4.0 | 25.0 | 0°-4° | 24 |
| **6** | 6.0 | 0.30 | 5.0 | 25.0 | - | 24 |
| **8** | 8.0 | 0.40 | 6.0 | 30.0 | - | 29 |

| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDC 2** | 2 | 0.05-0.18 | ● | | | | ● | ● | ● | ● |
| | **2-6R/L** | 2 | 0.04-0.14 | | | | | ● | ● | ● | ● |
| | **2-8R/L** | 2 | 0.04-0.14 | | | | | | ● | ● | |
| | **2-15R/L** | 2 | 0.04-0.12 | | | | | ● | ● | ● | |
| | **2-15RS/LS** | 2 | 0.02-0.12 | | | | | ● | ● | ● | |
| | **3** | 3 | 0.07-0.25 | ● | | | ● | ● | ● | ● | ● |
| | **3-6R/L** | 3 | 0.06-0.18 | | | | | ● | ● | ● | ● |
| | **3-6RS/LS** | 3 | 0.03-0.18 | | | | | ● | ● | | |
| | **3-15R/L** | 3 | 0.06-0.16 | | | | | ● | ● | ● | |
| | **3-15RS/LS** | 3 | 0.03-0.16 | | | | | | ● | ● | |
| | **3.18** | 3 | 0.07-0.25 | | | | | ● | | ● | |
| | **4** | 4 | 0.08-0.30 | ● | | | | ● | ● | ● | ● |
| | **4-4R/L** | 4 | 0.06-0.24 | | | | | ● | ● | ● | ● |
| | **4-15R/L** | 4 | 0.06-0.22 | | | | | | ● | ● | |
| | **5** | 5 | 0.09-0.35 | | | | | ● | ● | ● | ● |
| | **5-4R/L** | 5 | 0.07-0.28 | | | | | ● | ● | ● | |
| | **6** | 6 | 0.12-0.40 | | | | | ● | ● | ● | ● |
| | **8** | 8 | 0.14-0.43 | | | | | ● | | ● | |

Cutting Condition B187

●: Standard items

## Single-ended inserts for parting and deep grooving with C-Type chip breaker




Right hand shown

| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | PSIRR/L |
| **2 (..R/L)** | 2.0 | 0.20 | 1.7 | 19.7 | 0°-15° |
| **2 RS/LS** | 2.0 | 0.02 | 1.7 | 19.5 | 15° |
| **3 (..R/L)** | 3.0 | 0.20 | 2.4 | 19.6 | 0°-15° |
| **3 RS/LS** | 3.0 | 0.02 | 2.4 | 19.4 | 15° |
| **4 (..R/L)** | 4.0 | 0.30 | 3.0 | 19.7 | 0°-15° |
| **5 (..R/L)** | 5.0 | 0.30 | 4.0 | 24.6 | 0°-4° |
| **6** | 6.0 | 0.30 | 5.0 | 24.7 | - |
| **8** | 8.0 | 0.40 | 6.0 | 30.1 | - |

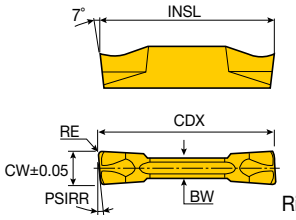
| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TSC 2** | 2 | 0.05-0.18 | | | | | ● | ● | ● | ● |
| | **2-6R/L** | 2 | 0.04-0.14 | | | | | ● | ● | ● | ● |
| | **2-8R** | 2 | 0.04-0.14 | | | | | | | ● | |
| | **2-15R/L** | 2 | 0.04-0.12 | | | | | | ● | ● | |
| | **2-15RS/LS** | 2 | 0.02-0.12 | | | | | | ● | ● | |
| | **3** | 3 | 0.07-0.25 | | | | | ● | ● | ● | ● |
| | **3-6R/L** | 3 | 0.06-0.18 | | | | | ● | ● | ● | ● |
| | **3-15R/L** | 3 | 0.06-0.16 | | | | | | | ● | |
| | **3-15RS** | 3 | 0.03-0.16 | | | | | | ● | ● | |
| | **4** | 4 | 0.08-0.30 | | | | | ● | ● | ● | |
| | **4-4R/L** | 4 | 0.06-0.24 | | | | | ● | ● | ● | |
| | **4-6R** | 4 | 0.06-0.23 | | | | | | ● | | |
| | **4-15R/L** | 4 | 0.06-0.22 | | | | | | ● | ● | |
| | **5** | 5 | 0.09-0.35 | | | | | ● | ● | ● | ● |
| | **5-4R/L** | 5 | 0.07-0.28 | | | | | | ● | ● | |
| | **6** | 6 | 0.12-0.40 | | | | | ● | ● | ● | ● |
| | **8** | 8 | 0.14-0.43 | | | | | ● | | ● | |

●: Standard items

Cutting Condition B187

# TDJ

**Double-ended inserts for parting and grooving with J-Type chip breaker**




Right hand shown

| Size | Dimension (mm) | | | | | |
|---|---|---|---|---|---|---|
| | CW | RE | BW | INSL | PSIRR/L | CDX |
| **1.4** | 1.4 | 0.16 | 1.0 | 16.0 | - | 15 |
| **2 (..R/L)** | 2.0 | 0.20 | 1.7 | 20.0 | 0°-15° | 19 |
| **2 RS/LS** | 2.0 | 0.02 | 1.7 | 19.6 | 6°-15° | 19 |
| **3 (..R/L)** | 3.0 | 0.20 | 2.4 | 20.0 | 0°-15° | 19 |
| **3 RS/LS** | 3.0 | 0.02 | 2.4 | 19.6 | 6°-15° | 19 |
| **3.18** | 3.18 | 0.20 | 2.4 | 20.0 | - | 19 |
| **4 (..R/L)** | 4.0 | 0.30 | 3.0 | 20.0 | 0°-15° | 19 |
| **5 (..R/L)** | 5.0 | 0.30 | 4.0 | 25.0 | 0°-4° | 24 |
| **6** | 6.0 | 0.30 | 5.0 | 25.0 | - | 24 |

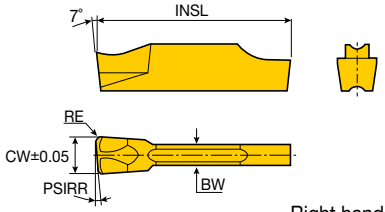
| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDJ 1.4** | 1 | 0.02-0.10 | | | | | ● | | ● | |
| | **2** | 2 | 0.04-0.12 | | | | | ● | ● | ● | ● |
| | **2-6R/L** | 2 | 0.03-0.08 | | | | | ● | ● | ● | ● |
| | **2-6RS/LS** | 2 | 0.03-0.07 | | | | | ● | ● | ● | |
| | **2-8R/L** | 2 | 0.03-0.08 | | | | | ● | ● | ● | |
| | **2-15R/L** | 2 | 0.03-0.08 | | | | | ● | ● | ● | |
| | **2-15RS/LS** | 2 | 0.03-0.07 | | | | | ● | ● | ● | |
| | **3** | 3 | 0.04-0.16 | | | | | ● | ● | ● | ● |
| | **3-6R/L** | 3 | 0.03-0.12 | | | | | ● | ● | ● | ● |
| | **3-6RS/LS** | 3 | 0.03-0.10 | | | | | | ● | ● | |
| | **3-15R/L** | 3 | 0.03-0.12 | | | | | ● | ● | ● | |
| | **3-15RS/LS** | 3 | 0.03-0.10 | | | | | | ● | ● | |
| | **3.18** | 3 | 0.04-0.16 | | | | | ● | | ● | ● |
| | **4** | 4 | 0.05-0.18 | | | | | ● | ● | ● | ● |
| | **4-4R/L** | 4 | 0.05-0.14 | | | | | ● | ● | ● | ● |
| | **4-15R/L** | 4 | 0.05-0.12 | | | | | | ● | ● | ● |
| | **5** | 5 | 0.05-0.20 | | | | | ● | ● | ● | ● |
| | **5-4R/L** | 5 | 0.05-0.16 | | | | | | ● | ● | ● |
| | **6** | 6 | 0.05-0.22 | | | | | ● | ● | ● | ● |

Cutting Condition B187

●: Standard items

# TSJ

## Single-ended inserts for parting and deep grooving with J-Type chip breaker




Right hand shown

| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | PSIRR/L |
| **2 (..R/L)** | 2.0 | 0.20 | 1.7 | 19.8 | 0°-15° |
| **2 RS/LS** | 2.0 | 0.02 | 1.7 | 19.6 | 15° |
| **3 (..R/L)** | 3.0 | 0.20 | 2.4 | 19.6 | 0°-15° |
| **3 RS/LS** | 3.0 | 0.02 | 2.4 | 19.4 | 6°-15° |
| **4 (..R/L)** | 4.0 | 0.30 | 3.0 | 19.7 | 0°-15° |
| **5 (..R/L)** | 5.0 | 0.30 | 4.0 | 24.6 | - |
| **6** | 6.0 | 0.30 | 5.0 | 24.5 | - |

| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TSJ 2** | 2 | 0.04-0.12 | | | | | ● | ● | ● | ● |
| | **2-6R/L** | 2 | 0.03-0.08 | | | | | | ● | ● | ● |
| | **2-15R/L** | 2 | 0.03-0.08 | | | | | | ● | ● | |
| | **2-15RS/LS** | 2 | 0.03-0.08 | | | | | | | ● | |
| | **2-8R** | 2 | 0.03-0.07 | | | | | | | ● | |
| | **3** | 3 | 0.04-0.16 | | | | | ● | ● | ● | ● |
| | **3-6R/L** | 3 | 0.03-0.12 | | | | | ● | ● | ● | ● |
| | **3-6RS** | 3 | 0.03-0.10 | | | | | ● | ● | ● | |
| | **3-15R/L** | 3 | 0.03-0.12 | | | | | | ● | ● | |
| | **3-15RS/LS** | 3 | 0.03-0.10 | | | | | | ● | ● | |
| | **4** | 4 | 0.05-0.18 | | | | | ● | ● | ● | ● |
| | **4-4R/L** | 4 | 0.05-0.14 | | | | | | ● | ● | |
| | **4-15R/L** | 4 | 0.05-0.12 | | | | | | | ● | |
| | **5** | 5 | 0.05-0.20 | | | | | ● | ● | ● | ● |
| | **6** | 6 | 0.05-0.22 | | | | | ● | ● | ● | ● |

●: Standard items

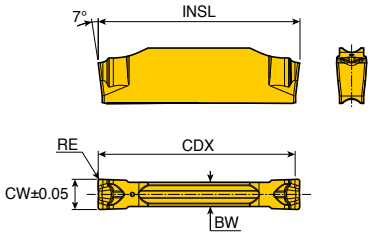
Cutting Condition B187



ADVANCE CUTTING TaeguTec

# TDUF

**Double-ended inserts for parting and grooving with UF-Type chip breaker**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | CDX |
| **2** | 2.0 | 0.2 | 1.5 | 20 | 19 |
| **3** | 3.0 | 0.2 | 2.4 | 20 | 19 |
| | | | | | |
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| | | | | | |
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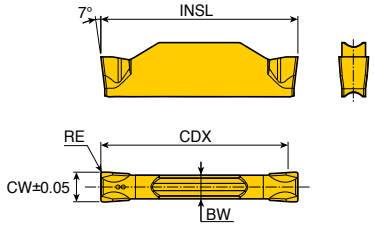
| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDUF 2** | 2 | 0.03-0.11 | | | | | ● | | | |
| | **3** | 3 | 0.04-0.13 | | | | | ● | | | |
| | | | | | | | | | | | |
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Cutting Condition B187

●: Standard items

# TDV

**Double-ended inserts for parting and grooving with V-Type chip breaker**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | CDX |
| **2** | 2.0 | 0.2 | 1.7 | 20 | 19 |
| **3** | 3.0 | 0.2 | 2.4 | 20 | 19 |
| **4** | 4.0 | 0.3 | 3.0 | 20 | 19 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Insert | Designation | Insert seat size | Feed (mm/rev) | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDV 2** | 2 | 0.04-0.12 | | | | | ● | | ● | |
| | **3** | 3 | 0.06-0.18 | | | | | ● | | ● | |
| | **4** | 4 | 0.08-0.20 | | | | | ● | | ● | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

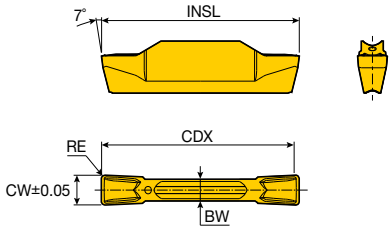
Cutting Condition B187

●: Standard items

# TDCT

T-CLAMP

**Double-ended inserts for turning and grooving**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | CDX |
| **2** | 2.0 | 0.30 | 1.7 | 20 | 19 |
| **3** | 3.0 | 0.30 | 2.2 | 20 | 19 |
| **4** | 4.0 | 0.40 | 3.0 | 20 | 19 |
| **5** | 5.0 | 0.40 | 4.0 | 25 | 24 |
| **6** | 6.0 | 0.40 | 5.0 | 25 | 24 |
| | | | | | |
| | | | | | |

| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDCT 2E-0.3** | 2 | 0.4-1.2 | 0.12-0.18 | 0.05-0.18 | | | ● | | ● | | ● | ● |
| | **3E-0.3** | 3 | 0.4-1.8 | 0.15-0.19 | 0.07-0.25 | | | ● | | ● | | ● | ● |
| | **4E-0.4** | 4 | 0.5-2.4 | 0.18-0.24 | 0.08-0.30 | | | ● | | ● | | | ● |
| | **5E-0.4** | 5 | 0.5-3.0 | 0.20-0.30 | 0.09-0.35 | | | ● | | ● | | | ● |
| | **6E-0.4** | 6 | 0.5-3.6 | 0.22-0.36 | 0.12-0.40 | | | ● | | ● | | | ● |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

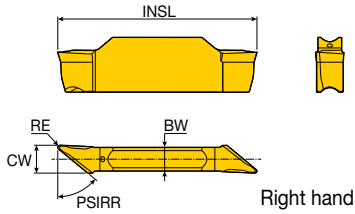
Cutting Condition B187

●: Standard items

# TDMV

VT-CLAMP

**Double-ended inserts for turning and grooving with V-type shape**




Right hand shown

| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | PSIRR/L | BW | INSL |
| **2.8E-0.2** | 2.8 | 0.2 | 50 | 2.4 | 20 |
| **2.8E-0.4** | 2.8 | 0.4 | 50 | 2.4 | 20 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| Insert | Designation | Insert Seat Size | BWT(1) | | FWT(2) | | Grade |
|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | ap (mm) | Feed (mm/rev) | TT9080 |
|  | **TDMV 2.8E-0.2-R/L** | 3 | 0.2-2.5 | 0.05-0.18 | 0.3-1.5 | 0.03-0.15 | ● |
| | **2.8E-0.4-R/L** | 3 | 0.4-2.5 | 0.08-0.25 | 0.4-1.5 | 0.05-0.18 | ● |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Cutting Condition B187

- Recommended to use with TGFR/L type holder
- Lower supporter must be modified when using external grooving holder, for example TTER/L type
- (1) BWT: Backward turning
- (2) FWT: Forward turning

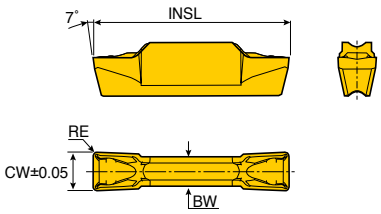
●: Standard items



ADVANCE CUTTING TaeguTec

# TDXU

**Double-ended inserts for grooving, turning, face grooving and parting**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **2E-0.3** | 2.0 | 0.3 | 1.7 | 20.0 |
| **3E-0.3** | 3.0 | 0.3 | 2.2 | 20.0 |
| **4E-0.4** | 4.0 | 0.4 | 3.0 | 20.0 |
| **4E-0.8** | 4.0 | 0.8 | 3.0 | 20.0 |
| **5E-0.4** | 5.0 | 0.4 | 4.0 | 25.0 |
| **5E-0.8** | 5.0 | 0.8 | 4.0 | 25.0 |
| **6E-0.4** | 6.0 | 0.4 | 5.0 | 25.0 |
| **6E-0.8** | 6.0 | 0.8 | 5.0 | 25.0 |
| **8E-0.8** | 8.0 | 0.8 | 6.0 | 30.0 |

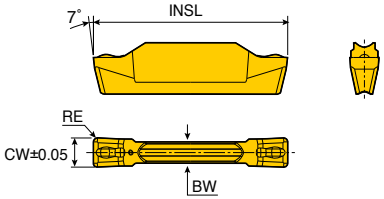
| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT3010 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDXU 2E-0.3** | 2 | 0.4-1.2 | 0.12-0.18 | 0.03-0.20 | | ● | ● | ● | ● | ● | | ● | ● |
| | **3E-0.3** | 3 | 0.4-1.8 | 0.15-0.19 | 0.07-0.22 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | **4E-0.4** | 4 | 0.5-2.4 | 0.18-0.24 | 0.08-0.27 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | **4E-0.8** | 4 | 1.0-2.4 | 0.18-0.24 | 0.08-0.27 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | **5E-0.4** | 5 | 0.5-3.0 | 0.20-0.30 | 0.10-0.30 | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| | **5E-0.8** | 5 | 1.0-3.0 | 0.23-0.35 | 0.10-0.30 | ● | ● | ● | ● | ● | ● | ● | ● | |
| | **6E-0.4** | 6 | 0.5-3.6 | 0.22-0.36 | 0.13-0.40 | | ● | ● | ● | ● | ● | ● | ● | |
| | **6E-0.8** | 6 | 1.0-3.6 | 0.24-0.42 | 0.13-0.40 | | ● | ● | ● | ● | ● | ● | ● | |
| | **8E-0.8** | 8 | 1.0-4.8 | 0.30-0.56 | 0.14-0.50 | | ● | ● | | ● | ● | ● | ● | |

Cutting Condition B187

●: Standard items

# TDXT

**Double-ended inserts for grooving, turning and face grooving**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **3E-0.4** | 3.0 | 0.4 | 2.2 | 20.0 |
| **4E-0.4** | 4.0 | 0.4 | 3.0 | 20.0 |
| **5E-0.4** | 5.0 | 0.4 | 4.0 | 25.0 |
| **6E-0.8** | 6.0 | 0.8 | 5.0 | 25.0 |
| **8E-0.8** | 8.0 | 0.8 | 6.0 | 30.0 |
| | | | | |
| | | | | |

| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDXT 3E-0.4** | 3 | 0.5-1.8 | 0.15-0.22 | 0.06-0.15 | ● | ● | ● | ● | ● | ● | | ● |
| | **4E-0.4** | 4 | 0.5-2.4 | 0.18-0.30 | 0.07-0.20 | ● | ● | ● | ● | ● | ● | | ● |
| | **5E-0.4** | 5 | 0.5-3.0 | 0.20-0.35 | 0.08-0.23 | ● | ● | ● | ● | ● | | | ● |
| | **6E-0.8** | 6 | 1.0-3.6 | 0.24-0.42 | 0.12-0.30 | | ● | ● | ● | ● | | | ● |
| | **8E-0.8** | 8 | 1.0-4.8 | 0.30-0.56 | 0.15-0.35 | | ● | ● | ● | ● | | | ● |

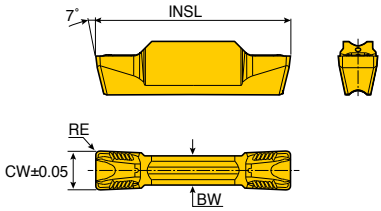
Cutting Condition B187

▸ Non-standard grade production available at the customer's request

●: Standard items

# TDXY

**Double-ended inserts for grooving, turning and face grooving**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | |
| **3E-0.4** | 3.0 | 0.40 | 2.2 | 20 | |
| **4E-0.4** | 4.0 | 0.40 | 3.0 | 20 | |
| **4E-0.8** | 4.0 | 0.80 | 3.0 | 20 | |
| **5E-0.4** | 5.0 | 0.40 | 4.0 | 25 | |
| **5E-0.8** | 5.0 | 0.80 | 4.0 | 25 | |
| **6E-0.4** | 6.0 | 0.40 | 5.0 | 25 | |
| **6E-0.8** | 6.0 | 0.80 | 5.0 | 25 | |
| | | | | | |
| | | | | | |

| Insert | Designation | | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT3010 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDXY** | **3E-0.4** | 3 | 0.5-1.8 | 0.17-0.20 | 0.06-0.18 | ● | | ● | ● | | ● | | | |
| | | **4E-0.4** | 4 | 0.5-2.4 | 0.20-0.27 | 0.07-0.20 | ● | | ● | ● | | ● | | | |
| | | **4E-0.8** | 4 | 1.0-2.4 | 0.22-0.27 | 0.07-0.20 | | | ● | ● | | ● | | | |
| | | **5E-0.4** | 5 | 0.5-3.0 | 0.22-0.32 | 0.08-0.23 | | | ● | ● | | ● | | | |
| | | **5E-0.8** | 5 | 1.0-3.0 | 0.25-0.37 | 0.08-0.23 | | | ● | ● | | ● | | | |
| | | **6E-0.4** | 6 | 0.5-3.6 | 0.25-0.38 | 0.12-0.35 | | | ● | ● | | ● | | | |
| | | **6E-0.8** | 6 | 1.0-3.6 | 0.26-0.42 | 0.12-0.35 | | | ● | ● | | ● | | | |

●: Standard items

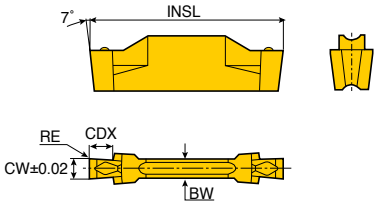
Cutting Condition B187



ADVANCE CUTTING TaeguTec

# TDT

**Precision double-ended inserts for external grooving only**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | CDX |
| **1.00** | 1.00 | 0.00 | 2.2 | 20.0 | 2.5 |
| **1.25** | 1.25 | 0.20 | 2.25 | 20.0 | 2.5 |
| **1.30** | 1.30 | 0.00 | 2.2 | 20.0 | 2.5 |
| **1.50** | 1.50 | 0.20 | 2.25 | 20.0 | 2.5 |
| **1.60** | 1.60 | 0.10 | 2.2 | 20.0 | 2.5 |
| **1.85** | 1.85 | 0.10 | 2.2 | 20.0 | 3.5 |
| **2.00** | 2.00 | 0.20 | 2.25 | 20.0 | 3.5 |
| **2.15** | 2.15 | 0.15 | 2.2 | 20.0 | 3.5 |

| Insert | Designation | Insert seat size | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDT 1.00-0.00*** | 2 | 0.02-0.04 | | | | | ● | ● | | ● |
| | **1.25-0.20*** | 2 | 0.02-0.05 | ● | | | | | | | |
| | **1.30-0.00*** | 2 | 0.02-0.05 | | | | | ● | ● | | ● |
| | **1.50-0.20*** | 2 | 0.03-0.07 | ● | | | | | | | |
| | **1.60-0.10*** | 2 | 0.03-0.07 | | | | | ● | ● | | ● |
| | **1.85-0.10*** | 2 | 0.03-0.09 | | | | | ● | ● | | ● |
| | **2.00-0.20** | 2 | 0.03-0.09 | ● | | | | | | | |
| | **2.15-0.15** | 2 | 0.03-0.10 | | | | | ● | ● | | ● |

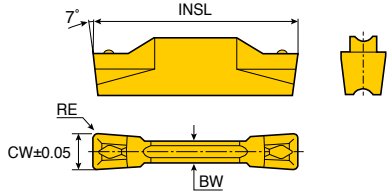
B80 Cutting Condition B187

▸ *: Only for grooving. Please use TGFR/L ...-4 holder

●: Standard items

# TDT-E

**Double-ended inserts for turning and grooving**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **3** | 3.0 | 0.4 | 2.2 | 20.0 |
| **4** | 4.0 | 0.4 | 3.0 | 20.0 |
| **6** | 6.0 | 0.8 | 5.0 | 25.0 |

| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Ceramic | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | AB30 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  CE type | **TDT 3E-0.4** | 3 | 0.5-1.8 | 0.15-0.22 | 0.07-0.15 | ● | | ● | ● | ● | ● | ● | | ● |
| | **4E-0.4** | 4 | 0.5-2.4 | 0.18-0.30 | 0.09-0.18 | ● | | ● | ● | ● | ● | ● | | ● |
| | **4E-0.4T CE(1)** | 4 | 0.5-2.4 | 0.18-0.30 | 0.09-0.35 | | ● | | | | | | | |
| | **6E-0.8T CE(1)** | 6 | 1.0-3.6 | 0.24-0.42 | 0.13-0.40 | | ● | | | | | | | |

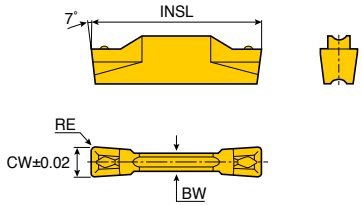
Cutting Condition B187

▸ (1) This insert is a pressed ceramic insert

●: Standard items

# TDT-E

**Precision double-ended inserts for turning and grooving**



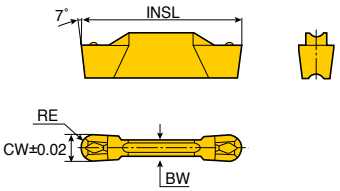

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **2.5 / 2.65 / 3.00 / 3.15** | 2.50-3.15 | 0.15-0.40 | 2.2 | 20.0 |
| **4.00 / 4.15** | 4.00-4.15 | 0.15-0.80 | 3.0 | 20.0 |
| **4.78 / 5.00 / 5.15** | 4.78-5.15 | 0.15-0.80 | 4.0 | 25.0 |
| **6.00** | 6.00 | 0.80-1.20 | 5.0 | 25.0 |
| **8.00** | 8.00 | 0.80-1.20 | 6.0 | 30.0 |
| **10.00** | 10.00 | 0.80-2.00 | 8.0 | 30.0 |
| | | | | |

| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDT 2.50E-0.20** | 3 | 0.2-1.8 | 0.10-0.18 | 0.05-0.12 | ● | | | | | | | |
| | **2.65E-0.15** | 3 | 0.2-1.8 | 0.10-0.18 | 0.05-0.12 | | | ● | ● | ● | ● | | ● |
| | **3.00E-0.20** | 3 | 0.3-2.0 | 0.12-0.20 | 0.07-0.13 | ● | | ● | ● | ● | ● | | ● |
| | **3.00E-0.40** | 3 | 0.5-2.0 | 0.15-0.22 | 0.07-0.15 | | | ● | ● | ● | ● | | ● |
| | **3.15E-0.15** | 3 | 0.2-2.0 | 0.15-0.22 | 0.07-0.15 | | | ● | ● | ● | ● | | ● |
| | **4.00E-0.40** | 4 | 0.5-2.4 | 0.18-0.30 | 0.09-0.18 | ● | | ● | ● | ● | ● | | ● |
| | **4.00E-0.80** | 4 | 1.0-2.4 | 0.18-0.30 | 0.09-0.18 | | | ● | ● | ● | ● | ● | ● |
| | **4.15E-0.15** | 4 | 0.5-2.4 | 0.18-0.30 | 0.09-0.18 | | | ● | | ● | | | |
| | **4.78E-0.55** | 5 | 0.7-2.8 | 0.20-0.35 | 0.10-0.20 | | | ● | | ● | ● | | |
| | **5.00E-0.40** | 5 | 0.5-2.3 | 0.20-0.35 | 0.11-0.20 | ● | | ● | ● | ● | ● | | ● |
| | **5.00E-0.80** | 5 | 1.0-3.0 | 0.23-0.35 | 0.11-0.21 | | | ● | ● | ● | ● | | ● |
| | **5.15E-0.15** | 5 | 0.2-3.0 | 0.23-0.35 | 0.11-0.21 | | | ● | | ● | | | |
| | **6.00E-0.80** | 6 | 1.0-3.6 | 0.24-0.42 | 0.13-0.30 | | | ● | ● | ● | ● | | ● |
| | **6.00E-1.20** | 6 | 1.3-3.6 | 0.24-0.42 | 0.13-0.30 | | | ● | | ● | ● | | ● |
| | **8.00E-0.80** | 8 | 1.0-4.8 | 0.30-0.56 | 0.15-0.40 | | | ● | ● | ● | ● | | ● |
| | **8.00E-1.20** | 8 | 1.3-4.8 | 0.30-0.56 | 0.15-0.40 | | | ● | ● | ● | ● | | ● |
| | **10.00E-0.80** | 10 | 1.0-6.0 | 0.35-0.65 | 0.20-0.45 | | | ● | | ● | | | |
| | **10.00E-1.20** | 10 | 1.0-6.0 | 0.40-0.80 | 0.20-0.45 | | | ● | | ● | | | |
| | **10.00E-2.00** | 10 | 1.0-6.0 | 0.35-0.80 | 0.20-0.45 | | | ● | | ● | | | |

●: Standard items

# TDT-E (Full-Radius)

**Precision double-ended inserts for external turning, grooving and profiling**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **3** | 3.00 | 1.50 | 2.2 | 20.0 |
| **4** | 4.00 | 2.00 | 3.0 | 20.0 |
| **4.78** | 4.78 | 2.39 | 4.0 | 25.0 |
| **5** | 5.00 | 2.50 | 4.0 | 25.0 |
| **6** | 6.00 | 3.00 | 5.0 | 25.0 |
| **8** | 8.00 | 4.00 | 6.0 | 30.0 |
| **10** | 10.00 | 5.00 | 8.0 | 30.0 |

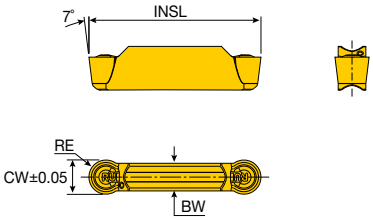
| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDT 3.00E-1.50** | 3 | 0.0-1.5 | 0.15-0.28 | 0.08-0.18 | | | | ● | ● | ● | | ● |
| | **4.00E-2.00** | 4 | 0.0-2.0 | 0.18-0.35 | 0.10-0.20 | | | | ● | ● | ● | ● | ● |
| | **4.78E-2.39** | 5 | 0.0-2.4 | 0.20-0.42 | 0.12-0.23 | | | | ● | ● | ● | | |
| | **5.00E-2.50** | 5 | 0.0-2.5 | 0.20-0.42 | 0.12-0.23 | | | | ● | ● | ● | | ● |
| | **6.00E-3.00** | 6 | 0.0-3.0 | 0.25-0.54 | 0.15-0.27 | | | | ● | ● | ● | | ● |
| | **8.00E-4.00** | 8 | 0.0-4.0 | 0.30-0.67 | 0.18-0.35 | | | | ● | ● | ● | | |
| | **10.00E-5.00** | 10 | 0.0-5.0 | 0.35-0.80 | 0.22-0.40 | | | | | ● | ● | | |

Cutting Condition B187

●: Standard items

# TDT-RU (Full-Radius)

**Double-ended inserts for external turning, grooving and profiling**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **2** | 2.0 | 1.0 | 1.7 | 20.0 |
| **3** | 3.0 | 1.5 | 2.2 | 20.0 |
| **4** | 4.0 | 2.0 | 3.0 | 20.0 |
| **5** | 5.0 | 2.5 | 4.0 | 25.0 |
| **6** | 6.0 | 3.0 | 5.0 | 25.0 |
| **8** | 8.0 | 4.0 | 6.0 | 30.0 |
| | | | | |
| | | | | |

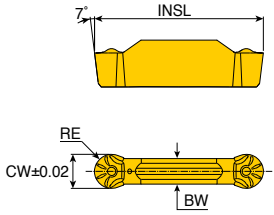
| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT3010 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDT 2E-1.0-RU** | 2 | 0.0-1.0 | 0.10-0.25 | 0.05-0.15 | | ● | ● | ● | ● | ● | ● | | ● |
| | **3E-1.5-RU** | 3 | 0.0-1.5 | 0.15-0.28 | 0.08-0.18 | ● | ● | ● | ● | ● | ● | ● | | ● |
| | **4E-2.0-RU** | 4 | 0.0-2.0 | 0.18-0.35 | 0.10-0.20 | ● | ● | ● | ● | ● | ● | ● | | ● |
| | **5E-2.5-RU** | 5 | 0.0-2.5 | 0.20-0.42 | 0.12-0.23 | ● | ● | ● | ● | ● | ● | ● | | ● |
| | **6E-3.0-RU** | 6 | 0.0-3.0 | 0.25-0.54 | 0.15-0.27 | ● | ● | ● | ● | ● | ● | ● | | ● |
| | **8E-4.0-RU** | 8 | 0.0-4.0 | 0.30-0.67 | 0.18-0.35 | | ● | ● | ● | | ● | ● | | ● |
| | | | | | | | | | | | | | | |

Cutting Condition B187

●: Standard items

# TDT-RS (Full-Radius)

**Precision double-ended inserts for external turning, grooving and profiling**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **2** | 2.0 | 1.0 | 1.7 | 20.0 |
| **3** | 3.0 | 1.5 | 2.4 | 20.0 |
| **4** | 4.0 | 2.0 | 3.0 | 20.0 |
| **5** | 5.0 | 2.5 | 4.0 | 25.0 |
| **6** | 6.0 | 3.0 | 5.0 | 25.0 |

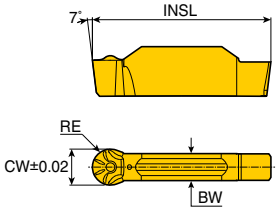
| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT3010 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDT 2.00E-1.00-RS** | 2 | 0.0-1.0 | 0.10-0.22 | 0.08-0.15 | | | | | ● | ● | | | ● |
| | **3.00E-1.50-RS** | 3 | 0.0-1.5 | 0.15-0.28 | 0.09-0.18 | | | | | ● | ● | | | ● |
| | **4.00E-2.00-RS** | 4 | 0.0-2.0 | 0.18-0.35 | 0.10-0.20 | | | | | ● | ● | | | ● |
| | **5.00E-2.50-RS** | 5 | 0.0-2.5 | 0.25-0.54 | 0.13-0.23 | | | | | ● | ● | | | ● |
| | **6.00E-3.00-RS** | 6 | 0.0-3.0 | 0.30-0.67 | 0.15-0.27 | | | | | ● | ● | | | ● |

●: Standard items

Cutting Condition B187

# TST-RS (Full-Radius)

**Precision single-ended inserts for external turning, grooving and profiling**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **3** | 3.00 | 1.50 | 2.4 | 19.8 |
| **4** | 4.00 | 2.00 | 3.0 | 19.8 |
| **5** | 5.00 | 2.50 | 4.0 | 25.0 |
| **6** | 6.00 | 3.00 | 5.0 | 25.0 |

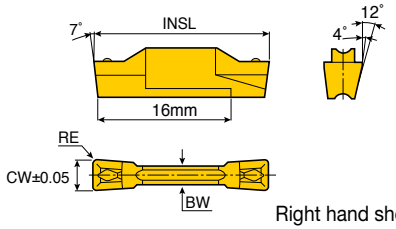
| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT3010 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TST 3.00E-1.50-RS** | 3 | 0.0-1.5 | 0.15-0.28 | 0.09-0.18 | | | | | ● | ● | | | |
| | **4.00E-2.00-RS** | 4 | 0.0-2.0 | 0.18-0.35 | 0.10-0.20 | | | | | ● | ● | | | |
| | **5.00E-2.50-RS** | 5 | 0.0-2.5 | 0.25-0.54 | 0.13-0.23 | | | | | ● | ● | | | |
| | **6.00E-3.00-RS** | 6 | 0.0-3.0 | 0.30-0.67 | 0.15-0.27 | | | | | ● | ● | | | |

●: Standard items

Cutting Condition B187

# TDFT-E

## Double-ended inserts for face grooving




Right hand shown

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **3E** | 3.0 | 0.40 | 2.2 | 20.0 |
| **4E** | 4.0 | 0.40 | 3.0 | 20.0 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDFT 3E-0.4R/L** | 3 | 0.5-2.0 | 0.15-0.22 | 0.07-0.15 | | | | ● | | ● | | ● |
| | **4E-0.4R/L** | 4 | 0.5-2.4 | 0.18-0.30 | 0.09-0.18 | | | | ● | | ● | | ● |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
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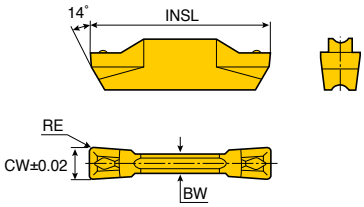
Cutting Condition B187

▸ Apply R insert on R tool and L insert on L tool

●: Standard items

# TDIT-E

## Precision double-ended inserts for internal turning and grooving




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **3** | 3.00 | 0.40 | 2.2 | 20.0 |
| **4** | 4.00 | 0.40-0.80 | 3.0 | 20.0 |
| **5** | 5.00 | 0.40-0.80 | 4.0 | 25.0 |
| **6** | 6.00 | 0.80-1.20 | 5.0 | 25.0 |
| **8** | 8.00 | 1.20 | 6.0 | 30.0 |
| | | | | |
| | | | | |

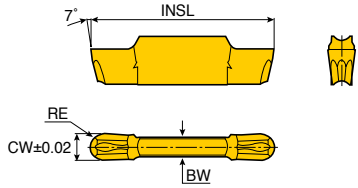
| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDIT 3.00E-0.40** | 3 | 0.5-1.8 | 0.15-0.22 | 0.07-0.15 | | | | ● | | ● | | ● |
| | **4.00E-0.40** | 4 | 0.5-2.4 | 0.18-0.30 | 0.09-0.18 | | | | ● | | ● | | ● |
| | **4.00E-0.80** | 4 | 1.0-2.4 | 0.18-0.30 | 0.09-0.18 | | | | ● | | ● | | ● |
| | **5.00E-0.40** | 5 | 0.5-2.3 | 0.20-0.35 | 0.11-0.20 | | | | ● | | ● | | ● |
| | **5.00E-0.80** | 5 | 1.0-3.0 | 0.23-0.35 | 0.11-0.21 | | | | ● | | ● | | ● |
| | **6.00E-0.80** | 6 | 1.0-3.6 | 0.24-0.42 | 0.13-0.30 | | | | ● | | ● | | ● |
| | **6.00E-1.20** | 6 | 1.3-3.6 | 0.24-0.42 | 0.13-0.30 | | | | ● | | ● | | ● |
| | **8.00E-0.80** | 8 | 1.0-4.8 | 0.30-0.56 | 0.15-0.40 | | | | ● | | ● | | ● |
| | **8.00E-1.20** | 8 | 1.3-4.8 | 0.30-0.56 | 0.15-0.40 | | | | ● | | ● | | |

Cutting Condition B187

●: Standard items

# TDIT-E (Full-Radius)

**Precision double-ended inserts for internal turning, grooving, profiling and undercutting**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **3** | 3.00 | 1.50 | 2.2 | 20.0 |
| **4** | 4.00 | 2.00 | 3.0 | 20.0 |
| **5** | 5.00 | 2.50 | 4.0 | 25.0 |
| **6** | 6.00 | 3.00 | 5.0 | 25.0 |

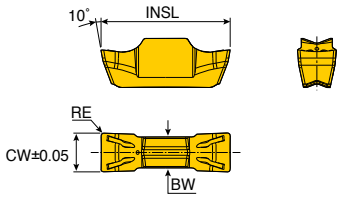
| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDIT 3.00E-1.50** | 3 | 0.0-1.5 | 0.15-0.28 | 0.08-0.18 | | | | ● | | ● | | ● |
| | **4.00E-2.00** | 4 | 0.0-2.0 | 0.18-0.35 | 0.10-0.20 | | | | ● | | ● | | ● |
| | **5.00E-2.50** | 5 | 0.0-2.5 | 0.20-0.42 | 0.12-0.23 | | | | ● | | ● | | ● |
| | **6.00E-3.00** | 6 | 0.0-3.0 | 0.25-0.54 | 0.15-0.27 | | | | ● | | ● | | ● |

Cutting Condition B187

●: Standard items

# TDIM

**Double-ended inserts for internal turning and grooving on small diameter**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | RE | BW | INSL |
| **2** | 2.0 | 0.15 | 1.6 | 10 |
| **3** | 3.0 | 0.20 | 2.4 | 10 |

| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDIM 2E-0.15** | 2 | 0.2-0.6 | 0.05-0.08 | 0.03-0.05 | | | | | ● | | | |
| | **3E-0.2** | 3 | 0.3-1.3 | 0.10-0.14 | 0.05-0.09 | | | | | ● | | | |

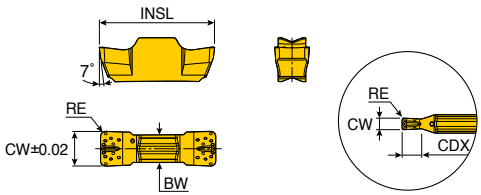
B79 B91-B92 Cutting Condition B187

▸ Used holder TTSER/L, TTSIR/L, TGSIR/L

●: Standard items

# TDIP

**Precision double-ended inserts for internal turning and grooving on small diameter**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | CDX |
| **1.00** | 1.00 | 0.10-0.50 | 1.6 | 10 | 1.6 |
| **1.20** | 1.20 | 0.00 | 1.6 | 10 | 1.8 |
| **1.40** | 1.40 | 0.00 | 1.6 | 10 | 2.0 |
| **1.50** | 1.50 | 0.10 | 1.6 | 10 | 2.0 |
| **2.00** | 2.00 | 0.10-1.00 | 1.6 | 10 | - |
| **2.15** | 2.15 | 0.15 | 1.6 | 10 | - |
| **2.50** | 2.50 | 0.20 | 2.4 | 10 | - |
| **3.00** | 3.00 | 0.20-1.50 | 2.4 | 10 | - |

| Insert | Designation | Insert seat size | Turning | | Grooving | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDIP 1.00-0.10*** | 2 | - | - | 0.01-0.03 | | | | | ● | | | |
| | **1.00-0.50*** | 2 | - | - | 0.01-0.04 | | | | | ● | | | |
| | **1.20-0.00*** | 2 | - | - | 0.01-0.03 | | | | | ● | | | |
| | **1.40-0.00*** | 2 | - | - | 0.02-0.04 | | | | | ● | | | |
| | **1.50-0.10*** | 2 | - | - | 0.02-0.04 | | | | | ● | | | |
| | **2.00E-0.10** | 2 | 0.2-0.6 | 0.05-0.07 | 0.03-0.05 | | | | | ● | | | |
| | **2.00E-0.20** | 2 | 0.2-0.6 | 0.05-0.07 | 0.03-0.05 | | | | | ● | | | |
| | **2.00E-1.00** | 2 | 0.0-0.6 | 0.08-0.12 | 0.04-0.07 | | | | | ● | | | |
| | **2.15E-0.15** | 2 | 0.2-0.6 | 0.06-0.08 | 0.04-0.06 | | | | | ● | | | |
| | **2.50E-0.20** | 3 | 0.2-1.1 | 0.07-0.09 | 0.04-0.07 | | | | | ● | | | |
| | **3.00E-0.20** | 3 | 0.3-1.3 | 0.11-0.14 | 0.05-0.09 | | | | | ● | | | |
| | **3.00E-1.50** | 3 | 0.0-1.5 | 0.13-0.20 | 0.05-0.11 | | | | | ● | | | |

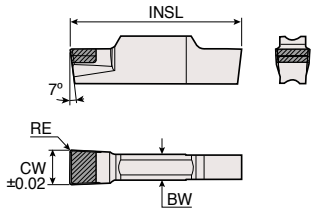
B79 B91-B92
Cutting Condition B187

▸ *: Only for grooving: Please use TGSIR/L holder

●: Standard items

# TSG

**Single-ended CBN inserts for turning and grooving**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | |
| **3** | 3.0 | 0.2 | 2.25 | 20.0 | |
| **4** | 4.0 | 0.2 | 3.0 | 30.0 | |
| **5** | 5.0 | 0.4 | 4.0 | 25.0 | |
| **6** | 6.0 | 0.4 | 5.0 | 25.0 | |
| **8** | 8.0 | 0.4 | 6.0 | 30.0 | |
| | | | | | |
| | | | | | |
| | | | | | |

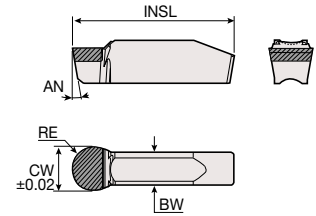
| Insert | Designation | Insert seat size | Turning | | Grooving | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | TB610 | TB650 | TB670 | TB2015 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **TSG 3.00H-0.20** | 3 | 0.0-0.3 | 0.02-0.07 | 0.02-0.05 | | | | ● | | | | | |
| | **4.00H-0.20** | 4 | 0.0-0.4 | 0.03-0.09 | 0.02-0.07 | | | | ● | | | | | |
| | **5.00H-0.40** | 5 | 0.0-0.5 | 0.05-0.13 | 0.03-0.10 | | | | ● | | | | | |
| | **6.00H-0.40** | 6 | 0.0-0.6 | 0.05-0.15 | 0.04-0.12 | | | | ● | | | | | |
| | **8.00H-0.40** | 8 | 0.0-0.8 | 0.07-0.20 | 0.05-0.16 | | | | ● | | | | | |

Cutting Condition B187

●: Standard items

# TSG (Full-Radius)

**Single-ended CBN inserts for turning and grooving**




| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | AN |
| **3** | 3.0 | 1.5 | 2.4 | 20.0 | 7 |
| **4** | 4.0 | 2.0 | 3.0 | 20.0 | 7 |
| **5** | 5.0 | 2.5 | 4.0 | 25.0 | 7 |
| **6** | 6.0 | 3.0 | 5.0 | 25.0 | 7 |
| **8** | 8.0 | 4.0 | 6.0 | 30.0 | 10 |
| | | | | | |
| | | | | | |
| | | | | | |

| Insert | Designation | Insert seat size | Turning | | Grooving | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | TB610 | TB650 | TB670 | TB2015 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **TSG 3.00H-1.50** | 3 | 0.0-0.3 | 0.03-0.10 | 0.02-0.06 | | | | ● | | | | | |
| | **4.00H-2.00** | 4 | 0.0-0.4 | 0.04-0.14 | 0.02-0.09 | | | | ● | | | | | |
| | **5.00H-2.50** | 5 | 0.0-0.5 | 0.05-0.18 | 0.03-0.11 | | | | ● | | | | | |
| | **6.00H-3.00** | 6 | 0.0-0.6 | 0.06-0.22 | 0.04-0.13 | | | | ● | | | | | |
| | **8.00H-4.00** | 8 | 0.0-0.8 | 0.08-0.29 | 0.05-0.17 | | | | ● | | | | | |
| | | | | | | | | | | | | | | |
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Cutting Condition B187

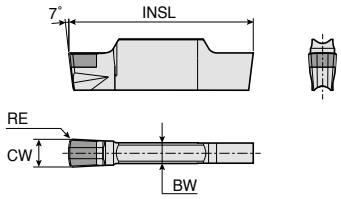
●: Standard items



ADVANCE CUTTING TaeguTec

# TSG-HF

**Single-ended CBN inserts for high feed turning**




| Size | Dimension (mm) | | | | | |
|---|---|---|---|---|---|---|
| | CW | RE | BW | INSL | | |
| **3** | 3.0 | 0.3 | 2.2 | 20 | | |
| **5** | 5.0 | 0.3 | 4.0 | 25 | | |
| | | | | | | |
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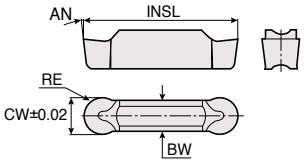
| Insert | Designation | | Insert seat size | Turning | | CBN | | | | | | PCD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ap (mm) | Feed (mm/rev) | TB610 | TB650 | TB670 | TB2015 | TB7015 | TB7020 | TD1010 | TD1020 | TD1030 |
|  | **TSG** | **3.0-0.3-HF** | 3 | 0.08-0.12 | 0.40-0.80 | | | | ● | | | | | |
| | | **5.0-0.3-HF** | 5 | 0.08-0.12 | 0.40-1.20 | | | | ● | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
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Cutting Condition B187

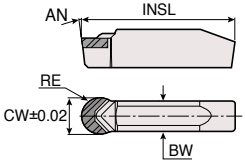
●: Standard items

# TDA/TSA

**Inserts for aluminum wheel machining**




**TDA**




**TSA(PCD)**

| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | BW | INSL | AN |
| **3** | 3.00 | 1.5 | 2.4 | 20.0 | 7 |
| **4** | 4.00 | 2.0 | 3.0 | 20.0 | 7 |
| **5** | 5.00 | 2.5 | 4.0 | 25.0 | 7 |
| **6** | 6.00 | 3.0 | 5.0 | 25.0 | 7 |
| **8** | 8.00 | 4.0 | 6.0 | 30.0 | 10 |
| | | | | | |
| | | | | | |
| | | | | | |

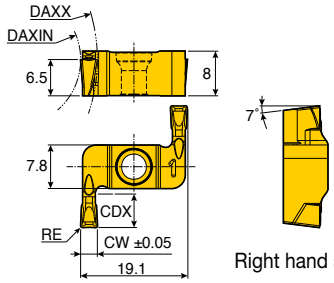
| Insert | Designation | | Insert seat size | Turning | | Grooving | PCD | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | TD1020 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
| K10  TDA | **TDA** | **3.00-1.50** | 3 | 0.0-1.5 | 0.15-0.30 | 0.08-0.16 | | | | | | | | ● |
| | | **4.00-2.00** | 4 | 0.0-2.0 | 0.20-0.43 | 0.10-0.22 | | | | | | | | ● |
| | | **5.00-2.50** | 5 | 0.0-2.5 | 0.20-0.48 | 0.10-0.25 | | | | | | | | ● |
| | | **6.00-3.00** | 6 | 0.0-3.0 | 0.21-0.58 | 0.11-0.29 | | | | | | | | ● |
| | | **8.00-4.00** | 8 | 0.0-4.0 | 0.24-0.67 | 0.14-0.38 | | | | | | | | ● |
| | | | | | | | | | | | | | | |
| PCD  TSA | **TSA** | **6.00-3.00** | 6 | 0.0-3.0 | 0.26-0.72 | 0.13-0.36 | ● | | | | | | | |
| | | **8.00-4.00** | 8 | 0.0-4.0 | 0.24-0.67 | 0.14-0.38 | ● | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

Cutting Condition B187

●: Standard items

# TDFX

## Double-ended inserts for face grooving and turning




Right hand shown

| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | CW | RE | CDX | DAXIN | DAXX |
| **2** | 2 | 0.3 | 6 | 25 | N.L. |
| **3** | 3 | 0.3 | 6 | 24 | N.L. |
| **4** | 4 | 0.4 | 6 | 32 | N.L. |

| Insert | Designation | Turning | | Grooving | Cermet | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDFX 2E-0.3-D25R/L** | 0.4-1.2 | 0.12-0.18 | 0.03-0.20 | | | | | ● | | | |
| | **3E-0.3-D24R/L** | 0.4-1.8 | 0.15-0.20 | 0.07-0.20 | | | | | ● | | | |
| | **4E-0.4-D32R/L** | 0.5-2.4 | 0.15-0.24 | 0.09-0.25 | | | | | ● | | | |

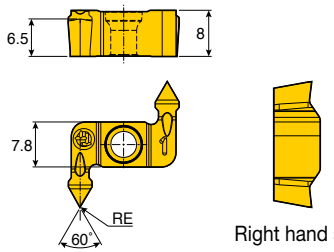
B97-B100 Cutting Condition B187

▸ N.L.: No limit

●: Standard items

# TDGX

## Double-ended threading inserts with 60˚ partial profile




Right hand shown

| Size | Dimension (mm) | | | | |
|---|---|---|---|---|---|
| | RE | TPN | TPX | TPIX | TPIN |
| **4** | 0.05 | 0.45 | 3.5 | 56 | 8 |

| Insert | Designation | Cermet | Coated | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 |
|  | **TDGX 4MT-0.05-R/L** | | | | | ● | | | |

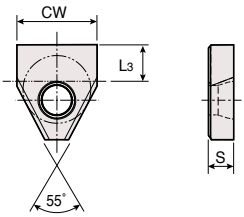
B97-B98

▸ TPN: Thread pitch minimum (mm)
▸ TPX: Thread pitch maximum (mm)
▸ TPIX : Thread per inch maximum
▸ TPIN: Thread per inch minimum

●: Standard items

# TGUX

**Semi finished blanks for wide grooving and profiling**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | CW | S | $L_3$ |
| **10** | 10.2 | 4.76 | 5.85 |
| **15** | 15.2 | 4.76 | 5.85 |
| **20** | 20.2 | 6.35 | 9.35 |
| **25** | 25.2 | 6.35 | 9.25 |

| Insert | Designation | Cermet | Coated | | | | | | Uncoated | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CT3000 | TT7505 | TT6080 | TT5100 | TT9080 | TT7220 | TT8020 | K10 | P40 | UF10 |
|  | **TGUX 1004** | | | | | | | | ● | ● | ● |
| | **1504** | | | | | | | | ● | ● | ● |
| | **2006** | | | | | | | | ● | ● | ● |
| | **2506** | | | | | | | | ● | ● | ● |

●: Standard items



| T | Q | J | - | 27 | - | 3 | - | 0.2 | - | 6 | - | R |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | | 4 | | 5 | | 6 | | 7 | | 8 |

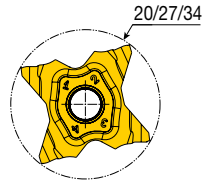
## 1 TaeguTec

## 2 QUAD-RUSH

## 3 Chip breaker type

|  C |  J |  S |
|---|---|---|
| For medium | For light | For light & tailor made |

## 4 Circular circumference of the insert

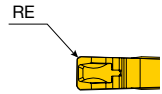



## 5 Width of insert




**1.00** = 1.0 mm
**1.50** = 1.5 mm
**2.53** = 2.53 mm
**3.18** = 3.18 mm

## 6 Conrer radius




**0.10** = 0.1 mm
**0.20** = 0.2 mm
**0.30** = 0.3 mm
**0.40** = 0.4 mm

## 7 Lead angle




Right hand shown

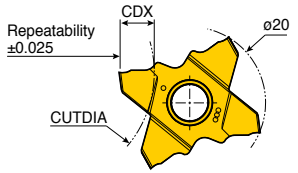
## 8 Hand of insert

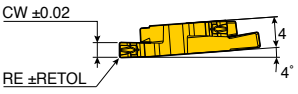
|  L |  R |
|---|---|
| Left-hand | Right-hand |

# TQJ 20

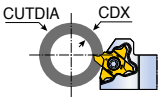
**Precision grooving and parting inserts with J-Type chip breaker**






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |




Right hand shown

| Designation | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CDX ≤ 2.7 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | TT4430 |
| **TQJ 20-1.00-0.10-R/L** | 0.03-0.07 | 1.00 | 0.10 | 2.7 | N.L. | - | - | - | - | ● |
| **20-1.50-0.20-R/L** | 0.03-0.08 | 1.50 | 0.20 | 5.0 | N.L. | 70 | 50 | 30 | 16 | ● |
| **20-2.00-0.20-R/L** | 0.04-0.10 | 2.00 | 0.20 | 5.0 | N.L. | 70 | 50 | 30 | 16 | ● |

B104-B109 Cutting Condition B187

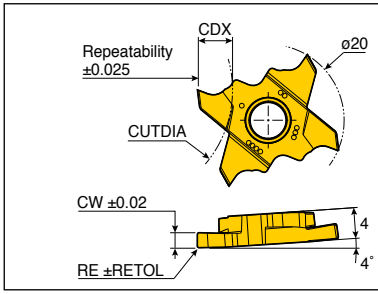
▸ N.L.: No limit

●: Standard items

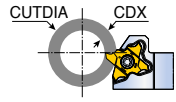
# TQS 20

**Precision grooving and parting inserts with ground chip breaker**






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |




Right hand shown

| Designation | | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CDX ≤ 2.2 | ≤ 2.7 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | TT4430 |
| **TQS** | **20-0.50-0.05-R/L** | 0.03-0.07 | 0.50 | 0.05 | 2.2 | N.L. | - | - | - | - | - | ● |
| | **20-0.75-0.10-R/L** | 0.03-0.07 | 0.75 | 0.10 | 2.2 | N.L. | - | - | - | - | - | ● |
| | **20-0.95-0.10-R/L** | 0.03-0.07 | 0.95 | 0.10 | 2.2 | N.L. | - | - | - | - | - | ● |
| | **20-1.00-0.05-R/L** | 0.03-0.07 | 1.00 | 0.05 | 2.7 | N.L. | N.L. | - | - | - | - | ● |
| | **20-1.00-0.10-R/L** | 0.03-0.07 | 1.00 | 0.10 | 2.7 | N.L. | N.L. | - | - | - | - | ● |
| | **20-1.50-0.10-R/L** | 0.03-0.10 | 1.50 | 0.10 | 5.0 | N.L. | N.L. | 70 | 50 | 30 | 16 | ● |
| | **20-2.00-0.10-R/L** | 0.04-0.12 | 2.00 | 0.10 | 5.0 | N.L. | N.L. | 70 | 50 | 30 | 16 | ● |
| | **20-2.00-0.20-R/L** | 0.04-0.12 | 2.00 | 0.20 | 5.0 | N.L. | N.L. | 70 | 50 | 30 | 16 | ● |
| | **20-2.00-1.00-R/L*** | 0.05-0.13 | 2.00 | 1.00 | 5.0 | N.L. | N.L. | 70 | 50 | 30 | 16 | ● |
| | **20-2.50-0.10-R/L** | 0.04-0.15 | 2.50 | 0.10 | 5.0 | N.L. | N.L. | 70 | 50 | 30 | 16 | ● |
| | **20-3.00-0.10-R/L** | 0.04-0.16 | 3.00 | 0.10 | 5.0 | N.L. | N.L. | 70 | 50 | 30 | 16 | ● |
| | **20-3.00-1.50-R/L*** | 0.04-0.16 | 3.00 | 1.50 | 5.0 | N.L. | N.L. | 70 | 50 | 30 | 16 | ● |

B104-B109 Cutting Condition B187

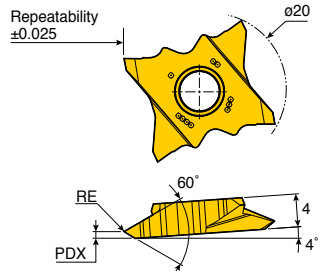
- N.L.: No limit
- * : Full radius insert

●: Standard items

# TQS 20-MT

**Partial profile 60˚ threading inserts**






Right hand shown

| Designation | | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | | TPN | TPX | TPIX | TPIN | RE | PDX | TT4430 |
| **TQS** | **20-MT-0.05-R/L** | 0.30 | 1.75 | 48 | 14 | 0.05 | 0.8 | ● |

B104-B109 Cutting Condition B187

- TPN: Thread pitch minimum (mm)
- TPX: Thread pitch maximum (mm)
- TPIN: Thread per inch minimum
- TPIX: Thread per inch maximum

●: Standard items

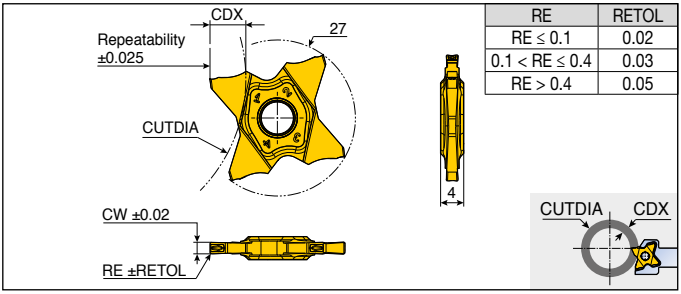


ADVANCE CUTTING TaeguTec

# TQJ 27

**Precision grooving and parting inserts**






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |

| Designation | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CDX ≤ 3.0 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | ≤ 5.5 | ≤ 5.7 | ≤ 6.0 | ≤ 6.2 | ≤ 6.4 | TT9080 |
| **TQJ 27-0.50-0.00** | 0.02-0.04 | 0.50 | 0.00 | 1.0 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-0.50-0.04** | 0.02-0.04 | 0.50 | 0.04 | 2.5 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-0.75-0.10** | 0.02-0.05 | 0.75 | 0.10 | 2.5 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-0.80-0.00** | 0.02-0.05 | 0.80 | 0.00 | 1.6 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-1.00-0.06** | 0.03-0.07 | 1.00 | 0.06 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| **27-1.00-0.10** | 0.03-0.07 | 1.00 | 0.10 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| **27-1.04-0.00** | 0.03-0.07 | 1.04 | 0.00 | 2.0 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-1.20-0.00** | 0.03-0.07 | 1.20 | 0.00 | 2.0 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-1.25-0.10** | 0.03-0.07 | 1.25 | 0.10 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| **27-1.25-0.20** | 0.03-0.07 | 1.25 | 0.20 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| **27-1.40-0.00** | 0.03-0.08 | 1.40 | 0.00 | 2.0 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-1.47-0.00** | 0.03-0.08 | 1.47 | 0.00 | 2.5 | - | - | - | - | - | - | - | - | - | - | ● |
| **27-1.50-0.10** | 0.03-0.08 | 1.50 | 0.10 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| **27-1.50-0.20** | 0.03-0.08 | 1.50 | 0.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| **27-1.57-0.10** | 0.03-0.08 | 1.57 | 0.10 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-1.57-0.15** | 0.03-0.08 | 1.57 | 0.15 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-1.70-0.10** | 0.03-0.08 | 1.70 | 0.10 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-1.75-0.10** | 0.03-0.08 | 1.75 | 0.10 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-1.75-0.20** | 0.03-0.08 | 1.75 | 0.20 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-1.78-0.18** | 0.04-0.10 | 1.78 | 0.18 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-1.85-0.20** | 0.04-0.10 | 1.85 | 0.20 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-1.96-0.15** | 0.04-0.10 | 1.96 | 0.15 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-2.00-0.10** | 0.04-0.10 | 2.00 | 0.10 | 6.4 | N.L. | 600 | 280 | 180 | 130 | 105 | 85 | 60 | 50 | 30 | ● |
| **27-2.00-0.20** | 0.04-0.10 | 2.00 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 130 | 105 | 85 | 60 | 50 | 30 | ● |
| **27-2.22-0.15** | 0.04-0.10 | 2.22 | 0.15 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| **27-2.30-0.20** | 0.04-0.10 | 2.30 | 0.20 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| **27-2.39-0.15** | 0.04-0.10 | 2.39 | 0.15 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| **27-2.47-0.20** | 0.04-0.10 | 2.47 | 0.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| **27-2.50-0.10** | 0.04-0.10 | 2.50 | 0.10 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| **27-2.50-0.30** | 0.05-0.12 | 2.50 | 0.30 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| **27-2.70-0.10** | 0.05-0.12 | 2.70 | 0.10 | 6.2 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | - | ● |
| **27-2.87-0.20** | 0.05-0.12 | 2.87 | 0.20 | 6.2 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | - | ● |

B110-B113 Cutting Condition B187

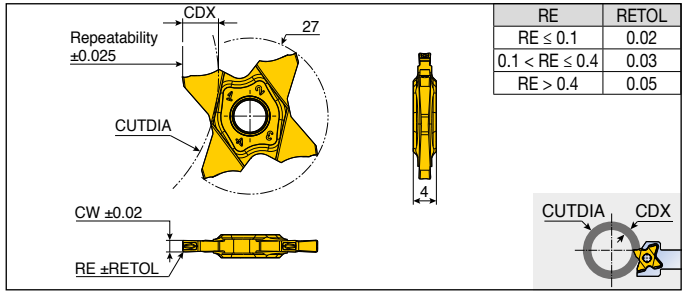
▸ N.L.: No limit

●: Standard items

# TQJ 27

## Precision grooving and parting inserts






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |

| Designation | | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CDX ≤ 3.0 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | ≤ 5.5 | ≤ 5.7 | ≤ 6.0 | ≤ 6.2 | ≤ 6.4 | TT9080 |
| TQJ | 27-3.00-0.00 | 0.05-0.12 | 3.00 | 0.00 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| | 27-3.00-0.20 | 0.05-0.12 | 3.00 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| | 27-3.00-0.30 | 0.05-0.12 | 3.00 | 0.30 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| | 27-3.00-0.40 | 0.05-0.12 | 3.00 | 0.40 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| | 27-3.15-0.15 | 0.05-0.12 | 3.15 | 0.15 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 68 | ● |
| | 27-3.18-0.20 | 0.05-0.12 | 3.18 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 68 | ● |

Cutting Condition B110-B113 B187

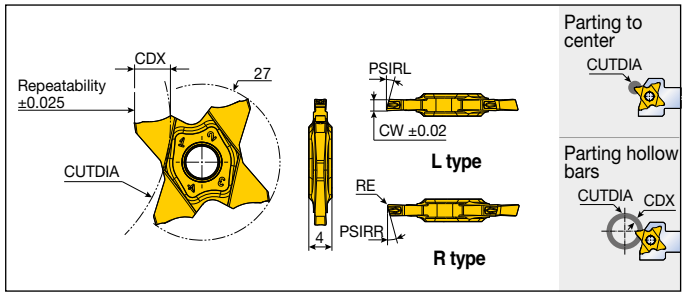
▸ N.L.: No limit

●: Standard items

# TQJ 27

## Parting inserts






| Designation | | Feed (mm/rev) | CW | RE | PSIRR/L | Parting to center | Parting hollow bars | | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CUTDIA | CDX | CUTDIA | TT9080 |
| TQJ | 27-1.00-15R/L | 0.02-0.06 | 1.00 | 0.06 | 15° | 7.0 | 3.5 | 600 | ● |
| | 27-1.50-6R/L | 0.02-0.06 | 1.50 | 0.06 | 6° | 12.0 | 5.7 | 35 | ● |
| | 27-1.50-15R/L | 0.02-0.06 | 1.50 | 0.06 | 15° | 12.0 | 5.7 | 35 | ● |
| | 27-2.00-6R/L | 0.03-0.08 | 2.00 | 0.10 | 6° | 13.0 | 6.4 | 30 | ● |
| | 27-2.00-15R/L | 0.03-0.08 | 2.00 | 0.10 | 15° | 13.0 | 6.4 | 30 | ● |
| | | | | | | | | | |
| | | | | | | | | | |

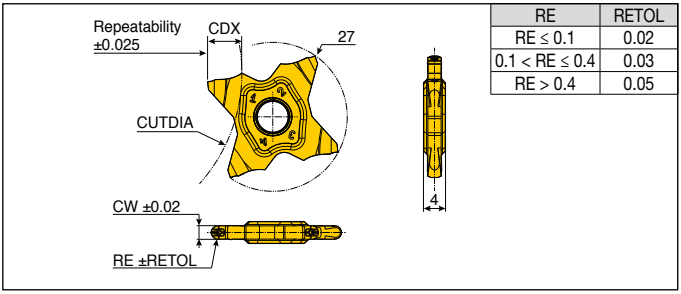
Cutting Condition B110-B113 B187

●: Standard items

# TQJ 27

## Full radius inserts






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |

| Designation | | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CDX ≤ 3.0 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | ≤ 5.5 | ≤ 5.7 | ≤ 6.0 | ≤ 6.2 | ≤ 6.4 | TT9080 |
| TQJ | 27-1.57-0.79 | 0.05-0.08 | 1.57 | 0.79 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| | 27-2.00-1.00 | 0.05-0.11 | 2.00 | 1.00 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| | 27-2.39-1.20 | 0.05-0.11 | 2.39 | 1.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| | 27-3.00-1.50 | 0.06-0.12 | 3.00 | 1.50 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

B110-B113 Cutting Condition B187

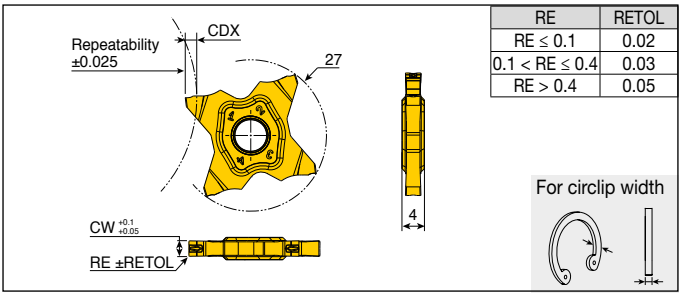
▸ N.L.: No limit

●: Standard items

# TQJ 27

## DIN 471 circlip grooving and shallow grooving inserts






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |

| Designation | | Feed (mm/rev) | CW | RE | CDX | For circlip width | Grade TT9080 |
|---|---|---|---|---|---|---|---|
| TQJ | 27-1.10-0.08-CG | 0.03-0.07 | 1.10 | 0.08 | 1.50 | 1.10 | ● |
| | 27-1.30-0.08-CG | 0.03-0.07 | 1.30 | 0.08 | 1.50 | 1.30 | ● |
| | 27-1.60-0.08-CG | 0.03-0.08 | 1.60 | 0.08 | 2.00 | 1.60 | ● |
| | 27-1.85-0.08-CG | 0.03-0.08 | 1.85 | 0.08 | 2.00 | 1.85 | ● |
| | 27-2.15-0.08-CG | 0.04-0.10 | 2.15 | 0.08 | 2.50 | 2.15 | ● |
| | 27-2.65-0.15-CG | 0.05-0.12 | 2.65 | 0.15 | 2.50 | 2.65 | ● |
| | | | | | | | |

B110-B113 Cutting Condition B187

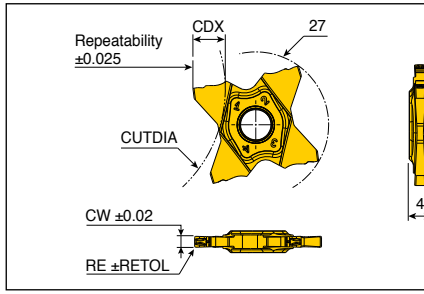
▸ When selecting insert, please keep in your mind insert tolerance

●: Standard items

# TQC 27

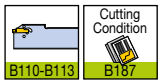
## Precision grooving and parting inserts






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |

| Designation | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CDX ≤ 3.0 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | ≤ 5.5 | ≤ 5.7 | ≤ 6.0 | ≤ 6.2 | ≤ 6.4 | ≤ 6.5 | TT9080 |
| TQC 27-1.50-0.10 | 0.05-0.08 | 1.50 | 0.10 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | - | ● |
| 27-1.50-0.20 | 0.05-0.06 | 1.50 | 0.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | - | ● |
| 27-1.57-0.15 | 0.05-0.08 | 1.57 | 0.15 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | - | ● |
| 27-1.70-0.10 | 0.05-0.09 | 1.70 | 0.10 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | - | ● |
| 27-1.75-0.10 | 0.05-0.10 | 1.75 | 0.10 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | - | ● |
| 27-1.75-0.20 | 0.05-0.09 | 1.75 | 0.20 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | - | ● |
| 27-1.78-0.18 | 0.05-0.11 | 1.78 | 0.18 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | - | ● |
| 27-1.85-0.20 | 0.05-0.11 | 1.85 | 0.20 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | - | ● |
| 27-1.96-0.15 | 0.05-0.11 | 1.96 | 0.15 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | - | ● |
| 27-2.00-0.10 | 0.05-0.17 | 2.00 | 0.10 | 6.4 | N.L. | 600 | 280 | 180 | 130 | 105 | 85 | 60 | 50 | 30 | - | ● |
| 27-2.00-0.20 | 0.05-0.15 | 2.00 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 130 | 105 | 85 | 60 | 50 | 30 | - | ● |
| 27-2.22-0.15 | 0.05-0.15 | 2.22 | 0.15 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | - | ● |
| 27-2.30-0.20 | 0.05-0.16 | 2.30 | 0.20 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | - | ● |
| 27-2.39-0.15 | 0.05-0.16 | 2.39 | 0.15 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | - | ● |
| 27-2.47-0.20 | 0.05-0.19 | 2.47 | 0.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | - | ● |
| 27-2.50-0.10 | 0.05-0.20 | 2.50 | 0.10 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | - | ● |
| 27-2.50-0.30 | 0.05-0.17 | 2.50 | 0.30 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | - | ● |
| 27-2.70-0.10 | 0.05-0.19 | 2.70 | 0.10 | 6.2 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | - | - | ● |
| 27-2.87-0.20 | 0.05-0.19 | 2.87 | 0.20 | 6.2 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | - | - | ● |
| 27-3.00-0.00 | 0.05-0.11 | 3.00 | 0 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | - | ● |
| 27-3.00-0.20 | 0.06-0.23 | 3.00 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | - | ● |
| 27-3.00-0.30 | 0.06-0.25 | 3.00 | 0.30 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | - | ● |
| 27-3.00-0.40 | 0.06-0.25 | 3.00 | 0.40 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | - | ● |
| 27-3.15-0.15 | 0.06-0.21 | 3.15 | 0.15 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 68 | - | ● |
| 27-3.18-0.20 | 0.06-0.23 | 3.18 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 68 | - | ● |
| 27-3.30-0.10 | 0.06-0.23 | 3.30 | 0.10 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 85 | 65 | 50 | 40 | 35 | ● |
| 27-3.48-0.20 | 0.06-0.23 | 3.48 | 0.20 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 85 | 65 | 50 | 40 | 35 | ● |
| 27-3.56-0.20 | 0.06-0.23 | 3.56 | 0.20 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 85 | 65 | 55 | 40 | 35 | ● |
| 27-3.74-0.20 | 0.06-0.23 | 3.74 | 0.20 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 85 | 65 | 55 | 40 | 35 | ● |
| 27-3.98-0.20 | 0.07-0.30 | 3.98 | 0.20 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 40 | 45 | ● |
| 27-4.00-0.30 | 0.07-0.30 | 4.00 | 0.30 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 40 | 45 | ● |
| 27-4.00-0.40 | 0.07-0.30 | 4.00 | 0.40 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 40 | 45 | ● |
| 27-4.00-0.80 | 0.07-0.30 | 4.00 | 0.80 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 40 | 45 | ● |
| 27-4.15-0.15 | 0.07-0.30 | 4.15 | 0.15 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 40 | 45 | ● |
| 27-4.23-0.10 | 0.07-0.30 | 4.23 | 0.10 | 6.5 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | 65 | ● |




▸ N.L.: No limit

●: Standard items

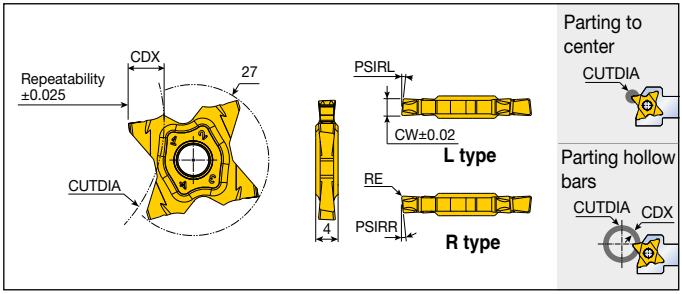


ADVANCE CUTTING
TaeguTec

# TQC 27

## Parting inserts






| Designation | Feed (mm/rev) | CW | RE | PSIRR/L | Parting to center | Parting hollow bars | | Grade |
|---|---|---|---|---|---|---|---|---|
| | | | | | CUTDIA | CDX | CUTDIA | TT9080 |
| **TQC 27-1.50-6R/L** | 0.03-0.07 | 1.50 | 0.06 | 6° | 12.0 | 5.7 | 35 | ● |
| **27-1.50-15R/L** | 0.03-0.07 | 1.50 | 0.06 | 15° | 12.0 | 5.7 | 35 | ● |
| **27-2.00-6R/L** | 0.04-0.14 | 2.00 | 0.10 | 6° | 13.0 | 6.4 | 30 | ● |
| **27-2.00-15R/L** | 0.04-0.14 | 2.00 | 0.10 | 15° | 13.0 | 6.4 | 30 | ● |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

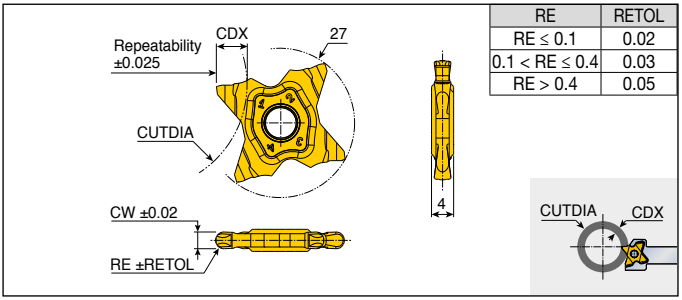
B110-B113 Cutting Condition B187

●: Standard items

# TQC 27

## Full radius inserts






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |

| Designation | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CDX ≤ 3.0 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | ≤ 5.5 | ≤ 5.7 | ≤ 6.0 | ≤ 6.2 | ≤ 6.4 | TT9080 |
| **TQC 27-1.57-0.79** | 0.05-0.09 | 1.57 | 0.79 | 3.0 | N.L. | - | - | - | - | - | - | - | - | - | ● |
| **27-2.00-1.00** | 0.05-0.13 | 2.00 | 1.00 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| **27-2.39-1.20** | 0.06-0.17 | 2.39 | 1.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| **27-3.00-1.50** | 0.06-0.20 | 3.00 | 1.50 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

B110-B113 Cutting Condition B187

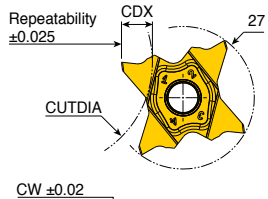
▸ N.L.: No limit

●: Standard items

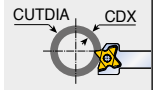
# TQS 27

## Precision grooving and parting inserts






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |




| Designation | Feed (mm/rev) | CW(1) | RE | CDX | CUTDIA | | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CDX ≤ 3.0 | ≤ 3.5 | ≤ 4.0 | ≤ 4.5 | ≤ 5.0 | ≤ 5.5 | ≤ 5.7 | ≤ 6.0 | ≤ 6.2 | ≤ 6.4 | TT9080 |
| TQS 27-1.00-0.10 | 0.03-0.07 | 1.00 | 0.10 | 3.5 | N.L. | 600 | - | - | - | - | - | - | - | - | ● |
| 27-1.50-0.20 | 0.03-0.10 | 1.50 | 0.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| 27-2.00-0.20 | 0.04-0.10 | 2.00 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 130 | 105 | 85 | 60 | 50 | 30 | ● |
| 27-2.39-0.15 | 0.04-0.15 | 2.39 | 0.15 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| 27-2.47-0.20 | 0.04-0.15 | 2.47 | 0.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | - | - | - | - | - | ● |
| 27-2.50-0.20 | 0.04-0.15 | 2.50 | 0.20 | 5.7 | N.L. | 600 | 280 | 180 | 130 | 50 | 35 | - | - | - | ● |
| 27-3.00-0.20 | 0.04-0.15 | 3.00 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| 27-3.18 -0.20 | 0.05-0.16 | 3.18 | 0.20 | 6.4 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 68 | ● |

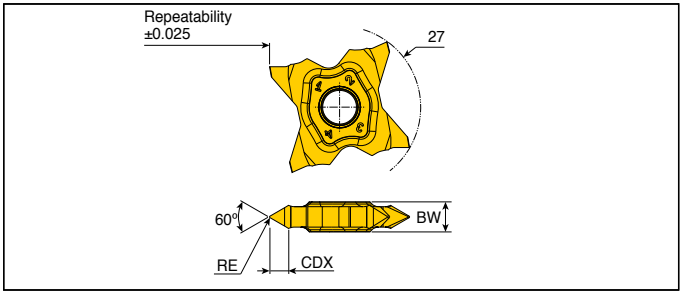
B110-B113 Cutting Condition B187

▸ (1) Other size of width from 0.5mm up to 8.2mm can be supplied as special ●: Standard items
▸ N.L.: No limit

# TQS 27-MT

**Partial profile 60˚ threading inserts**






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | TPN | TPX | TPIX | TPIN | RE | BW | CDX | TT9080 |
| **TQS 27-4MT-0.05** | 0.45 | 3 | 48 | 8 | 0.05 | 4 | 2.8 | ● |
| **27-4MT-0.14** | 1.11 | 3 | 23 | 8 | 0.14 | 4 | 2.7 | ● |
| **27-5MT-0.15** | 1.25 | 3 | 20 | 8 | 0.15 | 5 | 3.1 | ● |
| **27-5MT-0.20** | 1.63 | 3 | 16 | 8 | 0.20 | 5 | 3.1 | ● |
| **27-6MT-0.25** | 1.94 | 3 | 13 | 8 | 0.25 | 6 | 3.6 | ● |
| | | | | | | | | |
| | | | | | | | | |

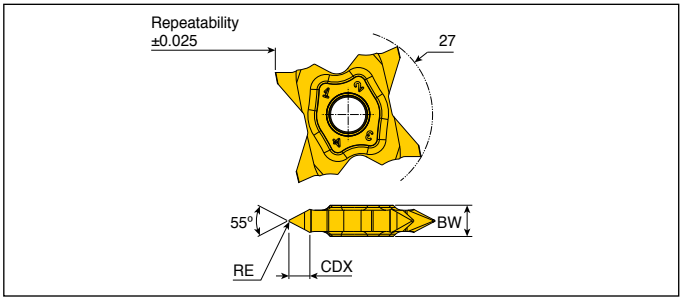
B110-B113 Cutting Condition B187

▸ TPN: Thread pitch minimum (mm) ▸ TPX: Thread pitch maximum (mm) ●: Standard items
▸ TPIX: Thread per inch maximum ▸ TPIN: Thread per inch minimum

# TQS 27-WT

**Partial profile 55˚ threading inserts**





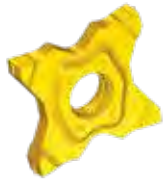

| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | TPIX | TPIN | RE | BW | CDX | TT9080 |
| **TQS 27-4WT-0.05** | 54 | 10 | 0.05 | 4 | 2.9 | ● |
| **27-5WT-0.15** | 19 | 10 | 0.15 | 5 | 3.3 | ● |
| **27-6WT-0.25** | 12 | 9 | 0.25 | 6 | 3.9 | ● |
| | | | | | | |
| | | | | | | |
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| | | | | | | |

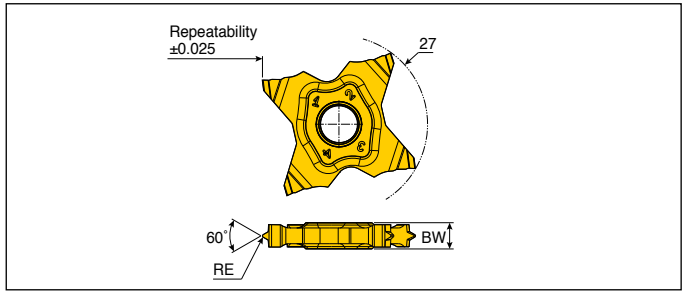
B110-B113 Cutting Condition B187

▸ TPIX: Thread per inch maximum ●: Standard items
▸ TPIN: Thread per inch minimum

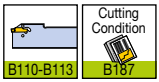
# TQS 27-ISO

**ISO metric full profile, external threading inserts**






| Designation | | Dimension (mm) | | | Grade |
|---|---|---|---|---|---|
| | | TP | RE | BW | TT9080 |
| **TQS** | **27-0.5-ISO** | 0.50 | 0.08 | 4 | ● |
| | **27-0.75-ISO** | 0.75 | 0.11 | 4 | ● |
| | **27-0.8-ISO** | 0.80 | 0.12 | 4 | ● |
| | **27-1.0-ISO** | 1.00 | 0.14 | 4 | ● |
| | **27-1.25-ISO** | 1.25 | 0.18 | 4 | ● |
| | **27-1.5-ISO** | 1.50 | 0.22 | 4 | ● |
| | **27-1.75-ISO** | 1.75 | 0.25 | 4 | ● |
| | **27-2.0-ISO** | 2.00 | 0.28 | 4 | ● |



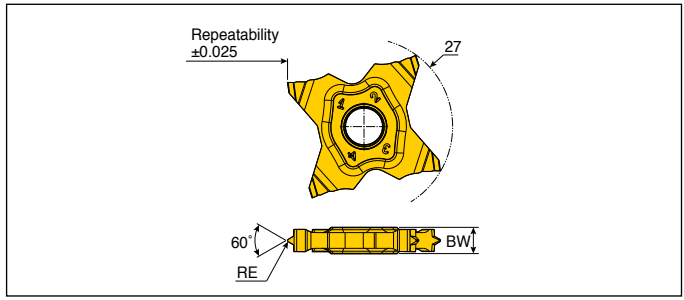

▸ TP: Thread pitch (mm)

●: Standard items

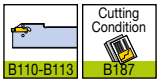
# TQS 27-UN

**American UN (UNC, UNF, UNEF) full profile, external threading inserts**






| Designation | | Dimension (mm) | | | Grade |
|---|---|---|---|---|---|
| | | TPI | RE | BW | TT9080 |
| **TQS** | **27-24-UN** | 24 | 0.13 | 4 | ● |
| | **27-20-UN** | 20 | 0.16 | 4 | ● |
| | **27-18-UN** | 18 | 0.16 | 4 | ● |
| | **27-16-UN** | 16 | 0.21 | 4 | ● |
| | **27-14-UN** | 14 | 0.23 | 4 | ● |
| | **27-12-UN** | 12 | 0.27 | 4 | ● |

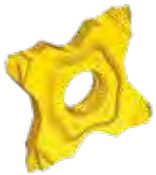


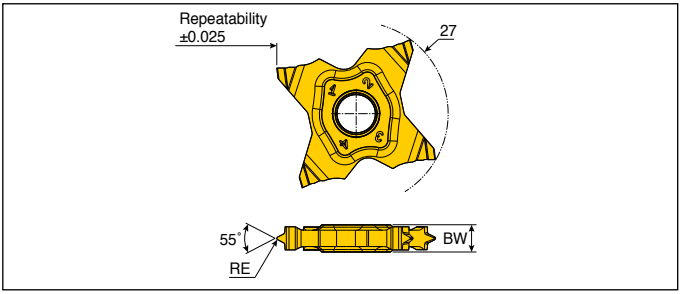

▸ TPI: Thread per inch

●: Standard items

# TQS 27-W

**Whitworth (BSW, BSF, BSP) full profile, external threading inserts**






| Designation | Dimension (mm) | | | Grade |
|---|---|---|---|---|
| | TPI | RE | BW | TT9080 |
| **TQS 27-28-W** | 28 | 0.09 | 4 | ● |
| **27-19-W** | 19 | 0.15 | 4 | ● |
| **27-18-W** | 18 | 0.16 | 4 | ● |
| **27-16-W** | 16 | 0.19 | 4 | ● |
| **27-14-W** | 14 | 0.21 | 4 | ● |
| **27-12-W** | 12 | 0.25 | 4 | ● |
| | | | | |
| | | | | |

B110-B113 Cutting Condition B187

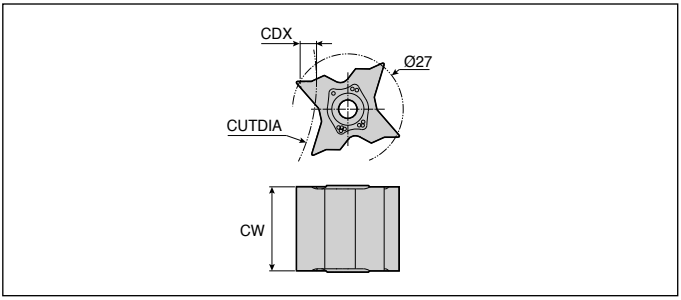
▸ TPI: Thread per inch

●: Standard items

# TQBS 27

**4 cutting edges with semi-finished blanks for wide grooving and profiling**






| Designation | Dimension (mm) | | CUTDIA | | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | CW | BW | CDX≤3.0 | ≤3.5 | ≤4.0 | ≤4.5 | ≤5.0 | ≤5.5 | ≤5.7 | ≤6.0 | ≤6.2 | ≤6.4 | UF10 |
| **TQBS 27-10EW** | 10.5 | 11.1 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| **27-15EW** | 15.5 | 16.1 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| **27-20EW** | 20.5 | 21.1 | N.L. | 600 | 280 | 180 | 135 | 105 | 95 | 85 | 78 | 55 | ● |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

B117 Cutting Condition B187

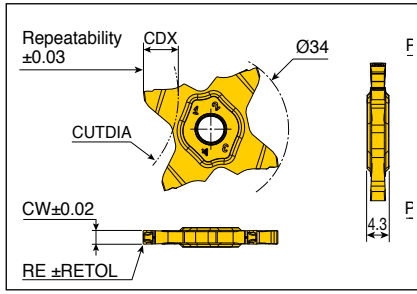
▸ N.L.: No limit

●: Standard items

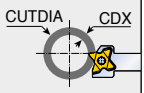
# TQC 34

**Deep grooving and parting inserts**






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |




| Designation | | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | CDX≤4.0 | ≤5.0 | ≤6.0 | ≤7.0 | ≤8.0 | ≤9.0 | ≤10.0 | TT9080 |
| **TQC** | **34-1.50-0.15** | 0.05-0.12 | 1.50 | 0.15 | 9.0 | N.L. | 400 | 190 | 125 | 90 | 40 | - | ● |
| | **34-2.00-0.20** | 0.05-0.18 | 2.00 | 0.20 | 9.0 | N.L. | 400 | 190 | 125 | 90 | 40 | - | ● |
| | **34-2.22-0.15** | 0.05-0.18 | 2.22 | 0.15 | 9.0 | N.L. | 400 | 190 | 125 | 90 | 40 | - | ● |
| | **34-2.30-0.20** | 0.05-0.18 | 2.30 | 0.20 | 9.0 | N.L. | 400 | 190 | 125 | 90 | 45 | - | ● |
| | **34-2.39-0.15** | 0.05-0.18 | 2.39 | 0.15 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 45 | 20 | ● |
| | **34-2.47-0.20** | 0.05-0.18 | 2.47 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 45 | 20 | ● |
| | **34-2.50-0.20** | 0.05-0.21 | 2.50 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 45 | 20 | ● |
| | **34-2.70-0.10** | 0.05-0.21 | 2.70 | 0.10 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 45 | 20 | ● |
| | **34-2.87-0.20** | 0.05-0.21 | 2.87 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.00-0.20** | 0.05-0.25 | 3.00 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.00-0.20** | 0.05-0.25 | 3.00 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.00-0.40** | 0.05-0.25 | 3.00 | 0.40 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.15-0.15** | 0.05-0.25 | 3.15 | 0.15 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.18-0.20** | 0.05-0.25 | 3.18 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.30-0.10** | 0.05-0.25 | 3.30 | 0.10 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.48-0.20** | 0.05-0.25 | 3.48 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.50-0.25** | 0.07-0.30 | 3.50 | 0.25 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | **34-3.98-0.20** | 0.07-0.30 | 3.98 | 0.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | |
| | **34-4.00-0.30** | 0.07-0.30 | 4.00 | 0.30 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |

B114-B116 Cutting Condition B187

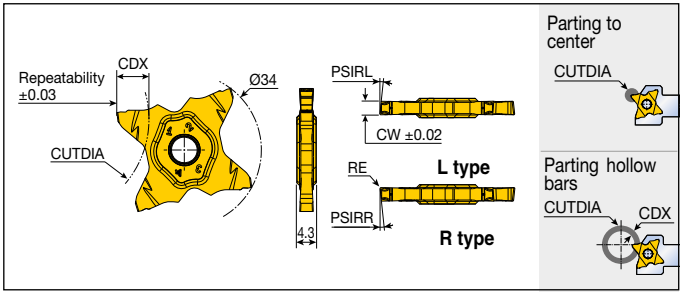
▸ N.L.: No limit

●: Standard items

# TQC 34

## Parting inserts






| Designation | Feed (mm/rev) | CW | RE | PSIRR/L | Parting to center | Parting hollow bars | | Grade |
|---|---|---|---|---|---|---|---|---|
| | | | | | CUTDIA | CDX | CUTDIA | TT9080 |
| TQC 34-1.50-8R/L | 0.03-0.10 | 1.50 | 0.07 | 8° | 18.5 | 9 | 40 | ● |
| 34-2.00-6R/L | 0.03-0.15 | 2.00 | 0.10 | 6° | 18.5 | 9 | 40 | ● |
| 34-2.00-15R/L | 0.03-0.15 | 2.00 | 0.10 | 15° | 18.5 | 9 | 40 | ● |
| 34-3.00-6R/L | 0.03-0.18 | 3.00 | 0.20 | 6° | 20.0 | 10 | 20 | ● |
| | | | | | | | | |
| | | | | | | | | |

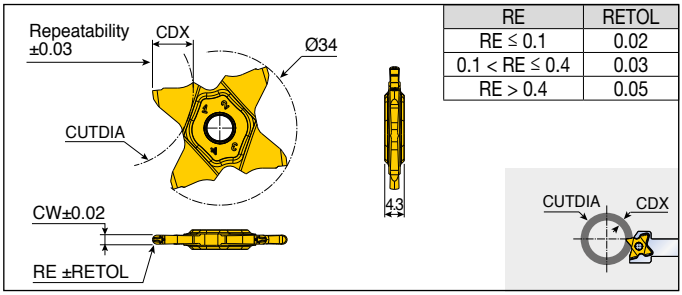
Cutting Condition B114-B116 B187

●: Standard items

# TQC 34

## Full radius inserts






| RE | RETOL |
|---|---|
| RE ≤ 0.1 | 0.02 |
| 0.1 < RE ≤ 0.4 | 0.03 |
| RE > 0.4 | 0.05 |

| Designation | Feed (mm/rev) | CW | RE | CDX | CUTDIA | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | CDX≤4.0 | ≤5.0 | ≤6.0 | ≤7.0 | ≤8.0 | ≤9.0 | ≤10.0 | TT9080 |
| TQC 34-2.00-1.00 | 0.05-0.11 | 2.00 | 1.00 | 9.0 | N.L. | 400 | 190 | 125 | 90 | 40 | - | ● |
| 34-2.39-1.20 | 0.05-0.11 | 2.39 | 1.20 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 45 | 20 | ● |
| 34-3.00-1.50 | 0.06-0.12 | 3.00 | 1.50 | 10.0 | N.L. | 400 | 190 | 125 | 90 | 50 | 20 | ● |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Cutting Condition B114-B116 B187

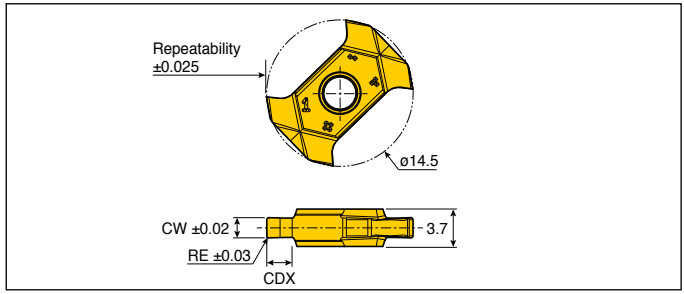
▸ N.L.: No limit

●: Standard items

# TQIS 14

**4 cutting edge inserts for internal shallow grooving**






| Designation | Feed (mm/rev) | Dimension (mm) | | | Grade |
|---|---|---|---|---|---|
| | | CW | RE | CDX | TT9080 |
| **TQIS 14-1.00-0.05** | 0.02-0.06 | 1.00 | 0.05 | 2.50 | ● |
| **14-1.50-0.10** | 0.02-0.07 | 1.50 | 0.10 | 2.50 | ● |
| **14-1.50-0.20** | 0.02-0.07 | 1.50 | 0.20 | 2.50 | ● |
| **14-1.70-0.20** | 0.02-0.08 | 1.70 | 0.20 | 2.50 | ● |
| **14-2.00-0.10** | 0.03-0.08 | 2.00 | 0.10 | 2.50 | ● |
| **14-2.00-0.20** | 0.03-0.08 | 2.00 | 0.20 | 2.50 | ● |
| **14-2.50-0.20** | 0.03-0.09 | 2.50 | 0.20 | 2.50 | ● |
| **14-3.00-0.20** | 0.03-0.10 | 3.00 | 0.20 | 2.50 | ● |

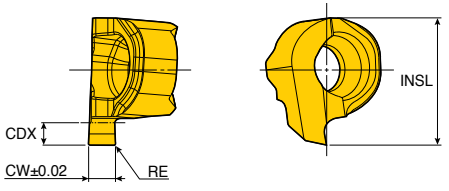
●: Standard items

Cutting Condition
B118-B119 B187

# TMIR/L

**Precise inserts for internal shallow grooving on small diameter**






Right hand shown

| Designation | | Feed (mm/rev) | Dimension (mm) | | | | Grade | |
|---|---|---|---|---|---|---|---|---|
| | | | CW | RE | CDX | INSL | TT4430 | TT8020 |
| **TMIR/L** | **6-0.50-0.00** | 0.01-0.03 | 0.50 | 0.00 | 0.5 | 5.7 | ● | ● |
| | **6-1.00-0.00** | 0.01-0.03 | 1.00 | 0.00 | 1.0 | 5.7 | ● | ● |
| | **6-1.20-0.05** | 0.01-0.03 | 1.20 | 0.05 | 1.0 | 5.7 | ● | ● |
| | **8-0.50-0.00** | 0.01-0.03 | 0.50 | 0.00 | 0.7 | 7.4 | ● | ● |
| | **8-1.00-0.00** | 0.01-0.03 | 1.00 | 0.00 | 1.5 | 7.4 | ● | ● |
| | **8-1.50-0.05** | 0.01-0.03 | 1.50 | 0.05 | 1.5 | 7.4 | ● | ● |
| | **8-2.00-0.10** | 0.01-0.03 | 2.00 | 0.10 | 1.5 | 7.4 | ● | ● |

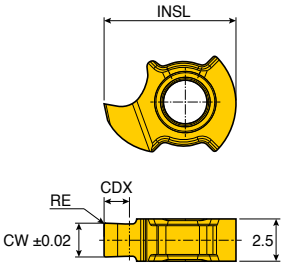
B120 Cutting Condition B187

●: Standard items

# TMIS 8

**Precise inserts for internal shallow grooving on small diameter**






| Designation | | Feed (mm/rev) | Dimension (mm) | | | | Grade | |
|---|---|---|---|---|---|---|---|---|
| | | | CW | RE | CDX | INSL | TT4430 | TT8020 |
| **TMIS** | **8-0.50-0.00** | 0.01-0.03 | 0.50 | 0.00 | 0.70 | 7.8 | ● | ● |
| | **8-1.00-0.00** | 0.01-0.03 | 1.00 | 0.00 | 1.50 | 7.8 | ● | ● |
| | **8-1.50-0.05** | 0.01-0.03 | 1.50 | 0.05 | 1.50 | 7.8 | ● | ● |
| | **8-2.00-0.10** | 0.01-0.03 | 2.00 | 0.10 | 1.50 | 7.8 | ● | ● |

B121 Cutting Condition B187

●: Standard items

# Designation System

| TV | E | R | 4 | 07 | 010 | 45 |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## 1 TaeguTec TOP-CUT series

## 2 Applciation type

| | |
|---|---|
| **E** | External turning |
| **R** | Reverse turning |
| **B** | Back turning |
| **T** | Threading |
| **P** | Parting |

## 3 Hand of tool

| | |
|---|---|
| **R** | Right-hand |
| **L** | Left-hand |

## 4 Insert thickness

| | |
|---|---|
| **4** | 3.97mm |

## 5 Width of insert

| | |
|---|---|
| **07** | 0.7mm |
| **10** | 1.0mm |
| **12** | 1.2mm |
| **15** | 1.5mm |
| **18** | 1.8mm |
| **20** | 2.0mm |

## 6 Corner radius

| | |
|---|---|
| **000** | 0mm |
| **003** | 0.03mm |
| **005** | 0.05mm |
| **010** | 0.10mm |
| **015** | 0.15mm |

## 7 CDX (TVPR/L only)

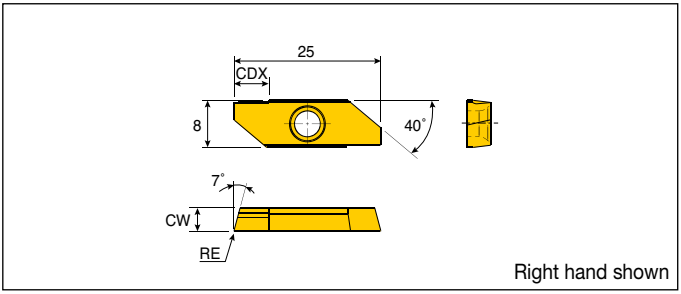
| | |
|---|---|
| **45** | 4.5mm |
| **50** | 5.0mm |
| **60** | 6.0mm |

# TVER/L

TOPCUT

## General turning inserts






Right hand shown

| Designation | | ap (mm) | Feed (mm/rev) | Dimension (mm) | | | Grade (TT9010) | |
|---|---|---|---|---|---|---|---|---|
| | | | | CW | RE | CDX | R | L |
| **TVER/L** | **40003** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.03 | 5.5 | ● | |
| | **40010** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.10 | 5.5 | ● | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

●: Standard items

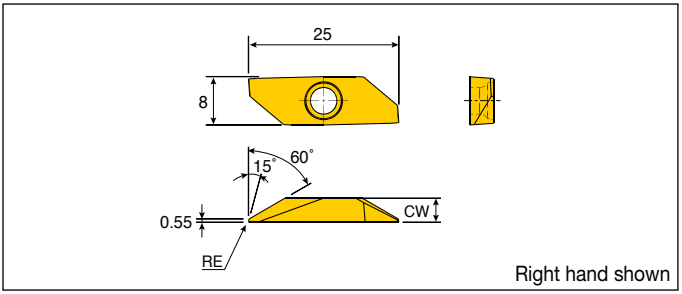
B102

# TVRR/L

TOPCUT

## Reverse turning inserts






Right hand shown

| Designation | | ap (mm) | Feed (mm/rev) | Dimension (mm) | | | Grade (TT9010) | |
|---|---|---|---|---|---|---|---|---|
| | | | | CW | RE | CDX | R | L |
| **TVRR/L** | **40003-60** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.03 | 5.5 | ● | |
| | **40010-60** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.10 | 5.5 | ● | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

●: Standard items

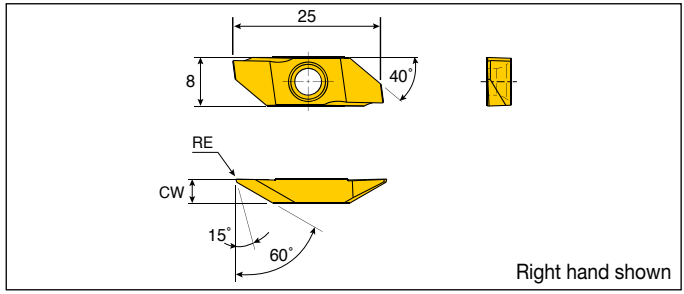
B102

# TVBR/L

TOPCUT

## Back turning inserts






| Designation | | ap (mm) | Feed (mm/rev) | Dimension (mm) | | | Grade (TT9010) | |
|---|---|---|---|---|---|---|---|---|
| | | | | CW | RE | CDX | R | L |
| **TVBR/L** | **40003** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.03 | 5.5 | ● | ● |
| | **40005** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.05 | 5.5 | ● | ● |
| | **40010** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.10 | 5.5 | ● | ● |
| | **40015** | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.15 | 5.5 | ● | ● |
| | **40005-H**(1) | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.05 | 5.5 | ● | ● |
| | **40015-H**(1) | 0.1-5.5 | 0.01-0.15 | 3.97 | 0.15 | 5.5 | ● | ● |




▸ (1) With honed egdes

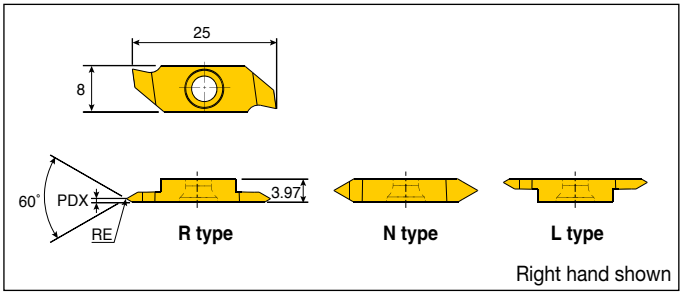
●: Standard items

# TVTR/L

TOPCUT

## Threading inserts






| Designation | | Dimension (mm) | | | | Grade (TT9010) | |
|---|---|---|---|---|---|---|---|
| | | TPN | TPX | PDX | RE | R | L |
| **TVTR/L** | **41203-R** | 0.5 | 1.0 | 0.6 | 0.03 | ● | |
| | **40003-N** | 0.5 | 2.0 | 2.1 | 0.03 | ● | ● |
| | **41203-L** | 0.5 | 1.0 | 0.6 | 0.03 | | ● |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |




▸ TVTR 41203-R/L ➡ pitch range: 0.5 - 1.0mm
▸ TVTR 40003-N ➡ pitch range: 0.5 - 2.0mm
▸ TPN: Thread pitch minimum (mm), TPX: Thread pitch maximum (mm)

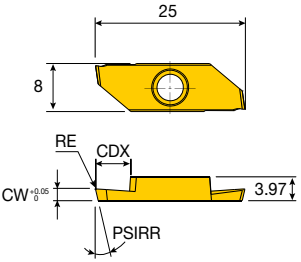
●: Standard items

# TVPR/L

TOPCUT

## Grooving and parting inserts






Right hand shown

| Designation | | ap (mm) | Feed (mm/rev) | Dimension (mm) | | | | Grade (TT9010) | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | CW | RE | PSIRR/L | CDX | R | L |
| **TVPR/L** | **40700-45** | 0.7 | 0.02-0.04 | 0.7 | 0.00 | 15° | 4.5 | ● | ● |
| | **40705-45** | 0.7 | 0.02-0.04 | 0.7 | 0.05 | 15° | 4.5 | ● | |
| | **41000-60** | 1.0 | 0.02-0.04 | 1.0 | 0.00 | 15° | 6.0 | ● | ● |
| | **41005-60** | 1.0 | 0.02-0.04 | 1.0 | 0.05 | 15° | 6.0 | ● | |
| | **41000-45** | 1.0 | 0.02-0.04 | 1.0 | 0.00 | 15° | 4.5 | ● | |
| | **41005-45** | 1.0 | 0.02-0.04 | 1.0 | 0.05 | 15° | 4.5 | ● | |
| | **41500-60** | 1.5 | 0.02-0.07 | 1.5 | 0.00 | 15° | 6.0 | ● | ● |
| | **41505-60** | 1.5 | 0.02-0.07 | 1.5 | 0.05 | 15° | 6.0 | ● | |
| | **41500-50** | 1.5 | 0.02-0.07 | 1.5 | 0.00 | 15° | 5.0 | ● | |
| | **41505-50** | 1.5 | 0.02-0.07 | 1.5 | 0.05 | 15° | 5.0 | ● | |
| | **42000-60** | 2.0 | 0.02-0.07 | 2.0 | 0.00 | 15° | 6.0 | ● | ● |
| | **42005-60** | 2.0 | 0.02-0.07 | 2.0 | 0.05 | 15° | 6.0 | ● | |
| | **42000N-60** | 2.0 | 0.02-0.09 | 2.0 | 0.00 | 0° | 6.0 | ● | ● |
| | **42005N-60** | 2.0 | 0.02-0.09 | 2.0 | 0.05 | 0° | 6.0 | ● | |




●: Standard items



TaeguTec

# Designation System

| MIN | T | R | 04 | 040 | 005 | D010 |
|---|---|---|---|---|---|---|
| 1 | 7 | 2 | 3 | 4 | 5 | 6 |

## 1 TOP-MICRO series



## 2 Hand of tool

**R** Right-hand
**L** Left-hand

## 3 Shank dia.

**04** 4.0mm
**07** 7.0mm

## 4 Max. depth

**050** 5.0mm
**140** 14.0mm

## 5 Corner radius

**010** 0.10mm
**020** 0.20mm

## 6 Min. bore. dia.

**D010** 1.0mm

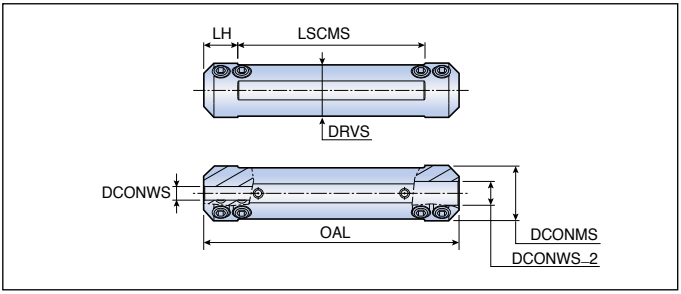
## 7 Application type

| | |
|---|---|
| **T** | Turning and chamfering |
| **B** | Back turning |
| **P** | Turning and profiling |
| **U** | Undercutting and chamfering |
| **C** | Turning and 45°chamfering |
| **G** | Grooving and turning |
| **S** | Grooving along shaft |
| **F** | Face grooving |
| **R** | Full radius for internal boring and profiling |
| **I** | ISO full profile internal threading |
| **SL** | Sleeve for MINS |

# MINSL

## Sleeves






| Designation | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|
| | DCONMS | DCONWS | DCONWS_2 | OAL | LH | LSCMS | DRVS |
| **MINSL 12-4-4** | 12 | 4 | 4 | 75 | 13 | 49 | 10.3 |
| **14-4-4** | 14 | 4 | 4 | 75 | 13 | 49 | 12 |
| **16-4-7** | 16 | 4 | 7 | 75 | 10 | 55 | 15 |
| **19-4-7** | 19.05 | 4 | 7 | 89 | 10 | 69 | 17.2 |
| **20-4-7** | 20 | 4 | 7 | 90 | 10 | 70 | 18 |
| **22-4-7** | 22 | 4 | 7 | 90 | 10 | 70 | 20 |
| **25-4-7** | 25 | 4 | 7 | 90 | 10 | 70 | 23.4 |

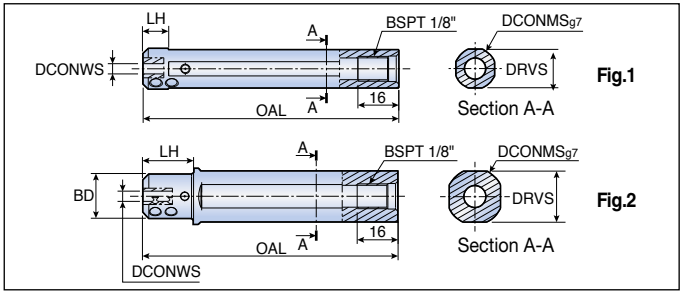
## Spare parts

| Designation | Set screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **MINSL 12** | SS M5x0.8x4-MG | L-W 2.5 | | |
| **MINSL 14/16/19/20/22/25** | SS M5x0.8x6-MG | L-W 2.5 | | |
| | | | | |
| | | | | |

# MINS ...-L100C

**Sleeves for direct connection for coolant**






| Designation | Dimension (mm) | | | | | | Fig. |
|---|---|---|---|---|---|---|---|
| | DCONMS | DCONWS | BD | OAL | LH | DRVS | |
| **MINS 16-4-L100C** | 16 | 4 | - | 100 | 10 | 15 | 1 |
| **16-7-L100C** | 16 | 7 | - | 100 | 10 | 15 | 1 |
| **20-4-L100C** | 20 | 4 | 17.5 | 100 | 20 | 18 | 2 |
| **20-7-L100C** | 20 | 7 | 17.5 | 100 | 20 | 18 | 2 |
| **22-4-L100C** | 22 | 4 | 17.5 | 100 | 20 | 20 | 2 |
| **22-7-L100C** | 22 | 7 | 17.5 | 100 | 20 | 20 | 2 |
| **25-4-L100C** | 25 | 4 | 18 | 100 | 23 | 23 | 2 |
| **25-7-L100C** | 25 | 7 | 18 | 100 | 23 | 23 | 2 |

▸ All sleeves applicable for Citizen Swiss type machine

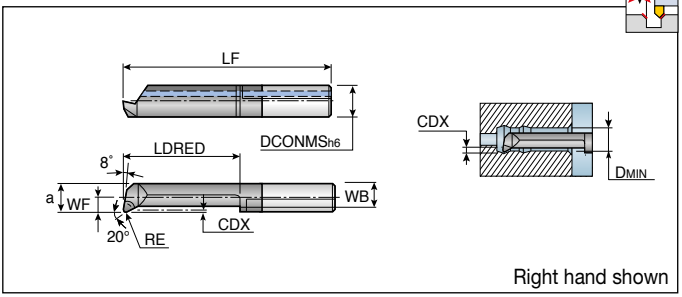
## Spare parts

| Designation | Set screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **MINS ...-L100C** | SS M5x0.8x6-MG | L-W 2.5 | | |
| | | | | |
| | | | | |
| | | | | |

# MINT R/L 04

**Mini carbide bars for internal turning and chamfering**






| Designation | Dimension (mm) | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | WB | LF | LDRED | RE | CDX | DMIN | | TT9030 |
| **MINTR04-020004D006*** | 4.00 | - | 0.50 | 0.35 | 18.50 | 3.50 | 0.04 | 0.08 | 0.60 | R | ● |
| **030004D006*** | 4.00 | - | 0.50 | 0.35 | 19.50 | 4.50 | 0.04 | 0.08 | 0.60 | R | ● |
| **045005D010** | 4.00 | - | 0.90 | 0.70 | 21.00 | 6.00 | 0.05 | 0.10 | 1.00 | R | ● |
| **065005D010** | 4.00 | - | 0.90 | 0.70 | 23.00 | 8.00 | 0.05 | 0.10 | 1.00 | R | ● |
| **040005D020** | 4.00 | - | 1.70 | 1.45 | 20.50 | 5.50 | 0.05 | 0.10 | 2.00 | R | ● |
| **090005D020** | 4.00 | - | 1.70 | 1.45 | 25.50 | 10.50 | 0.05 | 0.10 | 2.00 | R | ● |
| **140005D020** | 4.00 | - | 1.70 | 1.45 | 30.50 | 15.50 | 0.05 | 0.10 | 2.00 | R | ● |
| **090010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 25.50 | 10.50 | 0.10 | 0.20 | 2.80 | R | ● |
| **150010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 31.50 | 16.50 | 0.10 | 0.20 | 2.80 | R | ● |
| **190010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 35.50 | 20.50 | 0.10 | 0.20 | 2.80 | R | ● |
| **090010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 25.50 | 10.50 | 0.10 | 0.30 | 4.00 | R | ● |
| **150010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 31.50 | 16.50 | 0.10 | 0.30 | 4.00 | R | ● |
| **190010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 35.50 | 20.50 | 0.10 | 0.30 | 4.00 | R | ● |
| **230010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 39.50 | 24.50 | 0.10 | 0.30 | 4.00 | R | ● |
| **270010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 43.50 | 28.50 | 0.10 | 0.30 | 4.00 | R | ● |
| **MINTL04-090010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 25.50 | 10.50 | 0.10 | 0.20 | 2.80 | L | ● |
| **150010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 31.50 | 16.50 | 0.10 | 0.20 | 2.80 | L | ● |
| **190010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 35.50 | 20.50 | 0.10 | 0.20 | 2.80 | L | ● |
| **090010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 25.50 | 10.50 | 0.10 | 0.30 | 4.00 | L | ● |
| **150010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 31.50 | 16.50 | 0.10 | 0.30 | 4.00 | L | ● |
| **190010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 35.50 | 20.50 | 0.10 | 0.30 | 4.00 | L | ● |

B169-B170

Cutting Condition B192

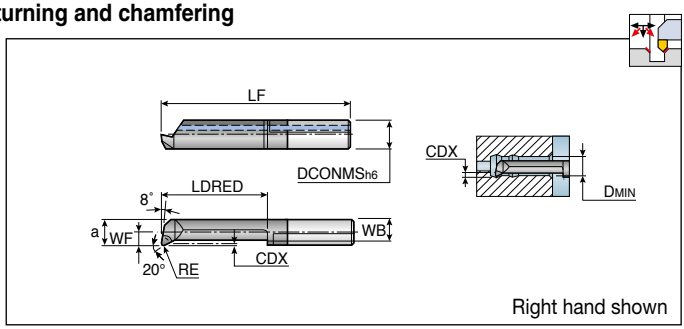
▸ *: Max D.O.C: 0.01 - 0.03, max feed 0.01mm/rev

●: Standard items

# MINT R/L 07

**Mini carbide bars for internal turning and chamfering**






Right hand shown

| Designation | Dimension (mm) | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | WB | LF | LDRED | RE | CDX | DMIN | | TT9030 |
| **MINTR07-090015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 25.00 | 10.00 | 0.15 | 0.50 | 5.00 | R | ● |
| **140015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 30.00 | 15.00 | 0.15 | 0.50 | 5.00 | R | ● |
| **190015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 35.00 | 20.00 | 0.15 | 0.50 | 5.00 | R | ● |
| **240015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 40.00 | 25.00 | 0.15 | 0.50 | 5.00 | R | ● |
| **290015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 45.00 | 30.00 | 0.15 | 0.50 | 5.00 | R | ● |
| **340015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 50.00 | 35.00 | 0.15 | 0.50 | 5.00 | R | ● |
| **140015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 30.00 | 15.00 | 0.15 | 0.50 | 6.00 | R | ● |
| **210015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 37.00 | 22.00 | 0.15 | 0.50 | 6.00 | R | ● |
| **240015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 40.00 | 25.00 | 0.15 | 0.50 | 6.00 | R | ● |
| **290015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 45.00 | 30.00 | 0.15 | 0.50 | 6.00 | R | ● |
| **340015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 50.00 | 35.00 | 0.15 | 0.50 | 6.00 | R | ● |
| **410015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 57.00 | 42.00 | 0.15 | 0.50 | 6.00 | R | ● |
| **190015D068** | 7.00 | 2.80 | 6.30 | 5.40 | 35.00 | 20.00 | 0.15 | 0.60 | 6.80 | R | ● |
| **240015D068** | 7.00 | 2.80 | 6.30 | 5.40 | 40.00 | 25.00 | 0.15 | 0.60 | 6.80 | R | ● |
| **290015D068** | 7.00 | 2.80 | 6.30 | 5.40 | 45.00 | 30.00 | 0.15 | 0.60 | 6.80 | R | ● |
| **340015D070** | 7.00 | 2.80 | 6.30 | 5.40 | 50.00 | 35.00 | 0.15 | 0.60 | 7.00 | R | ● |
| **390015D070** | 7.00 | 2.80 | 6.30 | 5.40 | 55.00 | 40.00 | 0.15 | 0.60 | 7.00 | R | ● |
| **440015D070** | 7.00 | 2.80 | 6.30 | 5.40 | 60.00 | 45.00 | 0.15 | 0.60 | 7.00 | R | ● |
| **490015D070** | 7.00 | 2.80 | 6.30 | 5.40 | 65.00 | 50.00 | 0.15 | 0.60 | 7.00 | R | ● |
| **MINTL07-090015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 25.00 | 10.00 | 0.15 | 0.50 | 5.00 | L | ● |
| **140015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 30.00 | 15.00 | 0.15 | 0.50 | 5.00 | L | ● |
| **190015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 35.00 | 20.00 | 0.15 | 0.50 | 5.00 | L | ● |
| **240015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 40.00 | 25.00 | 0.15 | 0.50 | 5.00 | L | ● |
| **290015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 45.00 | 30.00 | 0.15 | 0.50 | 5.00 | L | ● |
| **140015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 30.00 | 15.00 | 0.15 | 0.50 | 6.00 | L | ● |
| **210015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 37.00 | 22.00 | 0.15 | 0.50 | 6.00 | L | ● |
| **240015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 40.00 | 25.00 | 0.15 | 0.50 | 6.00 | L | ● |
| **290015D060** | 7.00 | 1.80 | 5.30 | 4.40 | 45.00 | 30.00 | 0.15 | 0.50 | 6.00 | L | ● |
| **190015D068** | 7.00 | 2.80 | 6.30 | 5.40 | 35.00 | 20.00 | 0.15 | 0.60 | 6.80 | L | ● |
| **290015D068** | 7.00 | 2.80 | 6.30 | 5.40 | 45.00 | 30.00 | 0.15 | 0.60 | 6.80 | L | ● |
| **340015D070** | 7.00 | 2.80 | 6.30 | 5.40 | 50.00 | 35.00 | 0.15 | 0.60 | 7.00 | L | ● |

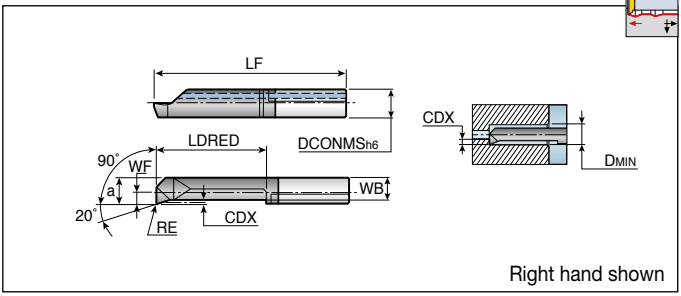
●: Standard items

B169-B170 Cutting Condition B192

# MINP R 04/07

**Mini carbide bars for internal turning and profiling**






| Designation | Dimension (mm) | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | WB | LF | LDRED | RE | CDX | DMIN | | TT9030 |
| **MINPR04-090010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 25.50 | 10.50 | 0.10 | 0.20 | 2.80 | R | ● |
| **150010D028** | 4.00 | 0.90 | 2.60 | 2.20 | 31.50 | 16.50 | 0.10 | 0.20 | 2.80 | R | ● |
| **090010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 25.50 | 10.50 | 0.10 | 0.30 | 4.00 | R | ● |
| **150010D040** | 4.00 | 1.50 | 3.50 | 2.90 | 31.50 | 16.50 | 0.10 | 0.30 | 4.00 | R | ● |
| **MINPR07-140015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 30.00 | 15.00 | 0.15 | 0.50 | 5.00 | R | ● |
| **190015D050** | 7.00 | 0.90 | 4.40 | 3.65 | 35.00 | 20.00 | 0.15 | 0.50 | 5.00 | R | ● |

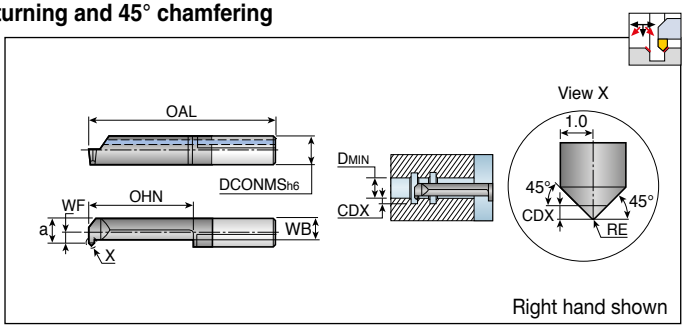
B169-B170 Cutting Condition B192

●: Standard items

# MINC R 07

**Mini carbide bars for internal turning and 45° chamfering**






| Designation | Dimension (mm) | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | WB | OAL | OHN | RE | CDX | DMIN | | TT9030 |
| **MINCR07-140020D050** | 7.00 | 0.90 | 4.40 | 3.20 | 30.00 | 15.00 | 0.20 | 0.70 | 5.00 | R | ● |
| **190020D050** | 7.00 | 0.90 | 4.40 | 3.20 | 35.00 | 20.00 | 0.20 | 0.70 | 5.00 | R | ● |
| **190020D068** | 7.00 | 2.80 | 6.30 | 3.80 | 35.00 | 20.00 | 0.20 | 0.70 | 6.80 | R | ● |

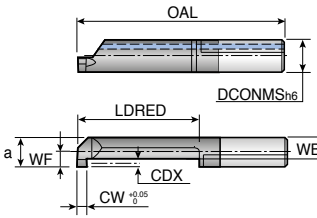
B169-B170 Cutting Condition B192

●: Standard items

# MING R 04

**Mini carbide bars for grooving and turning**






Right hand shown

| Designation | Dimension (mm) | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | WB | OAL | LDRED | CDX | DMIN | | TT9030 |
| **MINGR04-050050D020** | 4.00 | 0.50 | 0.20 | 1.80 | 1.15 | 21.00 | 6.00 | 0.40 | 2.00 | R | ● |
| **100050D020** | 4.00 | 0.50 | 0.20 | 1.80 | 1.15 | 26.00 | 11.00 | 0.40 | 2.00 | R | ● |
| **050070D030** | 4.00 | 0.70 | 0.70 | 2.70 | 1.85 | 21.00 | 6.00 | 0.60 | 3.00 | R | ● |
| **100070D030** | 4.00 | 0.70 | 0.70 | 2.70 | 1.85 | 26.00 | 11.00 | 0.60 | 3.00 | R | ● |
| **090100D040** | 4.00 | 1.00 | 1.50 | 3.50 | 2.30 | 25.50 | 10.50 | 0.80 | 4.00 | R | ● |
| **150100D040** | 4.00 | 1.00 | 1.50 | 3.50 | 2.30 | 31.50 | 16.50 | 0.80 | 4.00 | R | ● |

B169-B170 Cutting Condition B192

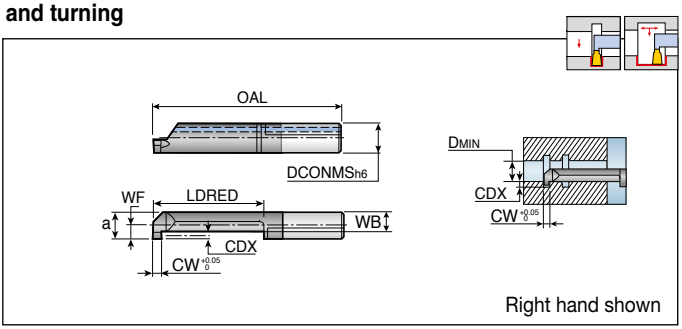
▸ The corner radius is less than 0.1mm

●: Standard items

# MING R/L 07

**Mini carbide bars for grooving and turning**






Right hand shown

| Designation | Dimension (mm) | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | WB | OAL | LDRED | CDX | DMIN | | TT9030 |
| **MINGR07- 090100D050** | 7.00 | 1.00 | 0.90 | 4.40 | 3.00 | 25.00 | 10.00 | 1.00 | 5.00 | R | ● |
| **140100D050** | 7.00 | 1.00 | 0.90 | 4.40 | 3.00 | 30.00 | 15.00 | 1.00 | 5.00 | R | ● |
| **090150D050** | 7.00 | 1.50 | 0.90 | 4.40 | 3.00 | 25.00 | 10.00 | 1.00 | 5.00 | R | ● |
| **140150D050** | 7.00 | 1.50 | 0.90 | 4.40 | 3.00 | 30.00 | 15.00 | 1.00 | 5.00 | R | ● |
| **090200D050** | 7.00 | 2.00 | 0.90 | 4.40 | 3.00 | 25.00 | 10.00 | 1.00 | 5.00 | R | ● |
| **190200D050** | 7.00 | 2.00 | 0.90 | 4.40 | 3.00 | 35.00 | 20.00 | 1.00 | 5.00 | R | ● |
| **090100D060** | 7.00 | 1.00 | 1.80 | 5.30 | 3.10 | 25.00 | 10.00 | 1.80 | 6.00 | R | ● |
| **140100D060** | 7.00 | 1.00 | 1.80 | 5.30 | 3.10 | 30.00 | 15.00 | 1.80 | 6.00 | R | ● |
| **210100D060** | 7.00 | 1.00 | 1.80 | 5.30 | 3.10 | 37.00 | 22.00 | 1.80 | 6.00 | R | ● |
| **290100D060** | 7.00 | 1.00 | 1.80 | 5.30 | 3.10 | 45.00 | 30.00 | 1.80 | 6.00 | R | ● |
| **090150D060** | 7.00 | 1.50 | 1.80 | 5.30 | 3.10 | 25.00 | 10.00 | 1.80 | 6.00 | R | ● |
| **140150D060** | 7.00 | 1.50 | 1.80 | 5.30 | 3.10 | 30.00 | 15.00 | 1.80 | 6.00 | R | ● |
| **210150D060** | 7.00 | 1.50 | 1.80 | 5.30 | 3.10 | 37.00 | 22.00 | 1.80 | 6.00 | R | ● |
| **240150D060** | 7.00 | 1.50 | 1.80 | 5.30 | 3.10 | 40.00 | 25.00 | 1.80 | 6.00 | R | ● |
| **290150D060** | 7.00 | 1.50 | 1.80 | 5.30 | 3.10 | 45.00 | 30.00 | 1.80 | 6.00 | R | ● |
| **090200D060** | 7.00 | 2.00 | 1.80 | 5.30 | 3.10 | 25.00 | 10.00 | 1.80 | 6.00 | R | ● |
| **140200D060** | 7.00 | 2.00 | 1.80 | 5.30 | 3.10 | 30.00 | 15.00 | 1.80 | 6.00 | R | ● |
| **210200D060** | 7.00 | 2.00 | 1.80 | 5.30 | 3.10 | 37.00 | 22.00 | 1.80 | 6.00 | R | ● |
| **240200D060** | 7.00 | 2.00 | 1.80 | 5.30 | 3.10 | 40.00 | 25.00 | 1.80 | 6.00 | R | ● |
| **290200D060** | 7.00 | 2.00 | 1.80 | 5.30 | 3.10 | 45.00 | 30.00 | 1.80 | 6.00 | R | ● |
| **090100D068** | 7.00 | 1.00 | 2.70 | 6.20 | 3.30 | 25.00 | 10.00 | 2.50 | 6.80 | R | ● |
| **140100D068** | 7.00 | 1.00 | 2.70 | 6.20 | 3.30 | 30.00 | 15.00 | 2.50 | 6.80 | R | ● |
| **210100D068** | 7.00 | 1.00 | 2.70 | 6.20 | 3.30 | 37.00 | 22.00 | 2.50 | 6.80 | R | ● |
| **090150D068** | 7.00 | 1.50 | 2.70 | 6.20 | 3.30 | 25.00 | 10.00 | 2.50 | 6.80 | R | ● |
| **140150D068** | 7.00 | 1.50 | 2.70 | 6.20 | 3.30 | 30.00 | 15.00 | 2.50 | 6.80 | R | ● |
| **210150D068** | 7.00 | 1.50 | 2.70 | 6.20 | 3.30 | 37.00 | 22.00 | 2.50 | 6.80 | R | ● |
| **290150D068** | 7.00 | 1.50 | 2.70 | 6.20 | 3.30 | 45.00 | 30.00 | 2.50 | 6.80 | R | ● |
| **090200D068** | 7.00 | 2.00 | 2.70 | 6.20 | 3.30 | 25.00 | 10.00 | 2.50 | 6.80 | R | ● |
| **140200D068** | 7.00 | 2.00 | 2.70 | 6.20 | 3.30 | 30.00 | 15.00 | 2.50 | 6.80 | R | ● |
| **210200D068** | 7.00 | 2.00 | 2.70 | 6.20 | 3.30 | 37.00 | 22.00 | 2.50 | 6.80 | R | ● |
| **290200D068** | 7.00 | 2.00 | 2.70 | 6.20 | 3.30 | 45.00 | 29.00 | 2.50 | 6.80 | R | ● |
| **MINGL07- 090100D060** | 7.00 | 1.00 | 1.80 | 5.30 | 3.10 | 25.00 | 10.00 | 1.80 | 6.00 | L | ● |
| **090150D060** | 7.00 | 1.50 | 1.80 | 5.30 | 3.10 | 25.00 | 10.00 | 1.80 | 6.00 | L | ● |
| **140200D068** | 7.00 | 2.00 | 2.70 | 6.20 | 3.30 | 30.00 | 15.00 | 2.50 | 6.80 | L | ● |

B169-B170

Cutting Condition

B192

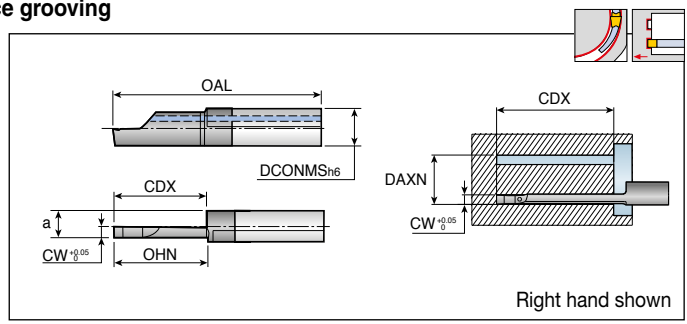
▸ The corner radius is less than 0.1mm

●: Standard items

# MINF R 07

**Mini carbide bars for deep face grooving**






| Designation | Dimension (mm) | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | a | OAL | OHN | CDX | DAXN | | TT9030 |
| **MINFR07 200250D150** | 7.00 | 2.50 | 5.90 | 36.00 | 21.00 | 20.00 | 15.00 | R | ● |
| **200300D150** | 7.00 | 3.00 | 5.90 | 36.00 | 21.00 | 20.00 | 15.00 | R | ● |
| **300300D150** | 7.00 | 3.00 | 5.90 | 46.00 | 31.00 | 30.00 | 15.00 | R | ● |

B169-B170 Cutting Condition B192

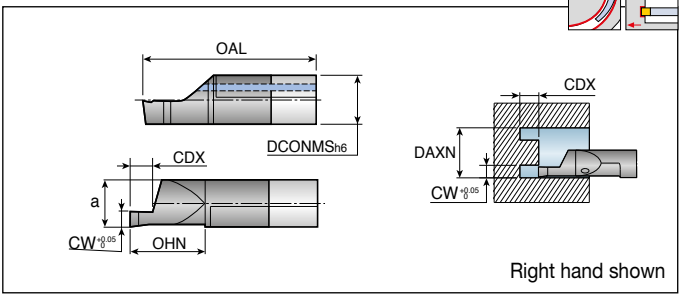
▸ The corner radius is less than 0.1mm

●: Standard items

# MINF R/L 07

**Mini carbide bars for deep face grooving**






| Designation | | Dimension (mm) | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | CW | a | OAL | OHN | CDX | DAXN | | TT9030 |
| **MINFR07-** | **110100D060** | 7.00 | 1.00 | 5.20 | 27.00 | 11.00 | 1.50 | 6.00 | R | ● |
| | **110100D080** | 7.00 | 1.00 | 5.90 | 27.00 | 12.00 | 1.50 | 8.00 | R | ● |
| | **110150D060** | 7.00 | 1.50 | 5.20 | 27.00 | 11.00 | 2.00 | 6.00 | R | ● |
| | **110150D080** | 7.00 | 1.50 | 5.90 | 27.00 | 12.00 | 2.50 | 8.00 | R | ● |
| | **110200D060** | 7.00 | 2.00 | 5.20 | 27.00 | 11.00 | 3.00 | 6.00 | R | ● |
| | **200200D080** | 7.00 | 2.00 | 5.90 | 36.00 | 21.00 | 3.00 | 8.00 | R | ● |
| | **210150D080** | 7.00 | 1.50 | 5.90 | 37.00 | 22.00 | 2.50 | 8.00 | R | ● |
| | **110200D080** | 7.00 | 2.00 | 5.90 | 27.00 | 12.00 | 3.00 | 8.00 | R | ● |
| | **210200D080** | 7.00 | 2.00 | 5.90 | 37.00 | 22.00 | 3.00 | 8.00 | R | ● |
| | **110250D080** | 7.00 | 2.50 | 5.90 | 27.00 | 12.00 | 3.50 | 8.00 | R | ● |
| | **210250D080** | 7.00 | 2.50 | 5.90 | 37.00 | 22.00 | 3.50 | 8.00 | R | ● |
| | **110300D080** | 7.00 | 3.00 | 5.90 | 27.00 | 12.00 | 3.50 | 8.00 | R | ● |
| | **210300D080** | 7.00 | 3.00 | 5.90 | 37.00 | 22.00 | 3.50 | 8.00 | R | ● |
| | **300200D080** | 7.00 | 2.00 | 5.90 | 46.00 | 31.00 | 3.00 | 8.00 | R | ● |
| | **300300D080** | 7.00 | 3.00 | 5.90 | 46.00 | 31.00 | 3.50 | 8.00 | R | ● |
| **MINFL07-** | **210150D080** | 7.00 | 1.50 | 5.90 | 37.00 | 22.00 | 2.50 | 8.00 | L | ● |
| | **300200D080** | 7.00 | 2.00 | 5.90 | 46.00 | 31.00 | 3.00 | 8.00 | L | ● |

B169-B170

Cutting Condition B192

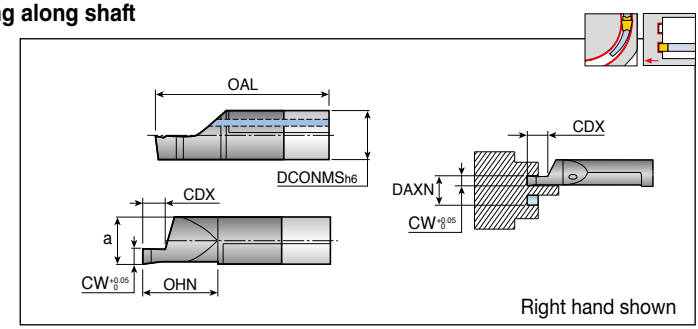
▸ The corner radius is less than 0.1mm

●: Standard items

# MINS R 07

**Mini carbide bars for grooving along shaft**






| Designation | Dimension (mm) | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | a | OAL | OHN | CDX | DAXN | | TT9030 |
| **MINSR07 -200200D060** | 7.00 | 2.00 | 5.20 | 36.00 | 21.00 | 4.00 | 6.00 | R | ● |
| | | | | | | | | | |
| | | | | | | | | | |

B169-B170 Cutting Condition B192

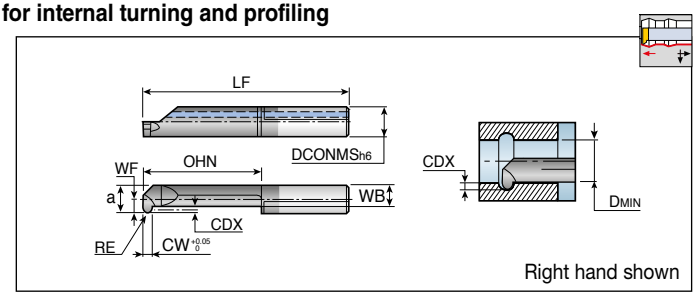
▸ The corner radius is less than 0.1mm

●: Standard items

# MINR R 07

**Mini carbide bars, full radius for internal turning and profiling**






| Designation | Dimension (mm) | | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | CW | WF | a | WB | RE | LF | OHN | CDX | DMIN | | TT9030 |
| **MINRR07-190050D050** | 7.00 | 1.00 | 0.90 | 4.40 | 3.10 | 0.50 | 35.00 | 20.00 | 1.00 | 5.00 | R | ● |
| **240050D060** | 7.00 | 1.00 | 1.80 | 5.30 | 3.20 | 0.50 | 40.00 | 25.00 | 1.80 | 6.00 | R | ● |
| **290050D068** | 7.00 | 1.00 | 2.80 | 6.30 | 3.55 | 0.50 | 45.00 | 30.00 | 2.50 | 6.80 | R | ● |
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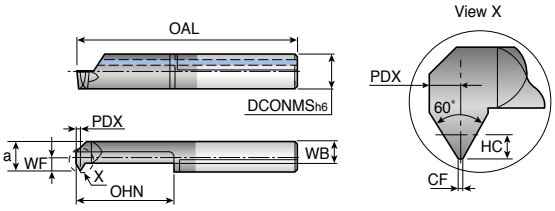
B169-B170 Cutting Condition B192

●: Standard items

# MINI R 04/07

**Mini carbide bars for ISO internal thread turning**






Right hand shown

| Designation | Dimension (mm) | | | | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | Pitch | HC | CF | PDX | WF | a | WB | OAL | OHN | DMIN | TT9030 |
| **MINIR04- 140050D040** | 4.00 | 0.50 | 0.30 | 0.06 | 0.35 | 1.50 | 3.50 | 2.40 | 30.00 | 15.00 | 4.00 | ● |
| **MINIR07- 140050D050** | 7.00 | 0.50 | 0.30 | 0.06 | 0.35 | 0.90 | 4.40 | 3.30 | 30.00 | 15.00 | 5.00 | ● |
| **140075D050** | 7.00 | 0.75 | 0.40 | 0.09 | 0.45 | 0.90 | 4.40 | 3.30 | 30.00 | 15.00 | 5.00 | ● |
| **140100D048** | 7.00 | 1.00 | 0.60 | 0.12 | 0.55 | 0.90 | 4.40 | 3.30 | 30.00 | 15.00 | 4.80 | ● |
| **140100D060** | 7.00 | 1.00 | 0.60 | 0.12 | 0.55 | 1.80 | 5.30 | 3.40 | 30.00 | 15.00 | 6.00 | ● |
| **140125D060** | 7.00 | 1.25 | 0.70 | 0.15 | 0.65 | 1.80 | 5.30 | 3.40 | 30.00 | 15.00 | 6.00 | ● |
| **140150D060** | 7.00 | 1.50 | 0.80 | 0.18 | 0.75 | 1.80 | 5.30 | 3.40 | 30.00 | 15.00 | 6.00 | ● |
| **140150D070** | 7.00 | 1.50 | 0.80 | 0.18 | 0.75 | 2.80 | 6.30 | 3.80 | 30.00 | 15.00 | 7.00 | ● |

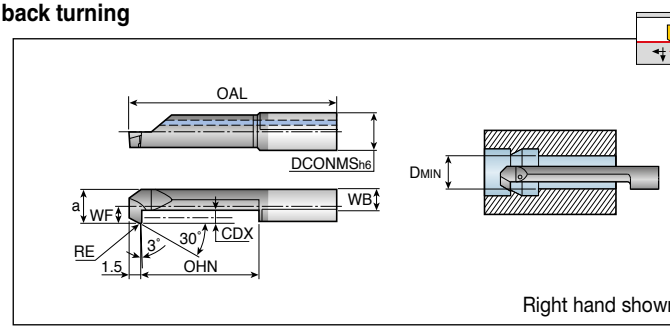
B169-B170
Cutting Condition B192

●: Standard items

# MINBR 04/07

**Mini carbide bars for internal back turning**






Right hand shown

| Designation | Dimension (mm) | | | | | | | | | R/L | Grade |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DCONMS | WF | a | WB | OAL | OHN | RE | CDX | DMIN | | TT9030 |
| **MINBR04-140020D030** | 4.00 | 0.60 | 2.60 | 1.80 | 30.00 | 15.00 | 0.20 | 0.50 | 3.00 | R | ● |
| **190020D030** | 4.00 | 0.60 | 2.60 | 1.80 | 35.00 | 20.00 | 0.20 | 0.50 | 3.00 | R | ● |
| **140015D040** | 4.00 | 1.50 | 3.50 | 2.40 | 30.00 | 15.00 | 0.15 | 0.80 | 4.00 | R | ● |
| **240015D040** | 4.00 | 1.50 | 3.50 | 2.40 | 40.00 | 25.00 | 0.15 | 0.80 | 4.00 | R | ● |
| **MINBR07-190020D050** | 7.00 | 0.90 | 4.40 | 3.10 | 35.00 | 20.00 | 0.20 | 1.00 | 5.00 | R | ● |
| **290020D050** | 7.00 | 0.90 | 4.40 | 3.10 | 45.00 | 30.00 | 0.20 | 1.00 | 5.00 | R | ● |
| **190020D060** | 7.00 | 1.80 | 5.30 | 3.20 | 35.00 | 20.00 | 0.20 | 1.80 | 6.00 | R | ● |
| **290020D060** | 7.00 | 1.80 | 5.30 | 3.20 | 45.00 | 30.00 | 0.20 | 1.80 | 6.00 | R | ● |
| **190020D070** | 7.00 | 2.80 | 6.30 | 3.50 | 35.00 | 20.00 | 0.20 | 2.50 | 7.00 | R | ● |
| **290020D070** | 7.00 | 2.80 | 6.30 | 3.50 | 45.00 | 30.00 | 0.20 | 2.50 | 7.00 | R | ● |

●: Standard items


B169-B170 | Cutting Condition B192

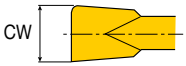
# Tailor-made Designation System

| TDIT | 3.20 | - | 0.00 | - | 0.25 | - | | - | TT8020 |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | | 3 | | 4 | | 5 | | 6 |

## 1 Main style of insert

T type: Chip breaker
G type: Non-chip breaker

## 2 Insert width




## 3 Corner radius




Left hand side or both sides

## 4 Corner radius




Right hand side, if different

## 5 Additional codes

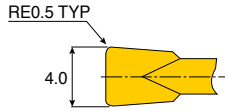
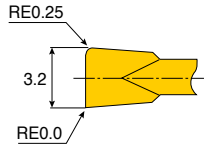
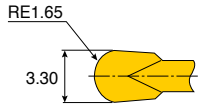
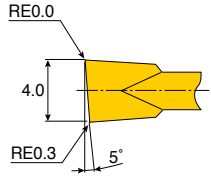
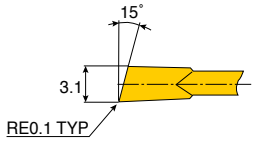
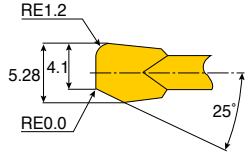
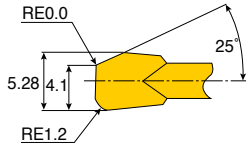
## 6 Grades

### Special profile inserts

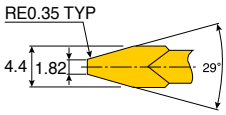
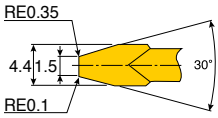
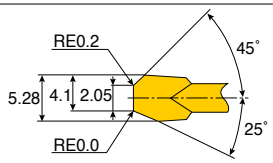
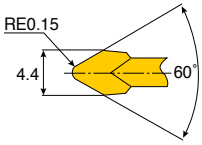
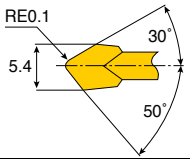
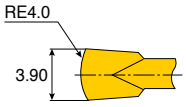
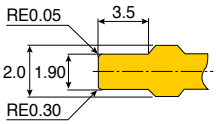
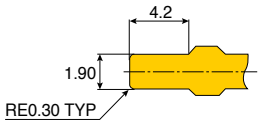


Tailor-made inserts are available upon request

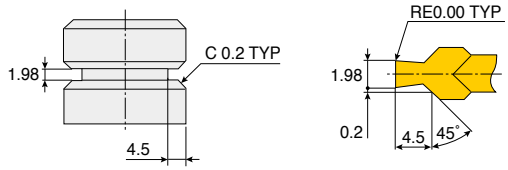
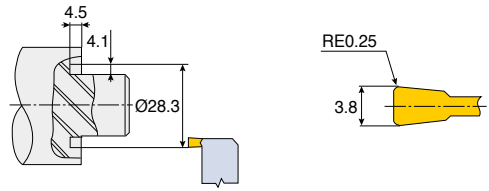
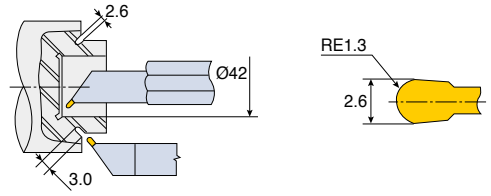
# Examples

| Shape | Designation | Remarks |
|---|---|---|
|  | TDT 4.00-0.50 | Symmetrical type |
|  | TDIT 3.20-0.00-0.25 | Non-symmetrical type |
|  | TDT 3.30-1.65 | Full-R type |
|  | TDT 4.00-0.30-5RA | L: Chamfer on left hand side<br>R: Chamfer on right hand side |
|  | TDT 3.10-0.10-15LA | |
|  | TDG 5.28-1.20-R25A | |
|  | TDT 5.28-1.20-L25A | |

# Examples

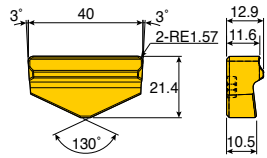
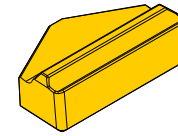
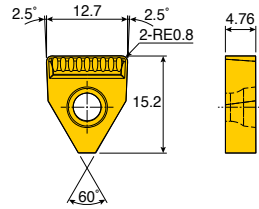
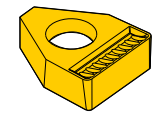
| Shape | Designation | Remarks |
|---|---|---|
|  | TDG 4.40-1.82-29A | L: Chamfer on left hand side<br>R: Chamfer on right hand side |
|  | TDT 4.40-1.50-30A | |
|  | TDT 5.28-2.05-45R25L | |
|  | TDG 4.40-0.15-60A | |
|  | TDG 5.40-0.10-30R50L | |
|  | TDT 3.90-4.00 | |
|  | TDT 1.90-T3.5C | |
|  | TDT 1.90-0.30-4.20T | |

# Examples

| Shape | Designation |
|---|---|
|  | TDG 1.98-T4.5C |
|  | TDFT 3.80E-0.25 |
|  | TDIT 2.60-1.30 |
| The others | Available upon customer's request |

# Heavy Industry

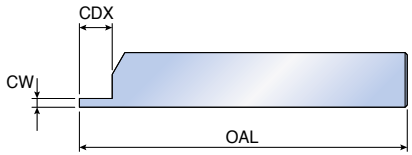
# Tailor-made

| Designation | Dimension (mm) | Remarks |
|---|---|---|
| XNMR 401416-HD |  |  |
| XNGT 332-GV |  |  |

# Tailor-made Order Form

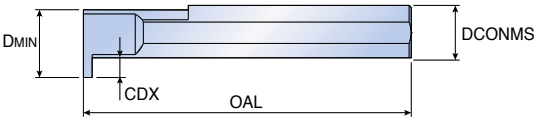
## Specific dimensions

External holder



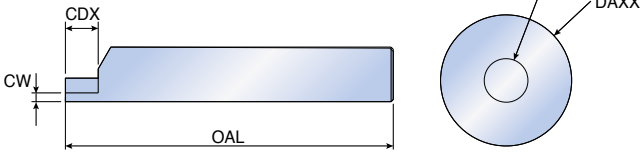

Right handed shown

Internal holder



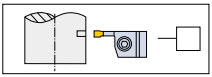

Right handed shown

Facing holder

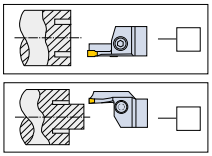



Right handed shown

External holder

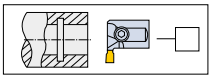


Facing holder



RN type

Internal holder



Holder handed

- Right handed
- Light handed

Insert

- Grade:
- Chip breaker type:

Quantity

- pcs

Comment

Workpieces

- Part:
- Material:
- Hardness:

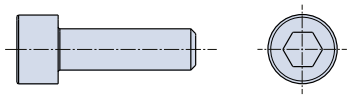
- Customer: _____
- Contact: _____
- Address : _____
- Telephone : _____
- Fax : _____
- E-mail : _____

# Technical Data

## ▶ Screw torque

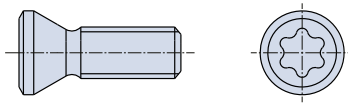
### SH type

| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **SH M4x0.7x16** | M4 | 20 | Hexa 3mm | 3.5 Nm |
| **SH M4x0.7x20-M0** | M4 | 23.9 | Hexa 3 mm | 3.5 Nm |
| **SH M5x0.8x10** | M5 | 15 | Hexa 4 mm | 5.5 Nm |
| **SH M5x0.8x12** | M5 | 17 | Hexa 4 mm | 5.5 Nm |
| **SH M5x0.8x16** | M5 | 21 | Hexa 4 mm | 5.5 Nm |
| **SH M5x0.8x20** | M5 | 25 | Hexa 4 mm | 5.5 Nm |
| **SH M5x0.8x25** | M5 | 30 | Hexa 4 mm | 5.5 Nm |
| **SH M6x1.0x16** | M6 | 22 | Hexa 5 mm | 8.0 Nm |
| **SH M6x1.0x20** | M6 | 26 | Hexa 5 mm | 8.0 Nm |
| **SH M6x1.0x25** | M6 | 31 | Hexa 5 mm | 8.0 Nm |
| **SH M6X1.0X30** | M6 | 36 | Hexa 5mm | 8.0 Nm |
| **SH M6x1.0x40** | M6 | 46 | Hexa 5 mm | 8.0 Nm |
| **SH M8x1.25x20** | M8 | 28 | Hexa 6 mm | 12.0 Nm |
| **SH M8x1.25x25** | M8 | 33 | Hexa 6 mm | 12.0 Nm |



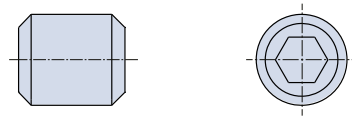
### TS type

| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **TS 22052I/HG** | M2.2 | 5.2 | Torx 7 | 0.9 Nm |
| **TS 25075I/HG** | M2.5 | 7.5 | Torx 8 | 1.2 Nm |
| **TS 35110I** | M3.5 | 11 | Torx 15 | 3.0 Nm |
| **TS 35110IL** | M3.5 | 11 | Torx 15 | 3.0 Nm |
| **TS 40093I** | M4 | 9 | Torx 15 | 3.5 Nm |
| **TS 40097I** | M4 | 9.7 | Torx 15 | 3.5 Nm |
| **TS 40A100** | M4 | 10 | Torx 15 | 3.5 Nm |
| **TS 40A100L** | M4 | 10 | Torx 15 | 3.5 Nm |
| **TS 40A115I** | M4 | 11.5 | Torx 15 | 3.5 Nm |
| **TS 40B100I** | M4 | 10 | Torx 15 | 3.5 Nm |
| **TS 45120I** | M4.5 | 12 | Torx 20 | 5.0 Nm |
| **TS 50125I** | M5 | 12.5 | Torx 10/20 | 5.5 Nm |
| **TS 50125IL** | M5 | 12.5 | Torx 10/20 | 5.5 Nm |
| **TS 50170I-IC** | M5 | 17 | Torx 15 | 3.5 Nm |
| **TS 50170IL-IC** | M5 | 17 | Torx 15 | 3.5 Nm |
| **TS 60190I** | M6 | 19 | Hexa 4 mm | 6.0 Nm |
| **CSTB-4SD** | M4 | 8 | Torx 8 | 3.5 Nm |



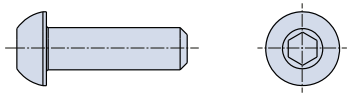
### SS type

| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **SS M5-24145** | M5 | 5.1 | Hexa 2.5mm | 2.5 Nm |
| | | | | |



### BH type

| Designation | Thread | Length | Torx / Hexa | Tightening Torque |
|---|---|---|---|---|
| **BH M6X1X16** | M6 | 24.2 | Hexa 4.0mm | 5.5 Nm |
| | | | | |



# Recommended Cutting Conditions

## Parting

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc(m/min) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | TT9080 | TT4430 | TT7220 TT8020 | K10 |
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 140-250 | 120-220 | 80-120 | |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 130-220 | 100-190 | 80-110 | |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 90-200 | 80-170 | 70-90 | |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 100-220 | 80-190 | 70-100 | |
| | | | Quenched and tempered | 1000 | 300 | 5 | 70-170 | 70-140 | 40-70 | |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 90-120 | 80-110 | 70-100 | |
| | | | Quenched and tempered | 930 | 275 | 7 | 80-170 | 80-140 | 50-70 | |
| | | | | 1000 | 300 | 8 | 70-130 | 70-110 | 40-60 | |
| | | | | 1200 | 350 | 9 | 50-120 | 50-100 | 30-50 | |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 60-140 | 60-120 | 50-80 | |
| | | | Quenched and tempered | 1100 | 325 | 11 | 50-70 | 40-60 | 30-60 | |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 70-170 | 60-150 | 60-120 | |
| | | | Martensitic | 820 | 240 | 13 | 60-150 | 60-120 | 60-90 | |
| | | | Austenitic | 600 | 180 | 14 | 90-180 | 80-150 | 60-90 | |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 150-260 | | | 60-80 |
| | | | Pearlitic | | 250 | 16 | 130-190 | | | 50-70 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 140-230 | | | 70-100 |
| | | | Pearlitic | | 260 | 18 | 110-180 | | | 70-90 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 170-270 | | | 60-85 |
| | | | Pearlitic | | 230 | 20 | 140-230 | | | 45-75 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | | | | |
| | | | Cured | | 100 | 22 | | | | |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | | | | |
| | | | Cured | | 90 | 24 | | | | |
| | | >12% Si | High temp. | | 130 | 25 | | | | |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | | | | |
| | | | Brass | | 90 | 27 | | | | |
| | | | Electrolitic copper | | 100 | 28 | | | | |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | | | | |
| | | | Hard rubber | | 55 Shore D | 30 | | | | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 40-70 | | | 35-50 |
| | | | Cured | | 280 | 32 | 30-50 | | | 25-40 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-40 | | | 20-30 |
| | | | Cured | | 350 | 34 | 15-25 | | | 15-20 |
| | | | Cast | | 320 | 35 | 15-30 | | | 15-20 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 90-190 | | | 150-200 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-60 | | | 50-80 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | | | | |
| | | | Hardened | | 60HRC | 39 | | | | |
| | Chilled cast iron | | Cast | | 400 | 40 | | | | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | | | | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

## Grooving and Turning

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc(m/min) TD1020 |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | |
| | | | Quenched and tempered | 1000 | 300 | 5 | |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | |
| | | | Quenched and tempered | 930 | 275 | 7 | |
| | | | | 1000 | 300 | 8 | |
| | | | | 1200 | 350 | 9 | |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | |
| | | | Quenched and tempered | 1100 | 325 | 11 | |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | |
| | | | Martensitic | 820 | 240 | 13 | |
| | | | Austenitic | 600 | 180 | 14 | |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | |
| | | | Pearlitic | | 250 | 16 | |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | |
| | | | Pearlitic | | 260 | 18 | |
| | Malleable cast iron | | Ferritic | | 130 | 19 | |
| | | | Pearlitic | | 230 | 20 | |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 150-2500 |
| | | | Cured | | 100 | 22 | 150-2500 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 150-2500 |
| | | | Cured | | 90 | 24 | 150-2500 |
| | | >12% Si | High temp. | | 130 | 25 | 330-800 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | |
| | | | Brass | | 90 | 27 | 330-800 |
| | | | Electrolitic copper | | 100 | 28 | 190-400 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | |
| | | | Cured | | 280 | 32 | |
| | | Ni or Co based | Annealed | | 250 | 33 | |
| | | | Cured | | 350 | 34 | |
| | | | Cast | | 320 | 35 | |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | |
| H | Hardened steel | | Hardened | | 55HRC | 38 | |
| | | | Hardened | | 60HRC | 39 | |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

## Grooving and Turning

| Cutting speed Vc(m/min) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TB2015 | CT3000 | TT7505 | TT6080 | TT3010 | TT5100 | TT9080 | TT4430 | TT7220 TT8020 | K10 |
| | 100-210 | | | | 110-220 | 100-200 | 90-180 | 80-150 | |
| | 100-200 | | | | 110-200 | 100-180 | 90-160 | 100-150 | |
| | 80-180 | | | | 90-180 | 80-160 | 80-140 | 70-130 | |
| | 80-180 | | | | 90-180 | 80-160 | 80-140 | 70-120 | |
| | 70-150 | | | | 80-150 | 70-130 | 70-110 | 60-100 | |
| | 100-180 | | | | 110-180 | 100-160 | 90-140 | 80-120 | |
| | 90-180 | | | | 90-180 | 80-160 | 80-150 | 70-130 | |
| | 80-170 | | | | 90-170 | 80-150 | 80-130 | 70-110 | |
| | 80-150 | | | | 90-150 | 80-130 | 80-120 | 60-100 | |
| | 90-130 | | | | 100-150 | 90-130 | 90-120 | 80-110 | |
| | 50-80 | | | | 60-90 | 50-80 | 50-70 | 40-60 | |
| | 80-170 | | | | 90-190 | 80-170 | 80-150 | 70-130 | |
| | 80-150 | | | | 90-170 | 80-150 | 80-130 | 70-110 | |
| | 80-170 | | | | 90-190 | 80-170 | 80-150 | 70-130 | |
| | | 150-270 | 110-250 | | | | | | 70-100 |
| | | 120-170 | 90-140 | | | | | | 50-90 |
| | | 150-250 | 120-230 | | | | | | 70-100 |
| | | 120-200 | 90-180 | | | | | | 60-90 |
| | | 120-200 | 90-180 | | | | | | 60-120 |
| | | 100-180 | 80-150 | | | | | | 50-80 |
| | | | | | | | | | 300-800 |
| | | | | | | | | | 230-310 |
| | | | | | | | | | 280-830 |
| | | | | | | | | | 200-510 |
| | | | | | | | | | 130-300 |
| | | | | | | | | | |
| | | | | | | | | | 120-200 |
| | | | | | | | | | 90-150 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | 40-60 | 40-60 | 30-50 | 30-40 | 20-30 | 30-40 |
| | | | | 30-50 | 25-45 | 20-40 | 20-30 | 15-20 | 20-40 |
| | | | | 30-40 | 25-35 | 20-30 | 15-25 | 15-20 | 20-30 |
| | | | | 25-35 | 20-25 | 15-20 | 15-20 | 15-20 | 15-20 |
| | | | | 25-35 | 20-25 | 15-20 | 15-20 | 15-20 | 15-20 |
| | | | | 140-180 | 150-190 | 130-170 | 100-150 | 80-100 | 100-130 |
| | | | | 40-80 | 50-80 | 40-70 | 40-60 | 15-30 | 20-50 |
| 90-110 | | 30-50 | 25-45 | | | | | | 20-40 |
| 80-100 | | 30-50 | 25-35 | | | | | | 20-30 |
| 180-200 | | 30-50 | 25-45 | | | | | | 20-50 |
| 90-110 | | 30-50 | 25-45 | | | | | | 20-40 |

# Recommended Cutting Conditions

## Face grooving and Internal grooving

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc(m/min) TT7505 |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | |
| | | | Quenched and tempered | 1000 | 300 | 5 | |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | |
| | | | Quenched and tempered | 930 | 275 | 7 | |
| | | | | 1000 | 300 | 8 | |
| | | | | 1200 | 350 | 9 | |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | |
| | | | Quenched and tempered | 1100 | 325 | 11 | |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | |
| | | | Martensitic | 820 | 240 | 13 | |
| | | | Austenitic | 600 | 180 | 14 | |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 90-140 |
| | | | Pearlitic | | 250 | 16 | 80-120 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 90-130 |
| | | | Pearlitic | | 260 | 18 | 80-110 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 80-130 |
| | | | Pearlitic | | 230 | 20 | 60-100 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | |
| | | | Cured | | 100 | 22 | |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | |
| | | | Cured | | 90 | 24 | |
| | | >12% Si | High temp. | | 130 | 25 | |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | |
| | | | Brass | | 90 | 27 | |
| | | | Electrolitic copper | | 100 | 28 | |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | |
| | | | Cured | | 280 | 32 | |
| | | Ni or Co based | Annealed | | 250 | 33 | |
| | | | Cured | | 350 | 34 | |
| | | | Cast | | 320 | 35 | |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 15-25 |
| | | | Hardened | | 60HRC | 39 | 15-25 |
| | Chilled cast iron | | Cast | | 400 | 40 | 15-25 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | 15-25 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

## Face grooving and Internal grooving

| Cutting speed Vc(m/min) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| TT6080 | TT3010 | TT5100 | TT9080 | TT4430 | TT7220 TT8020 | K10 | | |
| | | 110-160 | 100-150 | 100-130 | 80-110 | | | |
| | | 70-110 | 60-100 | 60-90 | 50~80 | | | |
| | | | | | | | | |
| | | 70-120 | 60-110 | 60-100 | 50-90 | | | |
| | | | | | | | | |
| | | 70-120 | 60-110 | 60-100 | 40-70 | | | |
| | | 80-120 | 70-110 | 70-100 | 40-60 | | | |
| | | | | | | | | |
| | | 70-100 | 60-90 | 60-80 | 30-50 | | | |
| | | 70-100 | 60-90 | 60-80 | 30-50 | | | |
| | | 60-90 | 50-80 | 50-70 | 30-40 | | | |
| | | 60-140 | 50-130 | 50-110 | 40-80 | | | |
| | | | | | | | | |
| | | 50-140 | 40-130 | 40-110 | 30-80 | | | |
| 70-120 | | | | | | 40-60 | | |
| 60-100 | | | | | | 40-60 | | |
| 70-110 | | | | | | 40-60 | | |
| 60-90 | | | | | | 30-50 | | |
| 60-110 | | | | | | 20-40 | | |
| 50-90 | | | | | | 20-40 | | |
| | | | | | | 100-300 | | |
| | | | | | | 100-300 | | |
| | | | | | | 100-300 | | |
| | | | | | | 100-300 | | |
| | | | | | | 80-200 | | |
| | | | | | | | | |
| | | | | | | 80-150 | | |
| | | | | | | 60-100 | | |
| | | | | | | | | |
| | | | | | | | | |
| | 30-50 | 30-50 | 20-40 | 20-30 | 15-25 | | | |
| | 25-40 | 20-40 | 15-30 | 15-25 | 10-15 | | | |
| | 25-35 | 20-30 | 15-20 | 15-20 | 10-15 | | | |
| | 20-30 | 20-30 | 15-20 | 15-20 | 10-15 | | | |
| | 20-30 | 20-30 | 15-20 | 15-20 | 10-15 | | | |
| | 100-130 | 100-130 | 90-120 | 80-100 | 60-80 | | | |
| | 30-60 | 30-60 | 20-50 | 20-40 | 15-30 | | | |
| 15-20 | | | | | | 15-20 | | |
| 15-20 | | | | | | 15-20 | | |
| 15-25 | | | | | | 15-25 | | |
| 15-25 | | | | | | 15-25 | | |

# Recommended Cutting Conditions

## T-CLAMP ceramic insert

| Material | | | Grooving | Turning |
|---|---|---|---|---|
| P | High hardened steel | Vc (m/min) | Not recommended | 250-350 |
| | | F (mm/rev) | | 0.08-0.20 |
| K | Cast iron | Vc (m/min) | 600-800 | 600-800 |
| | | F (mm/rev) | 0.1-0.2 | 0.1-0.24 |

▸ Above condition is adapted to TDT 4E-0.4T CE AB30

## TOP-MICRO carbide bars

| Cutting speed Vc(m/min) | | Feed (mm/rev) | | |
|---|---|---|---|---|
| | | Turning / Back turning | Grooving | Face grooving |
| P | 30-150 | 0.01-0.08 | 0.01-0.05 | 0.01-0.04 |
| M | 30-130 | | | |
| K | 30-150 | | | |
| N | 50-200 | | | |
| S | 10-50 | | | |

# THREAD MAKING



# THREAD MAKING

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ADVANC e CUTTING TaeguTec

## Guide to Icons



➤ T-THREAD Holder Page



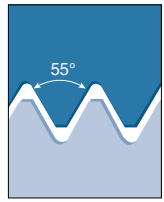
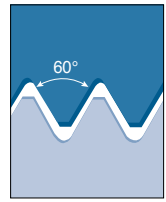
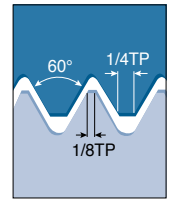
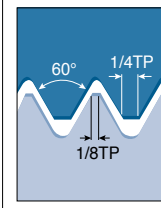

➤ Cutting Condition Page




| | |
|---|---|
| **T-THREAD (Thread Turning)** | |
| Holder Designation System | C10 |
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| Internal Toolholders | C13 |
| Insert Designation System | C18 |
| Inserts | C19 |
| **Recommended Cutting Conditions** | C52 |
| **Technical Data** | C54 |

# Tool Selection Guide

## Threading inserts

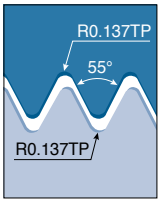
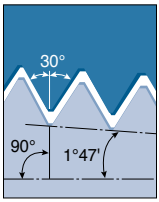
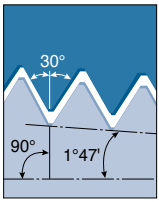
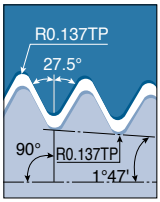
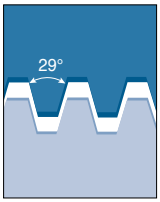
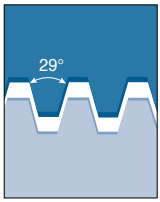
| Thread | | T-THREAD | | | |
|---|---|---|---|---|---|
| | | **55° thread** | **60° thread** | **Metric ISO** | **American UN** |
| | |  |  |  |  |
| **Pages** | | C19 | C20 | C21 - C25 | C26 - C30 |
| **Pitch** | | thread / inch | mm (thread / inch) | mm | thread / inch |
| **Application** | | General use for 55° thread forms for wide range of pitches | General use for 60° thread forms for wide range of pitches | General usage for all industries | General usage for all industries |
|  M - type | ER | ● | ● | ● | ● |
| | IR | ● | ● | ● | ● |
|  Regular type | ER/IR | ● | ● | ● | ● |
| | EL/IL | ● | ● | ● | ● |
|  B - type | ER | ● | ● | ● | ● |
| | IR | ● | ● | ● | ● |
|  U - type | IRL | ● | ● | ● | ● |
| | EIRL | ● | ● | | |
| | ERL | | | ● | |
|  Multi-tooth type | ER | | | ● | ● |
| | IR | | | ● | ● |

**ER**: External right hand **EL**: External left hand **IR**: Internal right hand **IL**: Internal left hand
**ERL**: External right / left hand **IRL**: Internal Right / left hand **EIRL**: External / internal right / left hand

# Tool Selection Guide

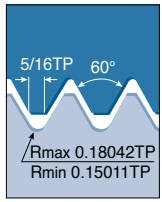
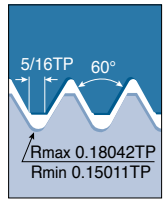
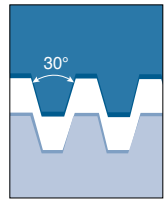
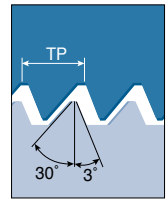
## Threading inserts

T-THREAD

| Whitworth | NPT | NPTF | BSPT | STUB ACME | ACME |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| C31 - C34 | C35 - C36 | C37 | C38 | C39 | C40 |
| thread / inch | thread / inch | thread / inch | thread / inch | thread / inch | thread / inch |
| General industries. Pipe fittings and couplings | Steam, gas and water pipes | Steam, gas and water pipes. Dry seal | 55° form for steam, gas and water pipes | Shallow ACME profile for motion transmission | Motion transmission. Feed screws |
| ● | ● | | ● | | |
| ● | ● | | ● | | |
| ● | ● | ● | ● | ● | ● |
| ● | ● | | ● | ● | ● |
| ● | ● | | ● | | |
| ● | ● | | ● | | |
| | | | | | ● |
| | | | | | |
| | | | | | ● |
| ● | ● | | | | |
| ● | ● | | | | |

# Tool Selection Guide

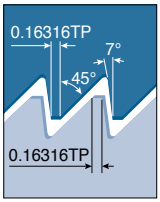
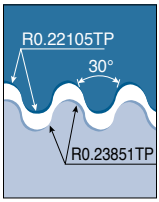
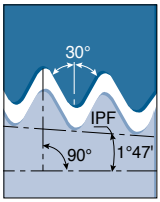
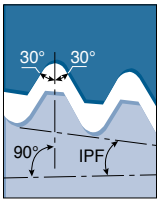
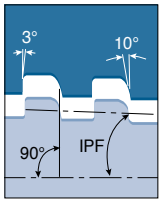
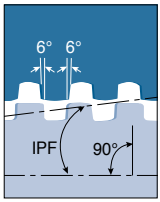
## Threading inserts

| Thread | | T-THREAD | | | |
|---|---|---|---|---|---|
| | | **UNJ** | **MJ** | **Trapez DIN 103** | **Sagengenwinde DIN 513** |
| | |  |  |  |  |
| **Pages** | | C41 - C42 | C43 | C44 | C46 |
| **Pitch** | | thread / inch | mm | mm | mm |
| **Application** | | Aviation and aerospace industry | Aviation and aerospace industry | Motion transmission. Feed screws | For high force in one direction |
|  M - type | ER | | | | |
| | IR | | | | |
|  Regular type | ER/IR | ● | ● | ● | ● |
| | EL/IL | ● | | ● | ● |
|  B - type | ER | | | | |
| | IR | ● | | | |
|  U - type | ER/IR | | | | ● |
| | EL/IL | | | | ● |
| | ERL/IRL | | | ● | |
|  Multi-tooth type | ER | | | | |
| | IR | | | | |

**ER**: External right hand **EL**: External left hand **IR**: Internal right hand **IL**: Internal left hand
**ERL**: External right / left hand **IRL**: Internal Right / left hand **EIRL**: External / internal right / left hand

# Tool Selection Guide

## Threading inserts

| T-THREAD | | | | | |
|---|---|---|---|---|---|
| **American buttress** | **Round DIN 405** | **API round** | **API** | **Buttress casing** | **Extreme line casing** |
|  |  |  |  |  |  |
| C47 | C48 | C49 - C50 | C50 | C51 | C51 |
| thread / inch | thread / inch | thread / inch | thread / inch | thread / inch | thread / inch |
| For high force in one direction | Pipe coupling in fire fighting, chemical and food industries | 60° thread with large radius in the oil and gas industry | 60° thread form for pipe connections in the oil and gas industry | Tube and casings in the oil and gas industry | Tube and casings in the oil and gas industry |
| | ● | | | | |
| | ● | | | | |
| ● | ● | ● | ● | ● | ● |
| ● | ● | ● | ● | | |
| | | | | | |
| | | | | | |
| ● | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

# Grades

## Thread making grades

| Grades | ISO | Characteristics & applications |
|---|---|---|
| **TT7010**<br>PVD coated | P05 – P25<br>K05 – K25 | • General machining of steel and cast iron |
| **TT8010**<br>PVD coated | P30 – P50<br>M30 – M50<br>S30 – S50 | • Toughest grade in threading product line<br>• For a wide range of threading on low carbon steel & low carbon alloy steel<br>• Medium to low speed threading of stainless steel and exotic materials |
| **TT9030**<br>PVD coated | P20 – P40<br>M20 – M40<br>S20 – S40 | • General machining of steel<br>• General machining of stainless steel<br>• General machining of heat-resistant alloy |
| **P30**<br>Carbide | P25 – P35 | • General machining of steel |

# T-THREAD

## Thread Turning



# Holder Designation System

| S | E | R | 2020 | K | 16 | □ |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

## 1 Clamping system

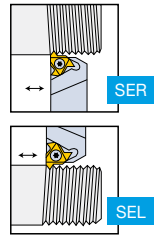
**S** - Screw clamping

## 2 Application

**E** - External
**I** - Internal

## 3 Hand of tool

**R** - Right-hand
**L** - Left-hand




## 4 Shank size

**External toolholders**
Shank: H×B

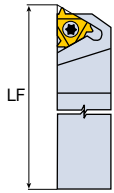
**2020**: 20×20 mm

**Internal toolholders**
Neck diameter

**0025**: Neck diameter 25 mm

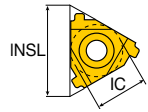
## 5 Tool length

| | | mm |
|---|---|---|
| **D** | - | 60 |
| **F** | - | 80 |
| **H** | - | 100 |
| **K** | - | 125 |
| **L** | - | 140 |
| **M** | - | 150 |
| **P** | - | 170 |
| **R** | - | 200 |
| **S** | - | 250 |
| **T** | - | 300 |
| **U** | - | 350 |
| **V** | - | 400 |




## 6 Insert size

| INSL (mm) | IC |
|---|---|
| **06** | 3.97 mm = 5/32" |
| **08** | 4.76 mm = 3/16" |
| **08U** | 4.76 mm = 3/16" |
| **11** | 6.35 mm = 1/4" |
| **16** | 9.52 mm = 3/8" |
| **22** | 12.70 mm = 1/2" |
| **22U** | 12.70 mm = 1/2" |
| **27** | 15.88 mm = 5/8" |
| **27U** | 15.88 mm = 5/8" |




## 7 Optional specifications

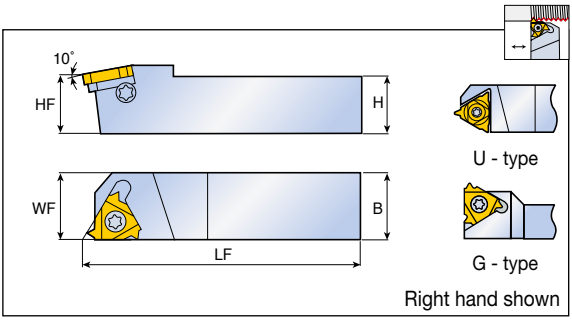
**U** - For U-type inserts
**B** - Bore for coolant
**C** - Carbide shank
**D** - Drop head
**G** - Gang tool
**AD** - Short type
**SP** - Special

# SER/L

T-THREAD

## External threading toolholders






| Designation | | Dimension (mm) | | | | | Insert [2] |
|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | WF | |
| **SER** | **0808 H11** [1] | 8 | 8 | 8 | 100 | 11 | 11 ER... |
| | **1616 K16G** | 16 | 16 | 16 | 125 | 21.7 | 16 ER... |
| | **4040 R27** | 40 | 40 | 40 | 200 | 40 | 27 ER... |
| **SER/L** | **1010 H11** [1] | 10 | 10 | 10 | 100 | 11 | 11 ER/L... |
| | **1212 F16** | 12 | 12 | 12 | 80 | 16 | 16 ER/L... |
| | **1212 X16** | 12 | 12 | 12 | 120 | 12 | 16 ER/L... |
| | **1616 H16** | 16 | 16 | 16 | 100 | 16 | 16 ER/L... |
| | **2020-16-AD** | 20 | 20 | 20 | 67 | 25 | 16 ER/L... |
| | **2020 K16** | 20 | 20 | 20 | 125 | 20 | 16 ER/L... |
| | **2525 M16** | 25 | 25 | 25 | 150 | 25 | 16 ER/L... |
| | **3232 P16** | 32 | 32 | 32 | 170 | 32 | 16 ER/L... |
| | **2525 M22** | 25 | 25 | 25 | 150 | 25 | 22 ER/L... |
| | **3232 P22** | 32 | 32 | 32 | 170 | 32 | 22 ER/L... |
| | **4040 R22** | 40 | 40 | 40 | 200 | 40 | 22 ER/L... |
| | **2525 M22U** | 25 | 25 | 25 | 150 | 28 | 22 UERL... |
| | **3232 P22U** | 32 | 32 | 32 | 170 | 32 | 22 UERL... |
| | **4040 R22U** | 40 | 40 | 40 | 200 | 40 | 22 UERL... |
| | **2525 M27** | 25 | 25 | 25 | 150 | 25 | 27 ER/L... |
| | **3232 P27** | 32 | 32 | 32 | 170 | 32 | 27 ER/L... |
| | **2525 M27U** | 25 | 25 | 25 | 150 | 32 | 27 UERL... |
| | **3232 P27U** | 32 | 32 | 32 | 170 | 32 | 27 UERL... |
| | **4040 R27U** | 40 | 40 | 40 | 200 | 40 | 27 UERL... |

▸ [1] Toolholders without anvil ▸ [2] Right hand inserts (ER) for right hand tools (SER)
▸ All Toolholders are made with 1.5° helix angle
▸ For multi-tooth inserts use anvils AE16M, AE22M, AE27M

## Spare parts

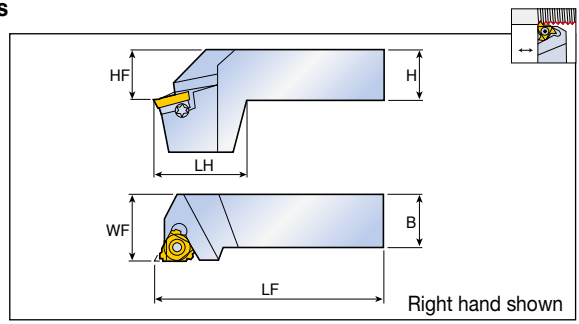
| Designation | Insert screw | Anvil screw | Anvil ext. right | Anvil ext. left | Torx wrench | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **SER/L...11** | S11 | | | | T-8/5 | |
| **SER...16** | S16 | A16 | AE16 | | T-10/5 | |
| **SEL...16** | S16 | A16 | | AI16 | T-10/5 | |
| **SER...22(22U)** | S22 | A22 | AE22(AE22U) | | T-20/5 | |
| **SEL...22(22U)** | S22 | A22 | | AI22(AI22U) | T-20/5 | |
| **SER...27(27U)** | TS40 | A27 | AE27(AE27U) | | TK40 | |
| **SEL...27(27U)** | TS40 | A27 | | AI27(AI27U) | TK40 | |

# SER...D

T-THREAD

## External threading drophead toolholders






| Designation | | Dimension (mm) | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | | H | HF | B | LF | WF | LH | |
| **SER** | **2525 M16D** | 25 | 25 | 25 | 150 | 32 | 38 | 16 ER... |
| | **2525 M22D** | 25 | 25 | 25 | 150 | 32 | 38 | 22 ER... |

- All Toolholders are made with 1.5° helix angle
- For multi-tooth inserts use anvils AE16M, AE22M, AE27M

## Spare parts

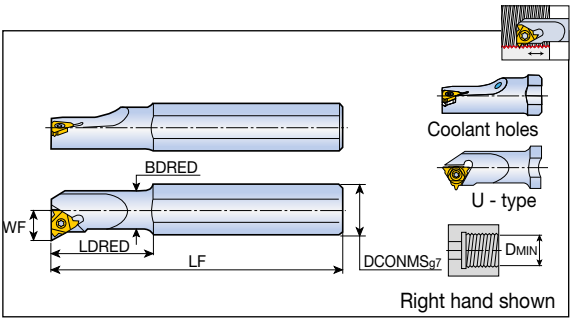
| Designation | Insert screw | Anvil screw | Anvil ext. right | Anvil ext. left | Torx wrench | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **SER...16** | S16 | A16 | AE16 | | T-10/5 | |
| **SEL...16** | S16 | A16 | | AI16 | T-10/5 | |
| **SER...22** | S22 | A22 | AE22 | | T-20/5 | |
| **SEL...22** | S22 | A22 | | AI22 | T-20/5 | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

# SIR/L

T-THREAD

## Internal threading toolholders






| Designation | Dimension (mm) | | | | | | Coolant hole | Insert [2] |
|---|---|---|---|---|---|---|---|---|
| | DCONMS | BDRED | LF | LDRED | DMIN | WF | | |
| **SIR/L 0005 H06** [1] | 12 | 5.1 | 100 | 12 | 6.4 | 4.3 | X | 06 IR/L... |
| **0007 K08** [1] | 16 | 6.6 | 125 | 18 | 9.0 | 5.3 | X | 08 IR/L... |
| **0008 K08U** [1] | 16 | 7.4 | 125 | 21 | 9.0 | 6.4 | X | 08 UIRL... |
| **0010 H11** [1] | 10 | 10 | 100 | - | 12 | 7.4 | X | 11 IR/L... |
| **SIR 0010 H11B** [1] | 10 | 10 | 100 | - | 12 | 7.4 | ● | 11 IR... |
| **SIR/L 0010 K11** [1] | 16 | 10 | 125 | 25 | 12 | 6.5 | X | 11 IR/L... |
| **0010 K11B** [1] | 16 | 10 | 125 | 25 | 12 | 7.4 | ● | 11 IR/L... |
| **0013 L11** [1] | 16 | 13 | 140 | 32 | 15 | 8.9 | X | 11 IR/L... |
| **0013 M16** [1] | 16 | 13 | 150 | 32 | 16 | 10.0 | X | 16 IR/L... |
| **0013 M16B** [1] | 16 | 13 | 150 | 32 | 16 | 10.2 | ● | 16 IR/L... |
| **0016 P16** [1] | 20 | 16 | 170 | 40 | 19 | 11.4 | X | 16 IR/L... |
| **0016 P16B** [1] | 20 | 16 | 170 | 40 | 19 | 11.7 | ● | 16 IR/L... |
| **0020-16-AD** | 20 | 20 | 80 | - | 24 | 13.7 | X | 16 IR/L... |
| **0020 P16** | 20 | 20 | 170 | - | 24 | 13.4 | X | 16 IR/L... |
| **0020 P16B** | 20 | 20 | 170 | - | 24 | 13.7 | ● | 16 IR/L... |
| **0025-16-AD** | 25 | 25 | 120 | - | 29 | 16.3 | X | 16 IR/L... |
| **0025 R16** | 25 | 25 | 200 | - | 29 | 16.3 | X | 16 IR/L... |
| **0025 R16B** | 25 | 25 | 200 | - | 29 | 16.2 | ● | 16 IR/L... |
| **0032 S16** | 32 | 32 | 250 | - | 36 | 19.6 | X | 16 IR/L... |
| **0040 T16** | 40 | 40 | 300 | - | 44 | 23.8 | X | 16 IR/L... |
| **0050 U16** | 50 | 50 | 350 | - | 54 | 28.7 | X | 16 IR/L... |
| **0020 P22** [1] | 20 | 20 | 170 | - | 24 | 15.6 | X | 22 IR/L... |
| **0025 R22** | 25 | 25 | 200 | - | 29 | 17.2 | X | 22 IR/L... |
| **0025 R22B** | 25 | 25 | 200 | - | 29 | 18.1 | ● | 22 IR/L... |
| **0032 S22** | 32 | 32 | 250 | - | 38 | 21.5 | X | 22 IR/L... |
| **0040 T22** | 40 | 40 | 300 | - | 46 | 25.8 | X | 22 IR/L... |
| **0050 U22** | 50 | 50 | 350 | - | 56 | 30.6 | X | 22 IR/L... |
| **0032 S22U** | 32 | 32 | 250 | - | 38 | 25.5 | X | 22 UIRL... |
| **0040 T22U** | 40 | 40 | 300 | - | 46 | 29.5 | X | 22 UIRL... |
| **0032 S27** | 32 | 32 | 250 | - | 40 | 22.4 | X | 27 IR/L... |
| **0040 T27** | 40 | 40 | 300 | - | 48 | 26.4 | X | 27 IR/L... |
| **0050 U27** | 50 | 50 | 350 | - | 58 | 31.4 | X | 27 IR/L... |
| **0060 V27** | 60 | 60 | 400 | - | 68 | 36.4 | X | 27 IR/L... |

- [1] Toolholders without anvil
- [2] Right hand inserts (IR) for right hand tools (SIR)
- For multi-tooth inserts use anvils AI16M, AI22M, AI27M
- All Toolholders are made with 1.5° helix angle



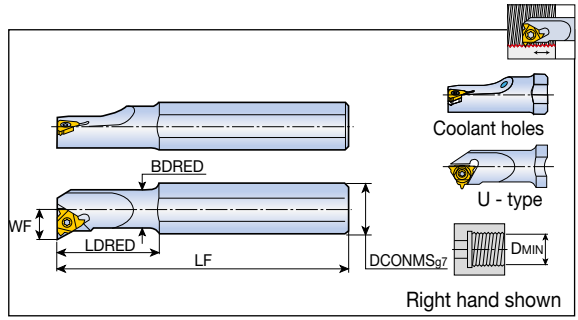
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# SIR/L

T-THREAD

## Internal threading toolholders






| Designation | Dimension (mm) | | | | | | Coolant hole | Insert (2) |
|---|---|---|---|---|---|---|---|---|
| | DCONMS | BDRED | LF | LDRED | DMIN | WF | | |
| **SIR/L 0032 S27U** | 32 | 32 | 250 | - | 40 | 24.7 | x | 27 UIRL... |
| **0040 T27U** | 40 | 40 | 300 | - | 48 | 29.4 | x | 27 UIRL... |
| **0050 U27U** | 50 | 50 | 350 | - | 58 | 34.3 | x | 27 UIRL... |
| **0060 V27U** | 60 | 60 | 400 | - | 68 | 39.3 | x | 27 UIRL... |

▸ (2) Right hand inserts (IR) for right hand tools (SIR)
▸ For multi-tooth inserts use anvils AI16M, AI22M, AI27M
▸ All Toolholders are made with 1.5° helix angle

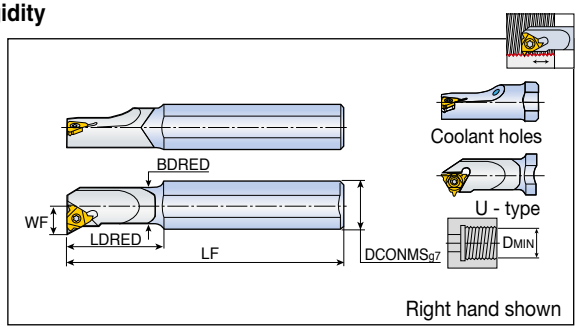
## Spare parts

| Designation | Insert screw | Anvil screw | Anvil int. left | Anvil int. right | Torx wrench | |
|---|---|---|---|---|---|---|
| **SIR/L...06** | TS 20038I | | | | T-6/5 | |
| **SIR/L...08** | TS 20054I | | | | T-6/5 | |
| **SIR/L...11** | S11 | | | | T-8/5 | |
| **SIR/L 0013...16** | S16S | | | | T-10/5 | |
| **SIR/L 0016...16** | S16S | | | | T-10/5 | |
| **SIR...16** | S16 | A16 | | AI16 | T-10/5 | |
| **SIL...16** | S16 | A16 | AE16 | | T-10/5 | |
| **SIR/L 0020...22** | S22S | | | | T-20/5 | |
| **SIR...22** | S22 | A22 | | AI22 | T-20/5 | |
| **SIR...22U** | S22 | A22 | | AI22U | T-20/5 | |
| **SIL...22** | S22 | A22 | AE22 | | T-20/5 | |
| **SIL...22U** | S22 | A22 | AE22U | | T-20/5 | |
| **SIR...27** | TS40 | A27 | | AI27 | TK40 | |
| **SIR...27U** | TS40 | A27 | | AI27U | TK40 | |
| **SIL...27** | TS40 | A27 | AE27 | | TK40 | |
| **SIL...27U** | TS40 | A27 | AE27U | | TK40 | |

# SIR/L...CB

**Solid carbide threading bars for high rigidity**






| Designation | | Dimension (mm) | | | | | | Coolant hole | Insert [2] |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | BDRED | LF | LDRED | DMIN | WF | | |
| **SIR/L** | **0005 H06CB** [1] | 6 | 5.1 | 100 | 25 | 6.4 | 4.3 | ● | 06 IR/L... |
| | **0007 K08CB** [1] | 8 | 6.6 | 125 | 30 | 9.0 | 5.3 | ● | 08 IR/L... |
| | **0008 K08UCB** [1] | 8 | 7.3 | 125 | 35 | 9.0 | 6.4 | ● | 08 UIRL... |
| | **0010 M11CB** [1] | 10 | 10 | 150 | - | 12 | 7.4 | ● | 11 IR/L... |
| | **0012 P11CB** [1] | 12 | 12 | 170 | - | 15 | 8.4 | ● | 11 IR/L... |
| | **0016 R16CB** [1] | 16 | 16 | 200 | - | 19 | 11.7 | ● | 16 IR/L... |
| **SIR** | **0020 S16CB** | 20 | 20 | 250 | - | 28 | 13.7 | ● | 16 IR... |
| | **0025 S16CB** | 25 | 25 | 250 | - | 28 | 16.2 | ● | 16 IR... |

▸ [1] Toolholders without anvil
▸ [2] Right hand inserts (IR) for right hand tools (SIR)
▸ For multi-tooth inserts use anvils AI16M, AI22M, AI27M
▸ All carbide shank Toolholders are coolant through type
▸ All Toolholders are made with 1.5° helix angle

## Spare parts

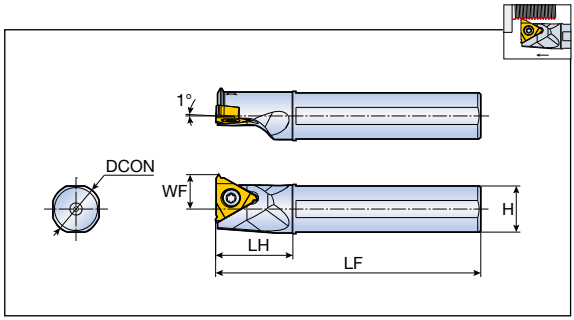
| Designation | Insert screw | Anvil screw | Anvil int. left | Anvil int. right | Torx wrench | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  | |
| **SIR/L...06** | TS 20038I | | | | T-6/5 | |
| **SIR/L...08** | TS 20054I | | | | T-6/5 | |
| **SIR/L...11** | S11 | | | | T-8/5 | |
| **SIR/L 0016...16** | S16S | | | | T-10/5 | |
| **SIR...16** | S16 | A16 | | AI16 | T-10/5 | |
| **SIL...16** | S16 | A16 | AE16 | | T-10/5 | |
| | | | | | | |

# TMS-SEL

T-THREAD

**Sleeve holders for external threading**






| Designation | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|
| | DCON | H | LF | LH | WF | |
| **TMS- 16F SEL 16** | 16 | 15 | 85 | 25 | 11 | 16 ER... |
| **19G SEL 16** | 19.05 | 18 | 90 | 30 | 12.5 | |
| **19X SEL 16** | 19.05 | 18 | 120 | 30 | 12.5 | |
| **20G SEL 16** | 20 | 19 | 90 | 30 | 13 | |
| **20X SEL 16** | 20 | 19 | 120 | 30 | 13 | |
| **25H SEL 16** | 25 | 24 | 100 | 30 | 15.5 | |
| **254X SEL 16** | 25.4 | 24 | 120 | 30 | 15.7 | |

▸ Use left hand toolholders (L) with right hand insert (ER)

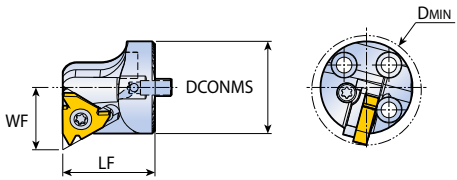
## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TMS-SEL** | S16 | T-10/5 | | |
| | | | | |

# QH-SIR/L

HUSHBORE

**Screw type threading heads**




| Designation | Dimension (mm) | | | | Coolant hole | Insert |
|---|---|---|---|---|---|---|
| | DCONMS | LF | WF | DMIN | | |
| **QH25-SIR/L-16** | 25 | 26 | 16.2 | 29 | ● | 16 IR/L... |
| **QH32-SIR/L-16** | 32 | 27 | 19.7 | 36 | ● | |
| **QH40-SIR/L-16** | 40 | 30 | 23.7 | 44 | ● | |
| **QH32-SIR/L-22** | 32 | 32 | 21.6 | 38 | ● | 22 IR/L... |
| **QH40-SIR/L-22** | 40 | 38 | 25.6 | 46 | ● | |

▸ Please refer to C17 page for spare parts

# QS

## Anti-vibration shanks for boring

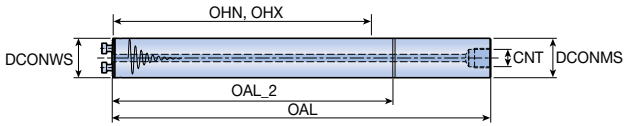



Fig.1

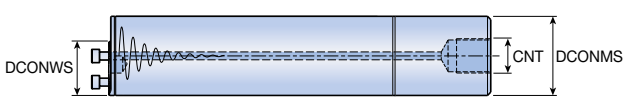



Fig.2

| Designation | Demension (mm) | | | | | Coolant hole | Fig. |
|---|---|---|---|---|---|---|---|
| | DCONMS | DCONWS | OAL | OHX | CNT | | |
| **QS25A-7D** | 25 | 25 | 257.5 | 155 | G 1/4 | ● | 1 |
| **QS25A-10D** | 25 | 25 | 332.5 | 230 | G 1/4 | ● | 1 |
| **QS25E-12D**(1) | 25 | 25 | 380.0 | 280 | G 1/8 | ● | 1 |
| **QS25E-14D**(1) | 25 | 25 | 430.0 | 330 | G 1/8 | ● | 1 |
| **QS32A-7D** | 32 | 32 | 323.0 | 192 | G 3/8 | ● | 1 |
| **QS32A-10D** | 32 | 32 | 419.0 | 288 | G 3/8 | ● | 1 |
| **QS32E-12D**(1) | 32 | 32 | 480.0 | 352 | G 1/4 | ● | 1 |
| **QS32E-14D**(1) | 32 | 32 | 544.0 | 416 | G 1/4 | ● | 1 |
| **QS40A-7D** | 40 | 40 | 411.0 | 251 | G 1/2 | ● | 1 |
| **QS40A-10D** | 40 | 40 | 531.0 | 368 | G 1/2 | ● | 1 |
| **QS40E-12D**(1) | 40 | 40 | 608.0 | 448 | G 3/8 | ● | 1 |
| **QS40E-14D**(1) | 40 | 40 | 688.0 | 528 | G 3/8 | ● | 1 |
| **QS50A-7D** | 50 | 40 | 523.0 | 318 | G 1/2 | ● | 2 |
| **QS50A-10D** | 50 | 40 | 673.0 | 468 | G 1/2 | ● | 2 |
| **QS50E-12D**(1) | 50 | 40 | 768.0 | 568 | G 1/2 | ● | 2 |
| **QS50E-14D**(1) | 50 | 40 | 868.0 | 668 | G 1/2 | ● | 2 |
| **QS60A-7D** | 60 | 40 | 633.0 | 388 | G 3/4 | ● | 2 |
| **QS60A-10D** | 60 | 40 | 813.0 | 568 | G 3/4 | ● | 2 |
| **QS60E-12D**(1) | 60 | 40 | 920.0 | 688 | G 3/4 | ● | 2 |
| **QS60E-14D**(1) | 60 | 40 | 1040.0 | 808 | G 3/4 | ● | 2 |
| | | | | | | | |
| | | | | | | | |

▸ OHX: Maximum overhang

▸ (1) Carbide shank

## Spare parts

| Designation | Insert screw | Anvil screw | Anvil int. left<br>Anvil ext. right | Anvil int. right<br>Anvil ext. left | Torx wrench | Screw | Wrench |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| **QH SIR-16** | S16 | A16 | - | AI16 | T-10/5 | | |
| **QH SIL-16** | S16 | A16 | AE16 | - | T-10/5 | | |
| **QH SIR-22** | S22 | A22 | - | AI22 | T-20/5 | | |
| **QH SIL-22** | S22 | A22 | AE22 | - | T-20/5 | | |
| **QS25** | | | | | | SH M4x0.7X12 | L-W 3 |
| **QS32** | | | | | | SH M5x0.8X12 | L-W 4 |
| **QS40/50/60** | | | | | | SH M6x1X16 | L-W 5 |

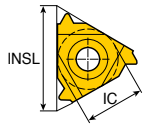
# Insert Designation System

T-THREAD

| 16 | E | R | M | 1.50 | ISO | 2M | TT9030 |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

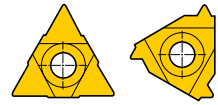
## 1 Insert size

| INSL (mm) | IC |
|---|---|
| **06** | 3.97 mm = 5/32" |
| **08** | 4.76 mm = 3/16" |
| **11** | 6.35 mm = 1/4" |
| **16** | 9.52 mm = 3/8" |
| **22** | 12.70 mm = 1/2" |
| **27** | 15.88 mm = 5/8" |




## 2 Application

**E** - External
**I** - Internal
**UE** - U-type, external
**UI** - U-type, Internal
**UEI** - U-type, external and internal



U-type Regular type

## 3 Hand of tool

**R** - Right-hand
**L** - Left-hand
**RL** - Right and left-hand

## 4 Type

**M** - With a chip breaker
**B** - Peripherally ground & chip breaker
☐ - No indication regular type

## 5 Pitch

**Full profile**

Value by number

**0.35 - 9.0 mm** (Thread pitch)

**72 - 2** **TPI** (Threads per inch)

**Partial profile**

Range by letter

| | mm (Thread pitch) | TPI (Threads per inch) |
|---|---|---|
| **A** | 0.5 - 1.5 mm | 48 - 16 |
| **AG** | 0.5 - 3.0 mm | 48 - 8 |
| **G** | 1.75 - 3.0 mm | 14 - 8 |
| **N** | 3.5 - 5.0 mm | 7 - 5 |
| **Q** | 5.5 - 6.0 mm | 4.5 - 4 |
| **U** | 5.5 - 9.0 mm | 4.5 - 2.75 |

## 6 Thread standard

**60** - Partial profile 60°
**55** - Partial profile 55°
**ISO** - ISO metric
**UN** - American UN
**W** - Whitworth
**BSPT** - British BSPT
**RND** - Round DIN 405
**TR** - Trapeze DIN 103
**ACME** - ACME
**STACME** - Stub ACME
**ABUT** - American buttress
**UNJ** - UNJ
**MJ** - MJ ISO 5855
**NPT** - NPT
**API RD** - API round
**BUT** - API buttress casing
**API** - API
**EL** - Extreme line casing
**SAGE** - Sagengewinde DIN 513

## 7 No. of teeth (Optional)

**2M** - 2 teeth
**3M** - 3 teeth

## 8 Grades

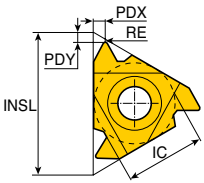
**Coated**
TT7010
TT8010
TT9030

**Uncoated**
P30

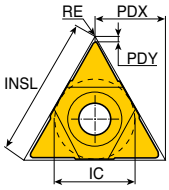
# Partial Profile 55°

T-THREAD

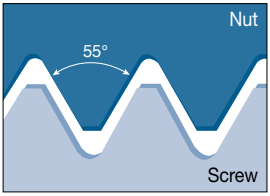
## External & internal




External right hand shown
(Internal left hand)




U-type




• Application: General industry

| Insert | Designation | Pitch | | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TP (mm) | TPI | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **11ER/L A 55** | 0.5-1.5 | 48-16 | 6.35 | 11 | 0.05 | 0.8 | 0.9 | ● | ● | | |
|  Regular | **16ER/L A 55** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | | ● | | ● |
| | **16ER/L AG 55** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | ● | ● | ● | |
| | **16ERB AG 55** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | | ● | | |
| | **16ERM AG 55** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.07 | 1.2 | 1.7 | ● | ● | | ● |
|  B/M | **16ER/L G 55** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.20 | 1.2 | 1.7 | ● | ● | | |
| | **16ERB G 55** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.20 | 1.2 | 1.7 | | ● | | |
| | **16ERM G 55** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.23 | 1.2 | 1.7 | ● | ● | | |
| | **22ER/L N 55** | 3.5-5.0 | 7-5 | 12.70 | 22 | 0.42 | 1.7 | 2.5 | ● | ● | | |
| | **27ER Q 55** | 5.5-6.0 | 4.5-4 | 15.88 | 27 | 0.60 | 2.0 | 2.9 | | ● | | |
| Internal | **06IR/L A 55** | 0.5-1.25 | 48-20 | 3.97 | 6 | 0.05 | 0.5 | 0.6 | | | ● | |
|  Regular | **08IR/L A 55** | 0.5-1.5 | 48-16 | 4.76 | 8 | 0.05 | 0.6 | 0.7 | | ● | ● | |
| | **11IR/L A 55** | 0.5-1.5 | 48-16 | 6.35 | 11 | 0.05 | 0.8 | 0.9 | ● | ● | ● | |
| | **16IR A 55** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | | ● | | |
| | **16IR/L AG 55** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | ● | ● | | |
|  B/M | **16IRB AG 55** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | | ● | | |
| | **16IRM AG 55** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | ● | ● | | |
| | **16IR/L G 55** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.20 | 1.2 | 1.7 | ● | ● | | |
| | **16IRB G 55** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.20 | 1.2 | 1.7 | | ● | | |
| | **16IRM G 55** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.20 | 1.2 | 1.7 | ● | ● | | |
| | **22IR/L N 55** | 3.5-5.0 | 7-5 | 12.70 | 22 | 0.42 | 1.7 | 2.5 | ● | ● | | ● |
| | **27IR/L Q 55** | 5.5-6.0 | 4.5-4 | 15.88 | 27 | 0.60 | 2.0 | 2.9 | | ● | | |
|  U | **08UIRL U 55** | 1.75-2.0 | 14-11 | 4.76 | 8 | 0.10 | 0.9 | 4.0 | | | ● | |
| | **22UEIRL U 55** | 5.5-8.0 | 4.5-3.25 | 12.70 | 22 | 0.60 | 0.9 | 11.0 | ● | | | |

C11-C17 Cutting Condition C52-C60

▸ ERB / ERM / IRB / IRM with pressed chip breaker

●: Standard items

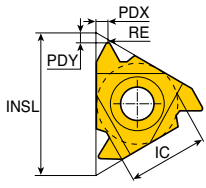


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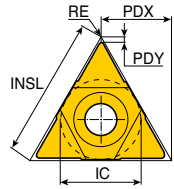
# Partial Profile 60°

T-THREAD

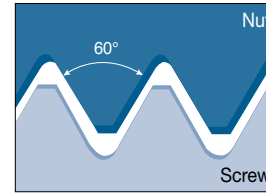
## External & internal




External right hand shown
(Internal left hand)




U-type




• Application: General industry

| Insert | Designation | Pitch | | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TP (mm) | TPI | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **11ER/L A 60** | 0.5-1.5 | 48-16 | 6.35 | 11 | 0.05 | 0.8 | 0.9 | | ● | | |
|  | **16ER/L A 60** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | ● | ● | ● | |
| | **16ERB A 60** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | | ● | | |
| | **16ERM A 60** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | ● | ● | | ● |
| Regular | **16ER/L AG 60** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.06 | 1.2 | 1.7 | ● | ● | ● | ● |
| | **16ERB AG 60** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | | ● | | |
|  | **16ERM AG 60** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.06 | 1.2 | 1.7 | ● | ● | | ● |
| | **16ER/L G 60** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.17 | 1.2 | 1.7 | ● | ● | ● | |
| B/M | **16ERB G 60** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.17 | 1.2 | 1.7 | | ● | | |
| | **16ERM G 60** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.17 | 1.2 | 1.7 | ● | ● | | |
| | **22ER/L N 60** | 3.5-5.0 | 7-5 | 12.70 | 22 | 0.32 | 1.7 | 2.5 | ● | ● | ● | |
| | **22ERM N 60** | 3.5-5.0 | 7-5 | 12.70 | 22 | 0.32 | 1.7 | 2.5 | ● | ● | | ● |
| | **27ER/L Q 60** | 5.5-6.0 | 4.5-4 | 15.88 | 27 | 0.63 | 2.1 | 3.1 | ● | ● | | ● |
| Internal | **06IR/L A 60** | 0.5-1.25 | 48-20 | 3.97 | 6 | 0.05 | 0.6 | 0.6 | | | ● | |
|  | **06IRM A 60** | 0.5-1.25 | 48-20 | 3.97 | 6 | 0.05 | 0.5 | 0.6 | | | ● | |
| | **08IR/L A 60** | 0.5-1.5 | 48-16 | 4.76 | 8 | 0.05 | 0.6 | 0.7 | | | ● | |
| | **08IRM A 60** | 0.5-1.5 | 48-16 | 4.76 | 8 | 0.05 | 0.6 | 0.7 | | ● | ● | |
| Regular | **11IR/L A 60** | 0.5-1.5 | 48-16 | 6.35 | 11 | 0.05 | 0.8 | 0.9 | ● | ● | ● | |
| | **11IRM A 60** | 0.5-1.5 | 48-16 | 6.35 | 11 | 0.05 | 0.7 | 0.9 | ● | ● | | |
|  | **16IR/L A 60** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | ● | ● | ● | ● |
| | **16IRB A 60** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | | ● | | |
| | **16IRM A 60** | 0.5-1.5 | 48-16 | 9.52 | 16 | 0.05 | 0.8 | 0.9 | ● | ● | | |
| | **16IR/L AG 60** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | ● | ● | ● | ● |
| | **16IRB AG 60** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | | ● | | |
| B/M | **16IRM AG 60** | 0.5-3.0 | 48-8 | 9.52 | 16 | 0.05 | 1.2 | 1.7 | ● | ● | | ● |
| | **16IR/L G 60** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.12 | 1.2 | 1.7 | | ● | ● | |
| | **16IRB G 60** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.12 | 1.2 | 1.7 | | ● | | |
| | **16IRM G 60** | 1.75-3.0 | 14-8 | 9.52 | 16 | 0.10 | 1.2 | 1.7 | ● | ● | | ● |
| | **22IR/L N 60** | 3.5-5.0 | 7-5 | 12.70 | 22 | 0.22 | 1.7 | 2.5 | ● | ● | | |
| | **22IRM N 60** | 3.5-5.0 | 7-5 | 12.70 | 22 | 0.19 | 1.7 | 2.5 | ● | ● | | ● |
| | **27IR/L Q 60** | 5.5- 6.0 | 4.5-4 | 15.88 | 27 | 0.31 | 2.1 | 3.1 | ● | ● | | ● |
|  | **08UIRL U 60** | 1.75-2.0 | 14-11 | 4.76 | 8 | 0.10 | 0.8 | 4.0 | | | ● | |
| U | **22UEIRL U 60** | 5.5-8.0 | 4.5-3.25 | 12.70 | 22 | 0.28 | 0.6 | 11.0 | ● | ● | | |
| | **27UEIRL U 60** | 6.5-9.0 | 4-2.75 | 15.88 | 27 | 0.28 | 1.0 | 13.7 | ● | | | |




▸ ERB / ERM / IRB / IRM with pressed chip breaker

●: Standard items

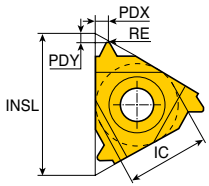


ADVANCE CUTTING
TaeguTec

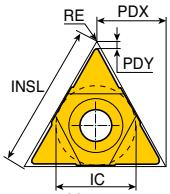
# External ISO Metric

T-THREAD

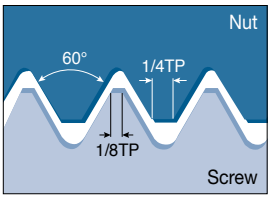
**Full profile (DIN13 12-1986 class: 6G)**




External right hand shown
(Internal left hand)




U-type




- Application: General industry

| Insert | Designation | TP (mm) | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **11ER/L 0.35 ISO** | 0.35 | 6.35 | 11 | 0.04 | 0.8 | 0.4 | | ● | | |
|  Regular | **11ER 0.40 ISO** | 0.40 | 6.35 | 11 | 0.04 | 0.7 | 0.4 | | ● | | |
| | **11ER 0.45 ISO** | 0.45 | 6.35 | 11 | 0.05 | 0.7 | 0.4 | | | ● | |
| | **11ER/L 0.50 ISO** | 0.50 | 6.35 | 11 | 0.05 | 0.6 | 0.6 | ● | ● | | |
| | **11ER 0.60 ISO** | 0.60 | 6.35 | 11 | 0.07 | 0.6 | 0.6 | | ● | | |
| | **11ER 0.70 ISO** | 0.70 | 6.35 | 11 | 0.07 | 0.6 | 0.6 | | ● | | |
| | **11ER/L 0.75 ISO** | 0.75 | 6.35 | 11 | 0.08 | 0.6 | 0.6 | | ● | | |
| | **11ER 0.80 ISO** | 0.80 | 6.35 | 11 | 0.09 | 0.6 | 0.6 | | ● | | |
| | **11ER/L 1.00 ISO** | 1.00 | 6.35 | 11 | 0.12 | 0.7 | 0.7 | | ● | | |
| | **11ER 1.25 ISO** | 1.25 | 6.35 | 11 | 0.15 | 0.8 | 0.9 | | ● | | |
| | **11ER/L 1.50 ISO** | 1.50 | 6.35 | 11 | 0.18 | 0.8 | 1.0 | ● | ● | | |
| | **11ER 1.75 ISO** | 1.75 | 6.35 | 11 | 0.21 | 0.8 | 1.1 | ● | | | |
| | **16ER/L 0.35 ISO** | 0.35 | 9.52 | 16 | 0.04 | 0.8 | 0.4 | | ● | | |
| | **16ER/L 0.40 ISO** | 0.40 | 9.52 | 16 | 0.04 | 0.7 | 0.4 | | ● | | |
| | **16ER 0.45 ISO** | 0.45 | 9.52 | 16 | 0.05 | 0.7 | 0.4 | | ● | | |
| | **16ER/L 0.50 ISO** | 0.50 | 9.52 | 16 | 0.04 | 0.6 | 0.6 | ● | ● | | |
| | **16ERM 0.50 ISO** | 0.50 | 9.52 | 16 | 0.04 | 0.6 | 0.6 | | ● | | |
| | **16ER 0.60 ISO** | 0.60 | 9.52 | 16 | 0.07 | 0.6 | 0.6 | | ● | | |
| | **16ER/L 0.70 ISO** | 0.70 | 9.52 | 16 | 0.07 | 0.6 | 0.6 | ● | ● | | |
| | **16ER/L 0.75 ISO** | 0.75 | 9.52 | 16 | 0.08 | 0.6 | 0.6 | ● | ● | | |
| | **16ERM 0.75 ISO** | 0.75 | 9.52 | 16 | 0.08 | 0.6 | 0.6 | | ● | | |
| | **16ER/L 0.80 ISO** | 0.80 | 9.52 | 16 | 0.09 | 0.6 | 0.6 | ● | ● | | |
| | **16ERB 0.80 ISO** | 0.80 | 9.52 | 16 | 0.09 | 0.6 | 0.6 | | ● | | |
| | **16ER/L 1.00 ISO** | 1.00 | 9.52 | 16 | 0.12 | 0.7 | 0.7 | ● | ● | ● | ● |
| | **16ERB 1.00 ISO** | 1.00 | 9.52 | 16 | 0.12 | 0.7 | 0.7 | | ● | | |
| | **16ERM 1.00 ISO** | 1.00 | 9.52 | 16 | 0.11 | 0.7 | 0.7 | ● | ● | | ● |
| | **16ER/L 1.25 ISO** | 1.25 | 9.52 | 16 | 0.15 | 0.8 | 0.9 | ● | ● | | |
| | **16ERB 1.25 ISO** | 1.25 | 9.52 | 16 | 0.15 | 0.8 | 0.9 | | ● | | |
| | **16ERM 1.25 ISO** | 1.25 | 9.52 | 16 | 0.14 | 0.8 | 0.9 | ● | ● | | |
| | **16ER/L 1.50 ISO** | 1.50 | 9.52 | 16 | 0.18 | 0.8 | 1.0 | ● | ● | ● | ● |
| | **16ERB 1.50 ISO** | 1.50 | 9.52 | 16 | 0.18 | 0.8 | 1.0 | | ● | | |
| | **16ERM 1.50 ISO** | 1.50 | 9.52 | 16 | 0.19 | 0.8 | 1.0 | ● | ● | | ● |
| | **16ER/L 1.75 ISO** | 1.75 | 9.52 | 16 | 0.21 | 0.9 | 1.2 | ● | ● | ● | |
| | **16ERB 1.75 ISO** | 1.75 | 9.52 | 16 | 0.21 | 0.9 | 1.2 | | ● | | |
| | **16ERM 1.75 ISO** | 1.75 | 9.52 | 16 | 0.20 | 0.9 | 1.2 | ● | ● | | |

C11-C17 Cutting Condition C52-C60

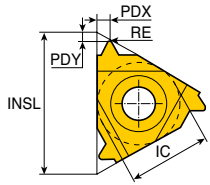
▸ ERB / ERM with pressed chip breaker

●: Standard items

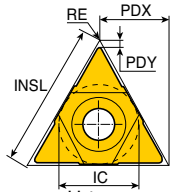
# External ISO Metric

T-THREAD

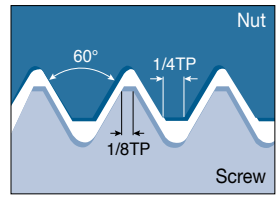
## Full profile (DIN13 12-1986 class: 6G)




External right hand shown
(Internal left hand)




U-type




• Application: General industry

| Insert | Designation | TP (mm) | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **16ER/L 2.00 ISO** | 2.00 | 9.52 | 16 | 0.25 | 1.0 | 1.3 | ● | ● | ● | ● |
| | **16ERB 2.00 ISO** | 2.00 | 9.52 | 16 | 0.25 | 1.0 | 1.3 | | ● | | |
| | **16ERM 2.00 ISO** | 2.00 | 9.52 | 16 | 0.24 | 1.0 | 1.3 | ● | ● | | |
| Regular | **16ER/L 2.50 ISO** | 2.50 | 9.52 | 16 | 0.31 | 1.1 | 1.5 | ● | ● | | ● |
| | **16ERB 2.50 ISO** | 2.50 | 9.52 | 16 | 0.31 | 1.1 | 1.5 | | ● | | |
| | **16ERM 2.50 ISO** | 2.50 | 9.52 | 16 | 0.30 | 1.1 | 1.5 | ● | ● | | |
| | **16ER/L 3.00 ISO** | 3.00 | 9.52 | 16 | 0.38 | 1.2 | 1.6 | ● | ● | ● | |
| B/M | **16ERB 3.00 ISO** | 3.00 | 9.52 | 16 | 0.38 | 1.2 | 1.6 | | ● | | |
| | **16ERM 3.00 ISO** | 3.00 | 9.52 | 16 | 0.38 | 1.2 | 1.6 | ● | ● | | ● |
| | **22ER/L 3.50 ISO** | 3.50 | 12.70 | 22 | 0.44 | 1.6 | 2.3 | ● | ● | | |
| | **22ERM 3.50 ISO** | 3.50 | 12.70 | 22 | 0.44 | 1.6 | 2.3 | | ● | | |
| | **22ER/L 4.00 ISO** | 4.00 | 12.70 | 22 | 0.52 | 1.6 | 2.3 | ● | ● | | ● |
| | **22ERM 4.00 ISO** | 4.00 | 12.70 | 22 | 0.52 | 1.6 | 2.3 | | ● | | |
| | **22ER/L 4.50 ISO** | 4.50 | 12.70 | 22 | 0.58 | 1.7 | 2.4 | ● | ● | | |
| | **22ER/L 5.00 ISO** | 5.00 | 12.70 | 22 | 0.64 | 1.7 | 2.5 | ● | ● | | |
| | **22ER/L 6.00 ISO** | 6.00 | 12.70 | 22 | 0.78 | 2.0 | 2.7 | ● | | | |
| | **27ER 5.50 ISO** | 5.50 | 15.88 | 27 | 0.70 | 1.9 | 2.7 | | ● | | |
| | **27ER/L 6.00 ISO** | 6.00 | 15.88 | 27 | 0.78 | 2.0 | 2.9 | ● | ● | ● | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| U | **22UERL 5.50 ISO** | 5.50 | 12.70 | 22 | 0.70 | 2.3 | 11.0 | ● | | | |
| | **22UERL 6.00 ISO** | 6.00 | 12.70 | 22 | 0.78 | 2.6 | 11.0 | ● | | ● | |
| | **27UERL 8.00 ISO** | 8.00 | 15.88 | 27 | 1.08 | 2.4 | 13.7 | | ● | | |

C11-C17 Cutting Condition C52-C60

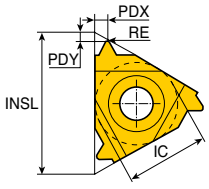
▸ ERB / ERM with pressed chip breaker

●: Standard items

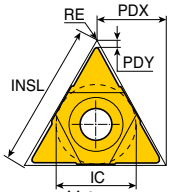
# Internal ISO Metric

T-THREAD

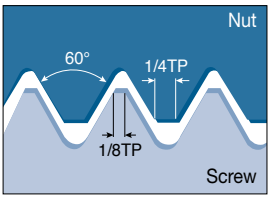
**Full profile (DIN13 12-1986 class: 6H)**




External right hand shown
(Internal left hand)




U-type




- Application: General industry

| Insert | Designation | TP (mm) | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| Internal | **06IR/L 0.50 ISO** | 0.50 | 3.97 | 6 | 0.04 | 0.6 | 0.4 | | | ● | |
|  Regular | **06IR/L 0.75 ISO** | 0.75 | 3.97 | 6 | 0.06 | 0.6 | 0.5 | | | ● | |
| | **06IR/L 1.00 ISO** | 1.00 | 3.97 | 6 | 0.05 | 0.6 | 0.6 | | | ● | |
| | **06IR/L 1.25 ISO** | 1.25 | 3.97 | 6 | 0.07 | 0.6 | 0.6 | | | ● | |
| | **08IR/L 0.50 ISO** | 0.50 | 4.76 | 8 | 0.04 | 0.6 | 0.4 | | | ● | |
|  B/M | **08IR 0.75 ISO** | 0.75 | 4.76 | 8 | 0.05 | 0.6 | 0.5 | | | ● | |
| | **08IR/L 1.00 ISO** | 1.00 | 4.76 | 8 | 0.07 | 0.6 | 0.6 | | ● | ● | |
| | **08IR/L 1.25 ISO** | 1.25 | 4.76 | 8 | 0.09 | 0.7 | 0.7 | | ● | ● | |
| | **08IR/L 1.50 ISO** | 1.50 | 4.76 | 8 | 0.10 | 0.6 | 0.7 | | ● | ● | |
| | **08IR/L 1.75 ISO** | 1.75 | 4.76 | 8 | 0.15 | 0.6 | 0.9 | | | ● | |
| | **11IR/L 0.35 ISO** | 0.35 | 6.35 | 11 | 0.04 | 0.8 | 0.3 | | ● | | |
| | **11IR 0.40 ISO** | 0.40 | 6.35 | 11 | 0.03 | 0.8 | 0.4 | | ● | | |
| | **11IR/L 0.50 ISO** | 0.50 | 6.35 | 11 | 0.04 | 0.8 | 0.6 | ● | ● | | |
| | **11IRB 0.50 ISO** | 0.50 | 6.35 | 11 | 0.04 | 0.8 | 0.6 | | ● | | |
| | **11IRM 0.50 ISO** | 0.50 | 6.35 | 11 | 0.04 | 0.3 | 0.4 | | ● | | |
| | **11IR 0.70 ISO** | 0.70 | 6.35 | 11 | 0.05 | 0.6 | 0.6 | | ● | | |
| | **11IR/L 0.75 ISO** | 0.75 | 6.35 | 11 | 0.05 | 0.6 | 0.6 | | ● | | |
| | **11IRB 0.75 ISO** | 0.75 | 6.35 | 11 | 0.05 | 0.6 | 0.6 | | ● | | |
| | **11IRM 0.75 ISO** | 0.75 | 6.35 | 11 | 0.06 | 0.3 | 0.5 | | ● | | |
| | **11IR 0.80 ISO** | 0.80 | 6.35 | 11 | 0.04 | 0.6 | 0.6 | | ● | | |
| | **11IR/L 1.00 ISO** | 1.00 | 6.35 | 11 | 0.07 | 0.6 | 0.7 | ● | ● | ● | ● |
| | **11IRB 1.00 ISO** | 1.00 | 6.35 | 11 | 0.07 | 0.6 | 0.6 | | ● | | |
| | **11IRM 1.00 ISO** | 1.00 | 6.35 | 11 | 0.05 | 0.6 | 0.7 | | ● | | |
| | **11IR/L 1.25 ISO** | 1.25 | 6.35 | 11 | 0.09 | 0.8 | 0.8 | | ● | | |
| | **11IR/L 1.50 ISO** | 1.50 | 6.35 | 11 | 0.12 | 0.8 | 1.0 | ● | ● | ● | ● |
| | **11IRM 1.50 ISO** | 1.50 | 6.35 | 11 | 0.08 | 0.8 | 1.0 | ● | ● | | |
| | **11IR/L 1.75 ISO** | 1.75 | 6.35 | 11 | 0.12 | 0.8 | 1.0 | | ● | | |
| | **11IRB 1.75 ISO** | 1.75 | 6.35 | 11 | 0.12 | 0.8 | 1.0 | | ● | | |
| | **11IRM 1.75 ISO** | 1.75 | 6.35 | 11 | 0.15 | 0.6 | 0.9 | | ● | | |
| | **11IR/L 2.00 ISO** | 2.00 | 6.35 | 11 | 0.14 | 0.8 | 0.9 | ● | ● | ● | |
| | **11IRM 2.00 ISO** | 2.00 | 6.35 | 11 | 0.16 | 0.6 | 1.0 | | ● | | |
| | **16IR 0.35 ISO** | 0.35 | 9.52 | 16 | 0.02 | 0.6 | 0.3 | | ● | | |
| | **16IR/L 0.40 ISO** | 0.40 | 9.52 | 16 | 0.03 | 0.6 | 0.4 | | ● | | |
| | **16IR/L 0.50 ISO** | 0.50 | 9.52 | 16 | 0.04 | 0.6 | 0.6 | ● | ● | | |
| | **16IR 0.60 ISO** | 0.60 | 9.52 | 16 | 0.04 | 0.6 | 0.6 | | ● | | |

C11-C17 Cutting Condition C52-C60

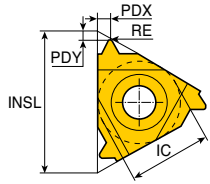
▸ IRB / IRM with pressed chip breaker

●: Standard items

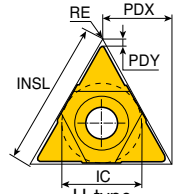
# Internal ISO Metric

T-THREAD

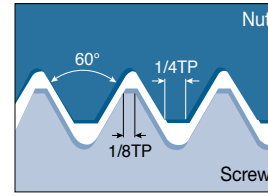
**Full profile (DIN13 12-1986 class: 6H)**




External right hand shown
(Internal left hand)




U-type




- Application: General industry

| Insert | Designation | TP (mm) | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| Internal Regular | **16IR/L 0.70 ISO** | 0.70 | 9.52 | 16 | 0.05 | 0.6 | 0.6 | ● | ● | | |
| | **16IR/L 0.75 ISO** | 0.75 | 9.52 | 16 | 0.05 | 0.6 | 0.6 | ● | ● | | |
| | **16IR/L 0.80 ISO** | 0.80 | 9.52 | 16 | 0.05 | 0.6 | 0.6 | ● | | | |
| | **16IR/L 1.00 ISO** | 1.00 | 9.52 | 16 | 0.07 | 0.7 | 0.8 | ● | ● | | ● |
| | **16IRB 1.00 ISO** | 1.00 | 9.52 | 16 | 0.07 | 0.7 | 0.8 | | ● | | |
| | **16IRM 1.00 ISO** | 1.00 | 9.52 | 16 | 0.05 | 0.6 | 0.7 | ● | ● | | ● |
| | **16IR/L 1.25 ISO** | 1.25 | 9.52 | 16 | 0.09 | 0.8 | 0.9 | ● | ● | | |
| | **16IRB 1.25 ISO** | 1.25 | 9.52 | 16 | 0.09 | 0.7 | 0.8 | | ● | | |
| | **16IRM 1.25 ISO** | 1.25 | 9.52 | 16 | 0.06 | 0.8 | 0.9 | ● | ● | | |
| | **16IR/L 1.50 ISO** | 1.50 | 9.52 | 16 | 0.12 | 0.9 | 1.0 | ● | ● | ● | ● |
| | **16IRB 1.50 ISO** | 1.50 | 9.52 | 16 | 0.12 | 0.1 | 1.2 | | ● | | |
| | **16IRM 1.50 ISO** | 1.50 | 9.52 | 16 | 0.08 | 0.8 | 1.0 | ● | ● | | ● |
| | **16IR/L 1.75 ISO** | 1.75 | 9.52 | 16 | 0.12 | 0.9 | 1.2 | ● | ● | | |
| | **16IRB 1.75 ISO** | 1.75 | 9.52 | 16 | 0.12 | 0.9 | 1.2 | | ● | | |
| | **16IRM 1.75 ISO** | 1.75 | 9.52 | 16 | 0.10 | 0.9 | 1.2 | ● | ● | | |
| | **16IR/L 2.00 ISO** | 2.00 | 9.52 | 16 | 0.16 | 0.9 | 1.2 | ● | ● | ● | |
| | **16IRB 2.00 ISO** | 2.00 | 9.52 | 16 | 0.14 | 1.0 | 1.2 | | ● | | |
| | **16IRM 2.00 ISO** | 2.00 | 9.52 | 16 | 0.11 | 1.0 | 1.3 | ● | ● | | |
| | **16IR/L 2.50 ISO** | 2.50 | 9.52 | 16 | 0.18 | 1.1 | 1.5 | ● | ● | ● | |
| | **16IRB 2.50 ISO** | 2.50 | 9.52 | 16 | 0.18 | 1.2 | 1.5 | | ● | | |
| | **16IRM 2.50 ISO** | 2.50 | 9.52 | 16 | 0.14 | 1.1 | 1.5 | ● | ● | | |
| | **16IR/L 3.00 ISO** | 3.00 | 9.52 | 16 | 0.21 | 1.1 | 1.5 | ● | ● | ● | |
| | **16IRB 3.00 ISO** | 3.00 | 9.52 | 16 | 0.21 | 1.1 | 1.5 | | ● | | |
| | **16IRM 3.00 ISO** | 3.00 | 9.52 | 16 | 0.22 | 1.1 | 1.5 | ● | ● | | |
| | **22IL 3.00 ISO** | 3.00 | 12.70 | 22 | 0.17 | 1.1 | 1.5 | | | ● | |
| | **22IR/L 3.50 ISO** | 3.50 | 12.70 | 22 | 0.23 | 1.6 | 2.3 | ● | ● | | |
| | **22IR/L 4.00 ISO** | 4.00 | 12.70 | 22 | 0.27 | 1.6 | 2.3 | ● | ● | | ● |
| | **22IR/L 4.50 ISO** | 4.50 | 12.70 | 22 | 0.31 | 1.6 | 2.3 | ● | ● | | |
| | **22IR/L 5.00 ISO** | 5.00 | 12.70 | 22 | 0.32 | 1.7 | 2.5 | ● | ● | | |
| | **27IR/L 5.50 ISO** | 5.50 | 15.88 | 27 | 0.36 | 1.8 | 2.5 | ● | ● | | |
| | **27IR/L 6.00 ISO** | 6.00 | 15.88 | 27 | 0.40 | 1.8 | 2.5 | ● | ● | | |
| U | **08UIRL 2.00 ISO** | 2.00 | 4.76 | 8 | 0.14 | 0.8 | 4.3 | | | | |
| | **22UIRL 5.50 ISO** | 5.50 | 12.70 | 22 | 0.36 | 2.3 | 11.0 | ● | | | |
| | **22UIRL 6.00 ISO** | 6.00 | 12.70 | 22 | 0.40 | 2.1 | 11.0 | ● | | | |
| | **27UIRL 8.00 ISO** | 8.00 | 15.88 | 27 | 0.50 | 2.5 | 13.8 | | ● | | |

Cutting Condition
C11-C17 C52-C60

▸ IRB / IRM with pressed chip breaker

●: Standard items

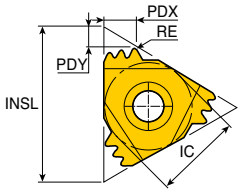


ADVANCE CUTTING
TaeguTec

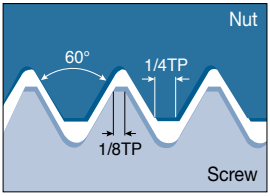
# External & Internal ISO Metric

T-THREAD

**Full profile, multi-tooth**




External right hand shown
(Internal left hand)




- Application: General industry

| Insert | Designation | TP (mm) | Dimension (mm) | | | | | CICT(1) | Coated | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | | TT7010 | TT9030 | TT8010 | P30 | |
| Internal / External  | **16ER 0.75 ISO 3M** | 0.75 | 9.52 | 16 | 0.07 | 1.4 | 1.9 | 3 | | ● | | | |
| | **16ER/IR 1.00 ISO 3M** | 1.0 | 9.52 | 16 | 0.07 | 1.5 | 2.5 | 3 | | ● | | | |
| | **16ER/IR 1.50 ISO 2M** | 1.5 | 9.52 | 16 | 0.10 | 1.5 | 2.3 | 2 | | ● | | | |
| | **16ER/IR 2.00 ISO 2M** | 2.00 | 9.52 | 16 | 0.14 | 1.6 | 2.7 | 2 | | ● | | | |
| | **22ER/IR 1.50 ISO 3M** | 1.5 | 12.70 | 22 | 0.11 | 2.3 | 3.7 | 3 | | ● | | | |
| | **22ER/IR 2.00 ISO 2M** | 2.0 | 12.70 | 22 | 0.15 | 2.3 | 3.0 | 2 | | ● | | | |
| | **22ER/IR 2.00 ISO 3M** | 2.0 | 12.70 | 22 | 0.13 | 3.1 | 5.0 | 3 | | ● | | | |
| | **27ER/IR 3.00 ISO 2M** | 3.0 | 15.88 | 27 | 0.21 | 3.1 | 4.6 | 2 | | ● | | | |

C11-C17 Cutting Condition C52-C60

▸(1) Number of teeth per corner

●: Standard items

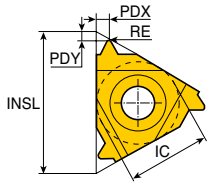


TaeguTec

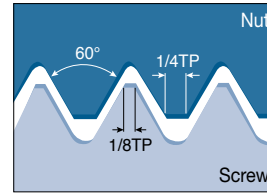
# External American UN

T-THREAD

**Full profile, UN, UNC, UNF, UNEF**




External right hand shown
(Internal left hand)




- Application: General industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **11ER 32 UN** | 32 | 6.35 | 11 | 0.09 | 0.6 | 0.6 | | ● | | |
|  Regular | **11ER 28 UN** | 28 | 6.35 | 11 | 0.10 | 0.6 | 0.7 | | ● | | |
| | **16ER 72 UN** | 72 | 9.52 | 16 | - | 0.8 | 0.4 | | ● | | |
| | **16ER 56 UN** | 56 | 9.52 | 16 | 0.04 | 0.7 | 0.4 | | ● | | |
| | **16ER 48 UN** | 48 | 9.52 | 16 | 0.05 | 0.6 | 0.6 | | ● | | |
|  B/M | **16ER/L 40 UN** | 40 | 9.52 | 16 | 0.06 | 0.6 | 0.6 | | ● | | |
| | **16ER/L 36 UN** | 36 | 9.52 | 16 | 0.07 | 0.6 | 0.6 | | ● | | ● |
| | **16ER/L 32 UN** | 32 | 9.52 | 16 | 0.09 | 0.6 | 0.6 | | ● | | |
| | **16ER/L 28 UN** | 28 | 9.52 | 16 | 0.10 | 0.6 | 0.7 | ● | ● | | |
| | **16ER/L 24 UN** | 24 | 9.52 | 16 | 0.12 | 0.7 | 0.8 | | ● | | |
| | **16ERB 24 UN** | 24 | 9.52 | 16 | 0.12 | 0.7 | 0.8 | | ● | | |
| | **16ERM 24 UN** | 24 | 9.52 | 16 | 0.11 | 0.7 | 0.8 | ● | ● | | |
| | **16ER/L 20 UN** | 20 | 9.52 | 16 | 0.15 | 0.8 | 0.9 | | ● | | |
| | **16ERB 20 UN** | 20 | 9.52 | 16 | 0.15 | 0.8 | 0.9 | | ● | | |
| | **16ERM 20 UN** | 20 | 9.52 | 16 | 0.14 | 0.8 | 0.9 | ● | ● | | |
| | **16ER/L 18 UN** | 18 | 9.52 | 16 | 0.17 | 0.8 | 1.0 | | ● | | |
| | **16ERB 18 UN** | 18 | 9.52 | 16 | 0.17 | 0.8 | 1.0 | | ● | | |
| | **16ERM 18 UN** | 18 | 9.52 | 16 | 0.15 | 0.8 | 1.0 | | ● | | |
| | **16ER/L 16 UN** | 16 | 9.52 | 16 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **16ERB 16 UN** | 16 | 9.52 | 16 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **16ERM 16 UN** | 16 | 9.52 | 16 | 0.19 | 0.9 | 1.1 | ● | ● | | |
| | **16ER/L 14 UN** | 14 | 9.52 | 16 | 0.22 | 1.0 | 1.2 | | ● | | |
| | **16ERB 14 UN** | 14 | 9.52 | 16 | 0.22 | 1.0 | 1.2 | | ● | | |
| | **16ERM 14 UN** | 14 | 9.52 | 16 | 0.22 | 1.0 | 1.2 | ● | ● | | |
| | **16ER/L 13 UN** | 13 | 9.52 | 16 | 0.24 | 1.0 | 1.3 | | ● | | |
| | **16ERB 13 UN** | 13 | 9.52 | 16 | 0.24 | 1.0 | 1.3 | | ● | | |
| | **16ERM 13 UN** | 13 | 9.52 | 16 | 0.24 | 1.0 | 1.3 | ● | ● | | |


C11-C17



C52-C60

- ERB / ERM with pressed chip breaker
- Tolerance: Class 2A

●: Standard items

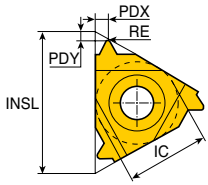


ADVANCE CUTTING
TaeguTec

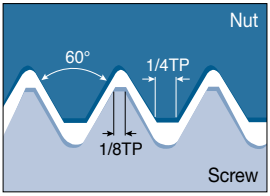
# External American UN

T-THREAD

**Full profile, UN, UNC, UNF, UNEF**




External right hand shown
(Internal left hand)




- Application: General industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **16ER/L 12 UN** | 12 | 9.52 | 16 | 0.26 | 1.1 | 1.4 | ● | ● | | |
| | **16ERB 12 UN** | 12 | 9.52 | 16 | 0.26 | 1.1 | 1.4 | | ● | | |
| | **16ERM 12 UN** | 12 | 9.52 | 16 | 0.25 | 1.1 | 1.4 | ● | ● | | ● |
| | **16ER 11.5 UN** | 11.5 | 9.52 | 16 | 0.27 | 1.1 | 1.5 | | ● | | |
| | **16ER/L 11 UN** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | ● | ● | | |
| | **16ERB 11 UN** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | | ● | | |
| | **16ER/L 10 UN** | 10 | 9.52 | 16 | 0.32 | 1.1 | 1.5 | ● | ● | | |
| | **16ERB 10 UN** | 10 | 9.52 | 16 | 0.32 | 1.1 | 1.5 | | ● | | |
| | **16ERM 10 UN** | 10 | 9.52 | 16 | 0.32 | 1.1 | 1.5 | | ● | | |
| | **16ER/L 9 UN** | 9 | 9.52 | 16 | 0.36 | 1.2 | 1.7 | | ● | | |
| | **16ERB 9 UN** | 9 | 9.52 | 16 | 0.36 | 1.2 | 1.7 | | ● | | |
| | **16ER/L 8 UN** | 8 | 9.52 | 16 | 0.41 | 1.2 | 1.6 | ● | ● | | |
| | **16ERB 8 UN** | 8 | 9.52 | 16 | 0.41 | 1.2 | 1.6 | | ● | | |
| | **16ERM 8 UN** | 8 | 9.52 | 16 | 0.41 | 1.2 | 1.6 | ● | ● | | |
| | **22ER 7 UN** | 7 | 12.70 | 22 | 0.47 | 1.6 | 2.3 | | ● | | |
| | **22ER/L 6 UN** | 6 | 12.70 | 22 | 0.67 | 1.6 | 2.3 | | ● | | |
| | **22ER 5 UN** | 5 | 12.70 | 22 | 0.67 | 1.7 | 2.5 | ● | ● | | |
| | **27ER 4.5 UN** | 4.5 | 15.88 | 27 | 0.75 | 1.9 | 2.7 | | ● | | |
| | **27ER/L 4 UN** | 4 | 15.88 | 27 | 0.85 | 2.1 | 3.0 | ● | ● | | |

Regular

B/M

C11-C17 | Cutting Condition C52-C60

- ERB / ERM with pressed chip breaker
- Tolerance: Class 2A

●: Standard items

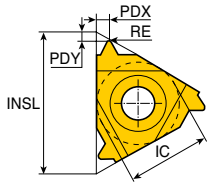


TaeguTec

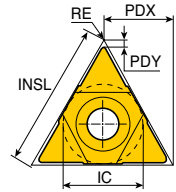
# Internal American UN

T-THREAD

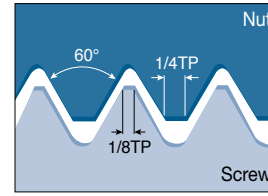
**Full profile, UN, UNC, UNF, UNEF**




External right hand shown
(Internal left hand)




U-type




- Application: General industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| Internal | **06IR 32 UN** | 32 | 3.97 | 6 | 0.04 | 0.8 | 0.5 | | | ● | |
| | **06IR/L 24 UN** | 24 | 3.97 | 6 | 0.05 | 0.7 | 0.6 | | | ● | |
| | **06IR/L 20 UN** | 20 | 3.97 | 6 | 0.06 | 0.6 | 0.6 | | | ● | |
| | **06IR 18 UN** | 18 | 3.97 | 6 | 0.07 | 0.6 | 0.7 | | | ● | |
| | **08IR 32 UN** | 32 | 4.76 | 8 | 0.04 | 0.6 | 0.5 | | | ● | |
| | **08IR 28 UN** | 28 | 4.76 | 8 | 0.04 | 0.6 | 0.6 | | | ● | |
| | **08IR 24 UN** | 24 | 4.76 | 8 | 0.05 | 0.6 | 0.6 | | | ● | |
| | **08IR/L 20 UN** | 20 | 4.76 | 8 | 0.06 | 0.6 | 0.7 | | | ● | |
| | **08IR 18 UN** | 18 | 4.76 | 8 | 0.07 | 0.6 | 0.7 | | | ● | |
| | **08IR 16 UN** | 16 | 4.76 | 8 | 0.09 | 0.6 | 0.7 | | | ● | |
| | **08IR 14 UN** | 14 | 4.76 | 8 | 0.10 | 0.6 | 0.8 | | ● | ● | |
| | **11IR 32 UN** | 32 | 6.35 | 11 | 0.04 | 0.6 | 0.6 | | ● | | |
| | **11IR 28 UN** | 28 | 6.35 | 11 | 0.04 | 0.6 | 0.7 | | ● | | |
| | **11IR 24 UN** | 24 | 6.35 | 11 | 0.05 | 0.7 | 0.8 | | ● | | |
| | **11IR 20 UN** | 20 | 6.35 | 11 | 0.06 | 0.8 | 0.9 | | ● | | |
| | **11IR/L 18 UN** | 18 | 6.35 | 11 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **11IR/L 16 UN** | 16 | 6.35 | 11 | 0.09 | 0.9 | 1.1 | | ● | | |
| | **11IR/L 14 UN** | 14 | 6.35 | 11 | 0.10 | 0.9 | 1.1 | | ● | | |
| | **11IR 12 UN** | 12 | 6.35 | 11 | 0.12 | 0.9 | 1.1 | ● | | | |
| | **11IR 11 UN** | 11 | 6.35 | 11 | 0.14 | 0.8 | 1.1 | ● | ● | | |
| | **16IR 32 UN** | 32 | 9.52 | 16 | 0.04 | 0.6 | 0.6 | ● | ● | | |
| | **16IR/L 28 UN** | 28 | 9.52 | 16 | 0.04 | 0.6 | 0.7 | | ● | | |
| | **16IR 24 UN** | 24 | 9.52 | 16 | 0.05 | 0.7 | 0.8 | | ● | | |
| | **16IRB 24 UN** | 24 | 9.52 | 16 | 0.05 | 0.7 | 0.8 | | ● | | |
| | **16IR/L 20 UN** | 20 | 9.52 | 16 | 0.06 | 0.8 | 0.9 | | ● | | |
| | **16IRB 20 UN** | 20 | 9.52 | 16 | 0.06 | 0.8 | 0.9 | | ● | | |
| | **16IRM 20 UN** | 20 | 9.52 | 16 | 0.06 | 0.8 | 0.9 | | ● | | |
| | **16IR/L 18 UN** | 18 | 9.52 | 16 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **16IRB 18 UN** | 18 | 9.52 | 16 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **16IRM 18 UN** | 18 | 9.52 | 16 | 0.08 | 0.8 | 1.0 | ● | ● | | |



Regular



B/M







- IRB / IRM with pressed chip breaker
- Tolerance: Class 2B, ANSI B1, 3M-1986

●: Standard items

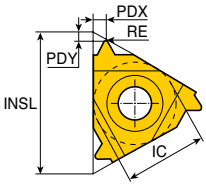


ADVANC e CUTTING
TaeguTec

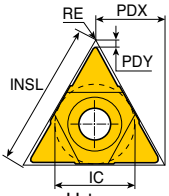
# Internal American UN

T-THREAD

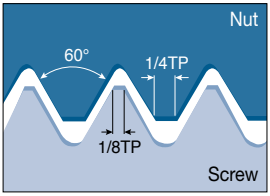
**Full profile, UN, UNC, UNF, UNEF**




External right hand shown
(Internal left hand)




U-type




- Application: General industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| Internal Regular | **16IR/L 16 UN** | 16 | 9.52 | 16 | 0.09 | 0.9 | 1.1 | | ● | | |
| | **16IRB 16 UN** | 16 | 9.52 | 16 | 0.09 | 0.9 | 1.1 | | ● | | |
| | **16IRM 16 UN** | 16 | 9.52 | 16 | 0.09 | 0.9 | 1.1 | ● | ● | | |
| | **16IR/L 14 UN** | 14 | 9.52 | 16 | 0.10 | 0.9 | 1.2 | | ● | | |
| | **16IRB 14 UN** | 14 | 9.52 | 16 | 0.10 | 0.9 | 1.2 | | ● | | |
| | **16IRM 14 UN** | 14 | 9.52 | 16 | 0.11 | 0.9 | 1.2 | ● | ● | | |
| | **16IR/L 12 UN** | 12 | 9.52 | 16 | 0.12 | 1.1 | 1.4 | ● | ● | ● | |
| | **16IRB 12 UN** | 12 | 9.52 | 16 | 0.12 | 1.1 | 1.4 | | ● | | |
| | **16IRM 12 UN** | 12 | 9.52 | 16 | 0.12 | 1.1 | 1.4 | | ● | | |
| | **16IR 11.5 UN** | 11.5 | 9.52 | 16 | 0.13 | 1.1 | 1.5 | | ● | | |
| | **16IR 11 UN** | 11 | 9.52 | 16 | 0.14 | 1.1 | 1.5 | | ● | | |
| | **16IR 10 UN** | 10 | 9.52 | 16 | 0.15 | 1.1 | 1.5 | ● | ● | | |
| | **16IRB 10 UN** | 10 | 9.52 | 16 | 0.15 | 1.1 | 1.5 | | ● | | |
| | **16IR 9 UN** | 9 | 9.52 | 16 | 0.17 | 1.2 | 1.7 | | ● | | |
| | **16IR 8 UN** | 8 | 9.52 | 16 | 0.19 | 1.1 | 1.5 | | ● | | |
| | **16IRB 8 UN** | 8 | 9.52 | 16 | 0.19 | 1.1 | 1.5 | | ● | | |
| | **16IRM 8 UN** | 8 | 9.52 | 16 | 0.20 | 1.1 | 1.5 | ● | ● | | |
| | **22IR 7 UN** | 7 | 12.70 | 22 | 0.22 | 1.6 | 2.3 | | ● | | |
| | **22IR 6 UN** | 6 | 12.70 | 22 | 0.26 | 1.6 | 2.3 | | ● | | |
| | **22IR 5 UN** | 5 | 12.70 | 22 | 0.32 | 1.6 | 2.3 | | ● | | |
| | **27IR 4 UN** | 4 | 15.88 | 27 | 0.41 | 1.8 | 2.7 | | ● | | |
| Internal U | **08UIRL 13 UN** | 13 | 4.76 | 8 | 0.10 | 1.0 | 4.0 | | ● | | |

C11-C17 | Cutting Condition C52-C60

- IRB / IRM with pressed chip breaker
- Tolerance: Class 2B, ANSI B1, 3M-1986

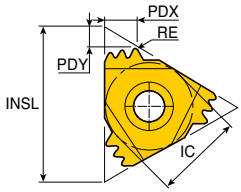
●: Standard items



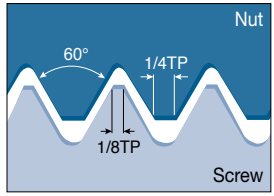
TaeguTec

# External & Internal American UN

**Full profile, multi-tooth, UN, UNC, UNF, UNEF**




External right hand shown
(Internal left hand)




• Application: General industry

| Insert | Designation | TPI | Dimension (mm) | | | | | CICT(1) | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | | TT7010 | TT9030 | TT8010 | P30 |
| Internal / External  | **16ER/IR 16 UN 2M** | 16 | 9.52 | 16 | 0.09 | 1.5 | 2.3 | 2 | | ● | | |
| | **16ER 12 UN 2M** | 12 | 9.52 | 16 | 0.26 | 2.2 | 3.4 | 2 | | ● | | |
| | **22ER 12 UN 2M** | 12 | 12.70 | 22 | 0.27 | 2.2 | 3.4 | 2 | | ● | | |
| | **22ER/IR 12 UN 3M** | 12 | 12.70 | 22 | 0.27 | 3.3 | 5.3 | 3 | | ● | | ● |

▸ (1) Number of teeth per corner

●: Standard items





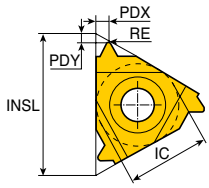



ADVANC e CUTTING
TaeguTec

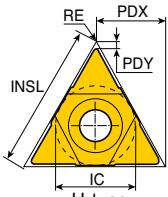
# External Whitworth

T-THREAD

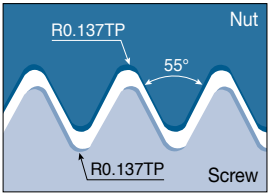
**Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)**




External right hand shown
(Internal left hand)




U-type




- Application: General industry, fittings and pipe coupings

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **11ER/L 19 W** | 19 | 6.35 | 11 | 0.15 | 0.8 | 1.0 | | ● | | |
|  Regular | **11ER 14 W** | 14 | 6.35 | 11 | 0.21 | 0.9 | 1.1 | | ● | | |
| | **16ER 22 W** | 22 | 9.52 | 16 | 0.13 | 0.8 | 0.9 | | ● | | |
| | **16EL 32 W** | 32 | 9.52 | 16 | 0.09 | 0.6 | 0.6 | | | | ● |
| | **16ER 28 W** | 28 | 9.52 | 16 | 0.09 | 0.6 | 0.7 | ● | ● | | |
|  B/M | **16ER 26 W** | 26 | 9.52 | 16 | 0.10 | 0.7 | 0.7 | | ● | | |
| | **16ER 24 W** | 24 | 9.52 | 16 | 0.11 | 0.7 | 0.8 | | ● | | |
| | **16ER 20 W** | 20 | 9.52 | 16 | 0.14 | 0.8 | 0.9 | | ● | | |
| | **16ER/L 19 W** | 19 | 9.52 | 16 | 0.15 | 0.8 | 1.0 | | ● | ● | |
| | **16ERB 19 W** | 19 | 9.52 | 16 | 0.15 | 0.8 | 1.0 | | ● | | |
| | **16ERM 19 W** | 19 | 9.52 | 16 | 0.16 | 0.8 | 1.0 | ● | ● | | |
| | **16ER 18 W** | 18 | 9.52 | 16 | 0.16 | 0.8 | 1.0 | | ● | | ● |
| | **16ER 16 W** | 16 | 9.52 | 16 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **16ERB 16 W** | 16 | 9.52 | 16 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **16ERM 16 W** | 16 | 9.52 | 16 | 0.20 | 0.9 | 1.1 | ● | ● | | |
| | **16ER/L 14 W** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | ● | |
| | **16ERB 14 W** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | | |
| | **16ERM 14 W** | 14 | 9.52 | 16 | 0.24 | 1.0 | 1.2 | ● | ● | | ● |
| | **16ER/L 12 W** | 12 | 9.52 | 16 | 0.25 | 1.1 | 1.4 | | ● | | |
| | **16ER/L 11 W** | 11 | 9.52 | 16 | 0.27 | 1.1 | 1.5 | ● | ● | | ● |
| | **16ERB 11 W** | 11 | 9.52 | 16 | 0.27 | 1.1 | 1.5 | | ● | | |
| | **16ERM 11 W** | 11 | 9.52 | 16 | 0.27 | 1.1 | 1.5 | ● | ● | | |
| | **16ER 10 W** | 10 | 9.52 | 16 | 0.31 | 1.1 | 1.5 | ● | ● | | |
| | **16ERB 10 W** | 10 | 9.52 | 16 | 0.31 | 1.1 | 1.5 | | ● | | |
| | **16ER 9 W** | 9 | 9.52 | 16 | 0.34 | 1.2 | 1.7 | ● | | | |
| | **16ER 8 W** | 8 | 9.52 | 16 | 0.39 | 1.2 | 1.5 | | ● | | |
| | **22ER 7 W** | 7 | 12.70 | 22 | 0.45 | 1.6 | 2.3 | | ● | | |
| | **22ER 6 W** | 6 | 12.70 | 22 | 0.52 | 1.6 | 2.3 | | ● | | |
| | **22ER 5 W** | 5 | 12.70 | 22 | 0.65 | 1.7 | 2.4 | ● | | | |

C11-C17

Cutting Condition C52-C60

- ERB / ERM with pressed chip breaker
- Tolerance: Medium class

●: Standard items

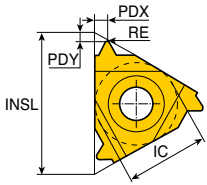


TaeguTec

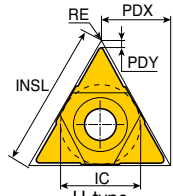
# Internal Whitworth

T-THREAD

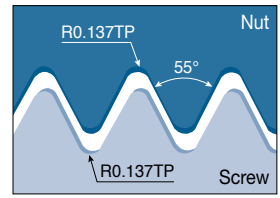
**Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)**




External right hand shown
(Internal left hand)




U-type




- Application: General industry, fittings and pipe coupings

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| Internal Regular  B/M  | **06IR 26 W** | 26 | 3.97 | 6 | 0.10 | 0.7 | 0.6 | | | ● | |
| | **08IR 28 W** | 28 | 4.76 | 8 | 0.09 | 0.6 | 0.6 | | | ● | |
| | **08IR 19 W** | 19 | 4.76 | 8 | 0.15 | 0.6 | 0.7 | | ● | ● | |
| | **08IR 18 W** | 18 | 4.76 | 8 | 0.16 | 0.6 | 0.7 | | | ● | |
| | **08IR 16 W** | 16 | 4.76 | 8 | 0.18 | 0.6 | 0.7 | | | ● | |
| | **11IR 28 W** | 28 | 6.35 | 11 | 0.10 | 0.6 | 0.7 | ● | | | |
| | **11IR 26 W** | 26 | 6.35 | 11 | 0.10 | 0.7 | 0.7 | | | ● | |
| | **11IR 24 W** | 24 | 6.35 | 11 | 0.11 | 0.7 | 0.8 | | ● | | |
| | **11IR 20 W** | 20 | 6.35 | 11 | 0.14 | 0.8 | 0.9 | ● | ● | | |
| | **11IR 19 W** | 19 | 6.35 | 11 | 0.15 | 0.8 | 1.0 | ● | ● | | |
| | **11IR/L 18 W** | 18 | 6.35 | 11 | 0.16 | 0.8 | 1.0 | | ● | | |
| | **11IR 16 W** | 16 | 6.35 | 11 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **11IR/L 14 W** | 14 | 6.35 | 11 | 0.21 | 0.9 | 1.1 | ● | ● | ● | |


C11-C17



C52-C60

▸ Tolerance: Medium class

●: Standard items

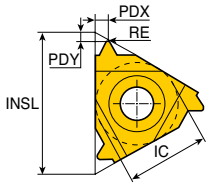


ADVANC eCUTTING
TaeguTec

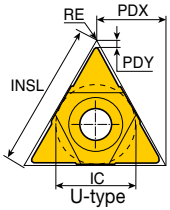
# Internal Whitworth

T-THREAD

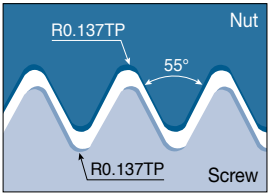
**Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)**




External right hand shown
(Internal left hand)




U-type




- Application: General industry, fittings and pipe coupings

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| Internal | **16IR 32 W** | 32 | 9.52 | 16 | 0.09 | 0.6 | 0.6 | | | | ● |
| Regular | **16IR 28 W** | 28 | 9.52 | 16 | 0.09 | 0.6 | 0.7 | ● | | | |
| | **16IR 26 W** | 26 | 9.52 | 16 | 0.10 | 0.7 | 0.7 | | ● | | |
| | **16IR 24 W** | 24 | 9.52 | 16 | 0.11 | 0.7 | 0.8 | | ● | | |
| | **16IR/L 20 W** | 20 | 9.52 | 16 | 0.14 | 0.8 | 0.9 | | ● | | |
| | **16IRM 20 W** | 20 | 9.52 | 16 | 0.14 | 0.8 | 0.9 | | ● | | |
| | **16IR/L 19 W** | 19 | 9.52 | 16 | 0.15 | 0.8 | 1.0 | ● | ● | | |
| B/M | **16IRB 19 W** | 19 | 9.52 | 16 | 0.15 | 0.8 | 1.0 | | ● | | |
| | **16IRM 19 W** | 19 | 9.52 | 16 | 0.15 | 0.8 | 1.0 | ● | | | |
| | **16IR 18 W** | 18 | 9.52 | 16 | 0.16 | 0.8 | 1.0 | | ● | | |
| | **16IR 16 W** | 16 | 9.52 | 16 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **16IRB 16 W** | 16 | 9.52 | 16 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **16IRM 16 W** | 16 | 9.52 | 16 | 0.18 | 0.9 | 1.1 | | ● | | |
| | **16IR/L 14 W** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | ● | ● | ● | |
| | **16IRB 14 W** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | | |
| | **16IRM 14 W** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | ● | ● | | |
| | **16IR/L 12 W** | 12 | 9.52 | 16 | 0.25 | 1.1 | 1.4 | | ● | | |
| | **16IR/L 11 W** | 11 | 9.52 | 16 | 0.27 | 1.1 | 1.5 | ● | ● | ● | |
| | **16IRB 11 W** | 11 | 9.52 | 16 | 0.27 | 1.1 | 1.5 | | ● | | |
| | **16IRM 11 W** | 11 | 9.52 | 16 | 0.27 | 1.1 | 1.5 | ● | ● | | |
| | **16IR 10 W** | 10 | 9.52 | 16 | 0.31 | 1.1 | 1.5 | | ● | | |
| | **16IRB 10 W** | 10 | 9.52 | 16 | 0.31 | 1.1 | 1.5 | | ● | | |
| | **16IR/L 9 W** | 9 | 9.52 | 16 | 0.34 | 1.2 | 1.7 | ● | | | |
| | **16IR/L 8 W** | 8 | 9.52 | 16 | 0.39 | 1.2 | 1.5 | | ● | | |
| | **22IR 7 W** | 7 | 12.70 | 22 | 0.45 | 1.6 | 2.3 | | ● | | |
| | **22IR 6 W** | 6 | 12.70 | 22 | 0.52 | 1.6 | 2.3 | ● | | | |
| | **22IR 5 W** | 5 | 12.70 | 22 | 0.65 | 1.7 | 2.4 | ● | | | |
| | **27IR 4 W** | 4 | 15.88 | 27 | 0.82 | 2.0 | 2.9 | | ● | | |

C11-C17

Cutting Condition C52-C60

- IRB / IRM with pressed chip breaker
- Tolerance: Medium class

●: Standard items

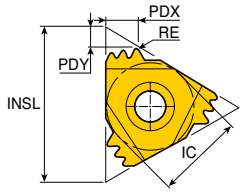


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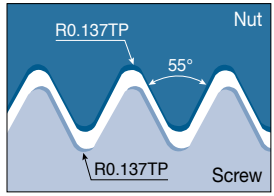
# External & Internal Whitworth

T-THREAD

**Full profile, multi-tooth, BSW, BSF, BSP**




External right hand shown
(Internal left hand)




- Application: General industry, fittings and pipe coupings

| Insert | Designation | TPI | Dimension (mm) | | | | | CICT(1) | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | | TT7010 | TT9030 | TT8010 | P30 |
| Internal / External  | **16ER/IR 14 W 2M** | 14 | 9.52 | 16 | 0.23 | 1.7 | 2.7 | 2 | | ● | | |
| | **22IR 11 W 2M** | 11 | 12.70 | 22 | 0.27 | 2.3 | 3.4 | 2 | | ● | | |

C11-C17 Cutting Condition C52-C60

▸ (1) Number of teeth per corner

●: Standard items

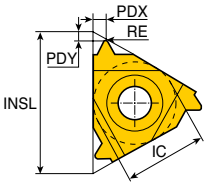


ADVANCE CUTTING TaeguTec

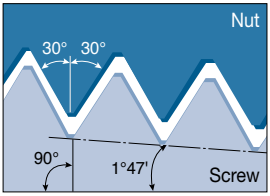
# External & Internal NPT

T-THREAD

**Full profile, national pipe threads (ANSI/ASME B1.20.1-1983)**




External right hand shown
(Internal left hand)




- Application: Steam, gas and water pipes

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **16ER 27 NPT** | 27 | 9.52 | 16 | 0.04 | 0.7 | 0.8 | | ● | | |
|  Regular | **16ER/L 18 NPT** | 18 | 9.52 | 16 | 0.06 | 0.8 | 1.0 | ● | ● | | |
| | **16ERB 18 NPT** | 18 | 9.52 | 16 | 0.06 | 0.8 | 1.0 | | ● | | |
| | **16ERM 18 NPT** | 18 | 9.52 | 16 | 0.05 | 0.8 | 1.0 | | ● | | |
| | **16ER/L 14 NPT** | 14 | 9.52 | 16 | 0.07 | 0.9 | 1.2 | | ● | ● | |
|  B/M | **16ERB 14 NPT** | 14 | 9.52 | 16 | 0.07 | 0.9 | 1.2 | | ● | | |
| | **16ERM 14 NPT** | 14 | 9.52 | 16 | 0.05 | 0.9 | 1.2 | ● | ● | | ● |
| | **16ER/L 11.5 NPT** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | ● | ● | | ● |
| | **16ERB 11.5 NPT** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | | ● | | |
| | **16ERM 11.5 NPT** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | | ● | | |
| | **16ER 8 NPT** | 8 | 9.52 | 16 | 0.12 | 1.3 | 1.8 | ● | ● | | |
| | **16ERB 8 NPT** | 8 | 9.52 | 16 | 0.12 | 1.3 | 1.8 | | ● | | |
| | **16ERM 8 NPT** | 8 | 9.52 | 16 | 0.15 | 1.3 | 1.8 | ● | ● | | |
| Internal | **06IR 27 NPT** | 27 | 3.97 | 6 | 0.04 | 0.6 | 0.6 | | | ● | |
|  Regular | **08IR 27 NPT** | 27 | 4.76 | 8 | 0.04 | 0.6 | 0.6 | | | ● | |
| | **08IR/L 18 NPT** | 18 | 4.76 | 8 | 0.06 | 0.6 | 0.6 | | ● | ● | |
| | **11IR/L 18 NPT** | 18 | 6.35 | 11 | 0.06 | 0.8 | 1.0 | ● | ● | | |
| | **11IR/L 14 NPT** | 14 | 6.35 | 11 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **16IR 18 NPT** | 18 | 9.52 | 16 | 0.06 | 0.8 | 1.0 | | ● | | |
|  B/M | **16IR/L 14 NPT** | 14 | 9.52 | 16 | 0.07 | 0.9 | 1.2 | ● | ● | ● | |
| | **16IRB 14 NPT** | 14 | 9.52 | 16 | 0.07 | 0.9 | 1.2 | | ● | | |
| | **16IRM 14 NPT** | 14 | 9.52 | 16 | 0.05 | 0.9 | 1.2 | | ● | | |
| | **16IR 11.5 NPT** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | | ● | | |
| | **16IRB 11.5 NPT** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | | ● | | |
| | **16IRM 11.5 NPT** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | ● | ● | | ● |
| | **16IR/L 8 NPT** | 8 | 9.52 | 16 | 0.12 | 1.3 | 1.8 | | ● | | |
| | **16IRB 8 NPT** | 8 | 9.52 | 16 | 0.12 | 1.3 | 1.8 | | ● | | |
| | **16IRM 8 NPT** | 8 | 9.52 | 16 | 0.12 | 1.3 | 1.8 | | ● | | |

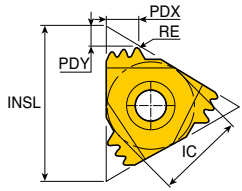
C11-C17 Cutting Condition C52-C60

▸ ERB / ERM / IRB / IRM with pressed chip breaker

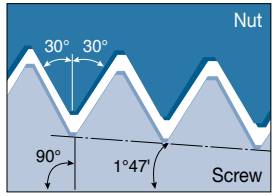
●: Standard items

# External & Internal NPT

**Full profile, multi-tooth, national pipe threads**




External right hand shown
(Internal left hand)




- Application: Steam, gas and water pipes

| Insert | Designation | TPI | Dimension (mm) | | | | | CICT(1) | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | | TT7010 | TT9030 | TT8010 | P30 |
| Internal / External  | **22ER/IR 11.5 NPT 2M** | 11.5 | 12.70 | 22 | 0.09 | 2.3 | 3.5 | 2 | | ● | | |
| | **27ER 11.5 NPT 3M** | 11.5 | 15.88 | 27 | 0.09 | 3.3 | 5.5 | 3 | | ● | | |
| | **27ER/IR 8 NPT 2M** | 8 | 15.88 | 27 | 0.12 | 3.1 | 5.0 | 2 | | ● | | |

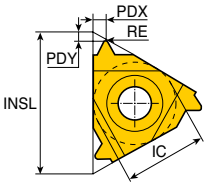
C11-C17 Cutting Condition C52-C60

▸ (1) Number of teeth per corner

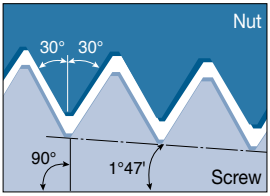
●: Standard items

# External & Internal NPTF

**Full profile, national pipe threads-dryseal (ANSI / ASME B1.20.1-1976)**




External right hand shown
(Internal left hand)




- Application: Steam, gas and water pipes

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **11ER 14 NPTF** | 14 | 6.35 | 11 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **16ER 27 NPTF** | 27 | 9.52 | 16 | 0.04 | 0.7 | 0.7 | | ● | | |
| | **16ER 18 NPTF** | 18 | 9.52 | 16 | 0.06 | 0.8 | 1.0 | | ● | | |
| | **16ER 14 NPTF** | 14 | 9.52 | 16 | 0.07 | 0.9 | 1.2 | ● | ● | | |
| | **16ER 11.5 NPTF** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | | ● | | |
| Internal  Regular | **08IR 27 NPTF** | 27 | 4.76 | 8 | 0.04 | 0.6 | 0.6 | | | ● | |
| | **08IR 18 NPTF** | 18 | 4.76 | 8 | 0.06 | 0.6 | 0.6 | | | ● | |
| | **11IR 18 NPTF** | 18 | 6.35 | 11 | 0.06 | 0.8 | 1.0 | | ● | | |
| | **11IR 14 NPTF** | 14 | 6.35 | 11 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **16IR 18 NPTF** | 18 | 9.52 | 16 | 0.06 | 0.8 | 1.0 | | ● | | |
| | **16IR 14 NPTF** | 14 | 9.52 | 16 | 0.07 | 0.9 | 1.2 | | ● | | |
| | **16IR 11.5 NPTF** | 11.5 | 9.52 | 16 | 0.09 | 1.1 | 1.5 | ● | ● | | |





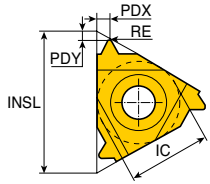



●: Standard items

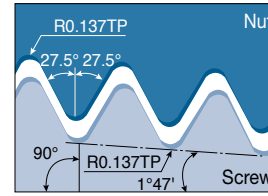
# External & Internal BSPT

T-THREAD

**Full profile, british standard pipe (B.S. 21-1957)**

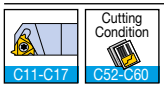



External right hand shown
(Internal left hand)




- Application: Steam, gas and water pipes

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **16ER 28 BSPT** | 28 | 9.52 | 16 | 0.11 | 0.6 | 0.6 | | ● | | |
|  Regular | **16ER 19 BSPT** | 19 | 9.52 | 16 | 0.16 | 0.8 | 0.9 | | ● | | |
| | **16ER/L 14 BSPT** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | ● | ● | | |
| | **16ERB 14 BSPT** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | | |
|  B/M | **16ERM 14 BSPT** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | | |
| | **16ER/L 11 BSPT** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | ● | ● | | |
| | **16ERB 11 BSPT** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | | ● | | |
| | **16ERM 11 BSPT** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | | ● | | |
| Internal | **06IR 28 BSPT** | 28 | 3.97 | 6 | 0.11 | 0.7 | 0.6 | | | ● | |
| | **08IR 19 BSPT** | 19 | 4.76 | 8 | 0.16 | 0.6 | 0.6 | | | ● | |
|  Regular | **11IR 19 BSPT** | 19 | 6.35 | 11 | 0.16 | 0.8 | 0.9 | | ● | | |
| | **11IRB 19 BSPT** | 19 | 6.35 | 11 | 0.16 | 0.8 | 0.9 | | ● | | |
| | **11IR 14 BSPT** | 14 | 6.35 | 11 | 0.21 | 0.9 | 1.0 | ● | ● | | |
|  B/M | **16IR 19 BSPT** | 19 | 9.52 | 16 | 0.16 | 0.8 | 0.9 | ● | | | |
| | **16IR/L 14 BSPT** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | | |
| | **16IRB 14 BSPT** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | | |
| | **16IRM 14 BSPT** | 14 | 9.52 | 16 | 0.21 | 1.0 | 1.2 | | ● | | |
| | **16IR/L 11 BSPT** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | | ● | | |
| | **16IRB 11 BSPT** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | | ● | | |
| | **16IRM 11 BSPT** | 11 | 9.52 | 16 | 0.28 | 1.1 | 1.5 | | ● | | |




▸ ERB / ERM / IRB / IRM with pressed chip breaker

●: Standard items

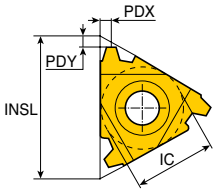


ADVANCE CUTTING
TaeguTec

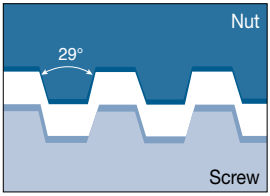
# External & Internal STUB ACME

T-THREAD

**ASME / ANSI B.1.8-1988 class: 2G**




External right hand shown
(Internal left hand)




- Application: Control valves and modified ACME thread forms

| Insert | Designation | TPI | Dimension (mm) | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **16ER 16 STACME** | 16 | 9.52 | 16 | 1.0 | 1.0 | | ● | | |
| | **16ER 12 STACME** | 12 | 9.52 | 16 | 1.2 | 1.2 | | ● | | |
| | **16ER 10 STACME** | 10 | 9.52 | 16 | 1.3 | 1.3 | | ● | | |
| | **16ER 8 STACME** | 8 | 9.52 | 16 | 1.5 | 1.5 | ● | ● | | ● |
| | **16ER 6 STACME** | 6 | 9.52 | 16 | 1.7 | 1.7 | ● | ● | | |
| | **22ER/L 5 STACME** | 5 | 12.70 | 22 | 2.0 | 2.3 | | ● | | |
| | **27ER 4 STACME** | 4 | 15.88 | 27 | 2.2 | 2.4 | | ● | | |
| | **27ER/L 3 STACME** | 3 | 15.88 | 27 | 2.8 | 2.9 | ● | | | |
| | | | | | | | | | | |
| Internal  Regular | **16IR 16 STACME** | 16 | 9.52 | 16 | 1.0 | 1.0 | | | | ● |
| | **16IR 12 STACME** | 12 | 9.52 | 16 | 1.2 | 1.2 | | ● | | |
| | **16IR/L 10 STACME** | 10 | 9.52 | 16 | 1.2 | 1.2 | | ● | | ● |
| | **16IR 8 STACME** | 8 | 9.52 | 16 | 1.5 | 1.5 | | ● | | ● |
| | **16IR/L 6 STACME** | 6 | 9.52 | 16 | 1.6 | 1.7 | ● | ● | | |
| | **22IR 5 STACME** | 5 | 12.70 | 22 | 2.0 | 2.1 | ● | | | ● |
| | **22UIR 3 STACME** | 3 | 12.70 | 22 | 3.3 | 11.0 | ● | | | |
| | **27IR 4 STACME** | 4 | 15.88 | 27 | 2.3 | 2.4 | | ● | | |
| | **27IR/L 3 STACME** | 3 | 15.88 | 27 | 2.8 | 2.9 | ● | | | |

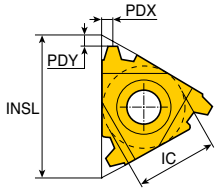
C11-C17
Cutting Condition C52-C60

●: Standard items

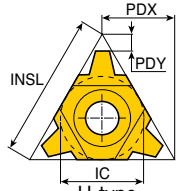
# External & Internal ACME

T-THREAD

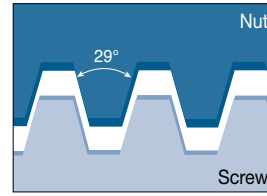
**ASME / ANSI B.1.8-1988 class: 3G**




External right hand shown
(Internal left hand)




U-type




• Application: Feed screws

| Insert | Designation | TPI | Dimension (mm) | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **16ER 16 ACME** | 16 | 9.52 | 16 | 0.9 | 1.0 | | ● | | |
| | **16ER 12 ACME** | 12 | 9.52 | 16 | 1.1 | 1.2 | | ● | | |
| | **16ER 10 ACME** | 10 | 9.52 | 16 | 1.3 | 1.3 | | ● | | |
| | **16ER/L 8 ACME** | 8 | 9.52 | 16 | 1.5 | 1.5 | | ● | | |
| | **22ER/L 6 ACME** | 6 | 12.70 | 22 | 1.8 | 2.1 | | ● | | ● |
| | **22ER/L 5 ACME** | 5 | 12.70 | 22 | 2.0 | 2.3 | | ● | | |
| | **22ER/L 4 ACME** | 4 | 12.70 | 22 | 2.1 | 2.2 | | ● | | |
| | **27ER/L 4 ACME** | 4 | 15.88 | 27 | 2.3 | 2.7 | ● | ● | | |
| Internal  Regular | **16IR 16 ACME** | 16 | 9.52 | 16 | 0.9 | 1.0 | ● | | | |
| | **16IR 12 ACME** | 12 | 9.52 | 16 | 1.1 | 1.2 | | ● | | |
| | **16IR/L 10 ACME** | 10 | 9.52 | 16 | 1.3 | 1.3 | ● | | | |
| | **16IR 8 ACME** | 8 | 9.52 | 16 | 1.5 | 1.5 | ● | ● | | |
| | **22IR/L 6 ACME** | 6 | 12.70 | 22 | 1.8 | 2.1 | | ● | | |
| | **22IR/L 5 ACME** | 5 | 12.70 | 22 | 2.0 | 2.3 | | ● | | |
| | **22IR 4 ACME** | 4 | 12.70 | 22 | 2.1 | 2.2 | | ● | | |
| | **27IR/L 4 ACME** | 4 | 15.88 | 27 | 2.3 | 2.7 | ● | ● | | |
| Internal / External  U | **22UERL 4 ACME** | 4 | 12.70 | 22 | 2.3 | 11 | | ● | | ● |
| | **27UERL 3 ACME** | 3 | 15.88 | 27 | 2.8 | 13.7 | | ● | | |
| | **27UIRL 3 ACME** | 3 | 15.88 | 27 | 2.8 | 13.7 | | ● | | |

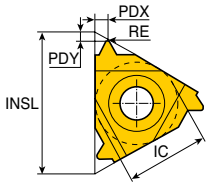
●: Standard items



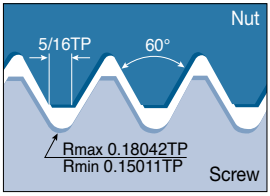

# External UNJ

T-THREAD

**Full profile (MIL-S-8879C 9-1992 class: 3A)**




External right hand shown
(Internal left hand)




- Application: Aircraft and aerospace industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External | **16ER 40 UNJ** | 40 | 9.52 | 16 | 0.10 | 0.6 | 0.6 | | ● | | |
|  | **16ER 32 UNJ** | 32 | 9.52 | 16 | 0.12 | 0.6 | 0.6 | | ● | | |
| | **16ER/L 28 UNJ** | 28 | 9.52 | 16 | 0.14 | 0.6 | 0.6 | | ● | | |
| | **16ER/L 24 UNJ** | 24 | 9.52 | 16 | 0.16 | 0.7 | 0.8 | | ● | | |
| Regular | **16ER/L 20 UNJ** | 20 | 9.52 | 16 | 0.19 | 0.8 | 0.9 | | ● | | |
| | **16ER/L 18 UNJ** | 18 | 9.52 | 16 | 0.21 | 0.8 | 1.0 | | ● | | |
| | **16ER 16 UNJ** | 16 | 9.52 | 16 | 0.24 | 0.8 | 1.0 | | ● | | ● |
| | **16ER/L 14 UNJ** | 14 | 9.52 | 16 | 0.27 | 1.0 | 1.2 | | ● | | |
| | **16ER 13 UNJ** | 13 | 9.52 | 16 | 0.29 | 1.1 | 1.3 | | ● | | |
| | **16ER 12 UNJ** | 12 | 9.52 | 16 | 0.32 | 1.1 | 1.4 | | ● | | |
| | **16ER 11 UNJ** | 11 | 9.52 | 16 | 0.35 | 1.1 | 1.5 | | ● | | |
| | **16ER 8 UNJ** | 8 | 9.52 | 16 | 0.48 | 1.2 | 1.6 | | ● | | |

C11-C17
Cutting Condition C52-C60

●: Standard items

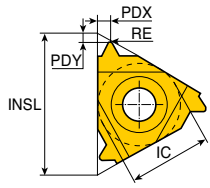


TaeguTec

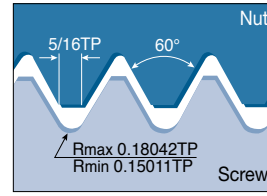
# Internal UNJ

T-THREAD

## Full profile




External right hand shown
(Internal left hand)




- Application: Aircraft and aerospace industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| Internal | **08IR 20 UNJ** | 20 | 4.76 | 8 | 0.06 | 0.8 | 0.9 | | | ● | |
|  | **08IR 18 UNJ** | 18 | 4.76 | 8 | 0.07 | 0.8 | 1.0 | | | ● | |
| | **11IRB 32 UNJ** | 32 | 6.35 | 11 | 0.04 | 0.6 | 0.6 | | ● | | |
| | **11IR 24 UNJ** | 24 | 6.35 | 11 | 0.05 | 0.7 | 0.8 | | ● | | |
| Regular | **11IRB 24 UNJ** | 24 | 6.35 | 11 | 0.05 | 0.6 | 0.6 | | ● | | |
| | **11IR 20 UNJ** | 20 | 6.35 | 11 | 0.06 | 0.8 | 0.9 | | ● | | |
| | **11IR 18 UNJ** | 18 | 6.35 | 11 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **11IR 16 UNJ** | 16 | 6.35 | 11 | 0.09 | 0.8 | 1.0 | | ● | | |
| | **16IR 24 UNJ** | 24 | 9.52 | 16 | 0.05 | 0.7 | 0.8 | | | | ● |
| | **16IR 20 UNJ** | 20 | 9.52 | 16 | 0.06 | 0.8 | 0.9 | | ● | | |
| | **16IR 18 UNJ** | 18 | 9.52 | 16 | 0.07 | 0.8 | 1.0 | | ● | | |
| | **16IR 16 UNJ** | 16 | 9.52 | 16 | 0.09 | 0.8 | 1.0 | | ● | | |
| | **16IR 14 UNJ** | 14 | 9.52 | 16 | 0.10 | 1.0 | 1.2 | | ● | | |
| | **16IR 12 UNJ** | 12 | 9.52 | 16 | 0.12 | 1.1 | 1.4 | | ● | | |
| | **16IR/L 8 UNJ** | 8 | 9.52 | 16 | 0.19 | 1.2 | 1.6 | | ● | | |

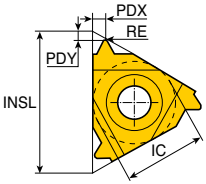
●: Standard items



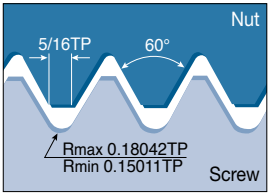

# External & Internal MJ

T-THREAD

**Full profile (ISO 5855)**




External right hand shown
(Internal left hand)




- Application: Aircraft and aerospace industry

| Insert | Designation | TP (mm) | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **16ER 1.00 MJ** | 1.00 | 9.52 | 16 | 0.16 | 0.7 | 0.8 | | ● | | |
| | **16ER 1.25 MJ** | 1.25 | 9.52 | 16 | 0.20 | 0.8 | 0.9 | | ● | | |
| | **16ER 1.50 MJ** | 1.50 | 9.52 | 16 | 0.23 | 0.8 | 1.0 | ● | ● | | |
| | **16ER 2.00 MJ** | 2.00 | 9.52 | 16 | 0.32 | 1.0 | 1.3 | | ● | | |
| Internal  Regular | **11IR 1.00 MJ** | 1.00 | 6.35 | 11 | 0.05 | 0.7 | 0.8 | | ● | | |
| | **11IR 1.25 MJ** | 1.25 | 6.35 | 11 | 0.07 | 0.8 | 0.9 | | ● | | |
| | **11IR 1.50 MJ** | 1.50 | 6.35 | 11 | 0.08 | 0.8 | 1.0 | | ● | | |
| | **11IR 2.00 MJ** | 2.00 | 6.35 | 11 | 0.12 | 0.9 | 1.0 | | ● | | |
| | **16IR 1.00 MJ** | 1.00 | 9.52 | 16 | 0.05 | 0.7 | 0.8 | | ● | | |
| | **16IR 1.50 MJ** | 1.50 | 9.52 | 16 | 0.08 | 0.8 | 1.0 | | ● | | |




●: Standard items

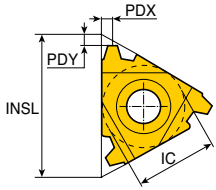


TaeguTec

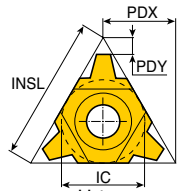
# External & Internal Trapez

T-THREAD

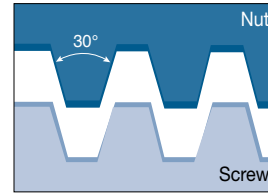
## DIN 103




External right hand shown
(Internal left hand)




U-type




• Application: Feed screws

| Insert | Designation | TP (mm) | Dimension (mm) | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External<br>  <br>Regular | **16ER 1.5 TR** | 1.5 | 9.52 | 16 | 1.0 | 1.1 | ● | ● | | |
| | **16ER/L 2 TR** | 2.0 | 9.52 | 16 | 1.0 | 1.3 | ● | ● | | |
| | **16ER/L 3 TR** | 3.0 | 9.52 | 16 | 1.3 | 1.5 | ● | ● | | |
| | **22ER/L 4 TR** | 4.0 | 12.70 | 22 | 1.8 | 1.9 | ● | ● | | |
| | **22ER/L 5 TR** | 5.0 | 12.70 | 22 | 2.0 | 2.4 | ● | ● | | |
| | **22ER/L 6 TR** | 6.0 | 12.70 | 22 | 2.0 | 2.4 | | ● | | |
| | **27ER/L 6 TR** | 6.0 | 15.88 | 27 | 2.3 | 2.7 | ● | ● | | |
| | **27ER/L 7 TR** | 7.0 | 15.88 | 27 | 2.2 | 2.6 | ● | ● | | |
| Internal<br>  <br>Regular | **08IR 1.5 TR** | 1.5 | 4.76 | 8 | 0.6 | 0.6 | | | ● | |
| | **16IR 1.5 TR** | 1.5 | 9.52 | 16 | 1.0 | 1.1 | ● | | | |
| | **16IR/L 2 TR** | 2.0 | 9.52 | 16 | 1.0 | 1.3 | ● | ● | | |
| | **16IR/L 3 TR** | 3.0 | 9.52 | 16 | 1.3 | 1.5 | | ● | ● | |
| | **22IR/L 4 TR** | 4.0 | 12.70 | 22 | 1.8 | 1.9 | ● | ● | | |
| | **22IR/L 5 TR** | 5.0 | 12.70 | 22 | 2.0 | 2.4 | ● | ● | | |
| | **22IR/L 6 TR** | 6.0 | 12.70 | 22 | 2.0 | 2.4 | ● | ● | ● | ● |
| | **27IR/L 6 TR** | 6.0 | 15.88 | 27 | 2.3 | 2.7 | ● | ● | | |
| | **27IR 7 TR** | 7.0 | 15.88 | 27 | 2.2 | 2.6 | ● | | | |
| Internal / External<br>  <br>U | **22UERL 6 TR** | 6.0 | 12.70 | 22 | 2.0 | 11.0 | | ● | | |
| | **22UERL 7 TR** | 7.0 | 12.70 | 22 | 2.3 | 11.0 | ● | ● | | |
| | **22UERL 8 TR** | 8.0 | 12.70 | 22 | 2.5 | 11.0 | ● | | | |
| | **27UERL 8 TR** | 8.0 | 15.88 | 27 | 2.5 | 13.7 | ● | ● | | |
| | **27UERL 9 TR** | 9.0 | 15.88 | 27 | 3.0 | 13.7 | ● | ● | | |
| | **27UERL 10 TR**(1) | 10.0 | 15.88 | 27 | 3.2 | 13.7 | | ● | | |
| | **08UIRL 2 TR** | 2.0 | 4.76 | 8 | 0.9 | 4.0 | | | ● | |
| | **22UIRL 6 TR** | 6.0 | 12.70 | 22 | 2.0 | 11.0 | ● | ● | | |
| | **22UIRL 7 TR** | 7.0 | 12.70 | 22 | 2.3 | 11.0 | ● | | | |
| | **27UIRL 8 TR** | 8.0 | 15.88 | 27 | 2.5 | 13.7 | ● | | | |
| | **27UIRL 9 TR** | 9.0 | 15.88 | 27 | 3.0 | 13.7 | ● | ● | | |
| | **27UIRL 10 TR**(1) | 10.0 | 15.88 | 27 | 3.2 | 13.7 | | ● | | |


Cutting Condition
C11-C17 C52-C60

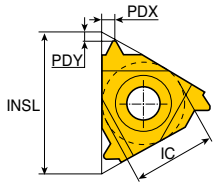

▸ (1) One cutting edge only
▸ DIN 103 04 / 1977, 150 2901 / 1977 Class 7H (7E)

●: Standard items

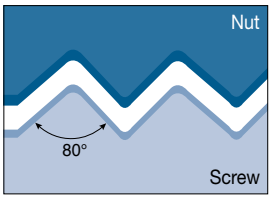
# External & Internal PG

T-THREAD

**Full profile (DIN 40430)**




External right hand shown
(Internal left hand)




- Application: Electrical industry

| Insert | Designation | TPI | Dimension (mm) | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **16ER 16 PG** | 16 | 9.52 | 16 | 0.8 | 1.0 | | ● | | |
| | **16ER 18 PG** | 18 | 9.52 | 16 | 0.8 | 0.9 | | ● | | |
| | **16ER 20 PG** | 20 | 9.52 | 16 | 0.7 | 0.8 | | ● | | |
| Internal  Regular | **11IR 18 PG** | 18 | 6.35 | 11 | 0.8 | 0.9 | | ● | | |
| | **16IR 16 PG** | 16 | 9.52 | 16 | 0.8 | 1.0 | | ● | | |
| | **16IR 18 PG** | 18 | 9.52 | 16 | 0.8 | 0.9 | | ● | | |

●: Standard items

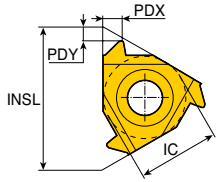




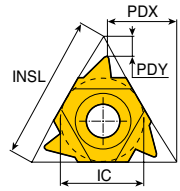

# External & Internal Sagengenwinde

T-THREAD

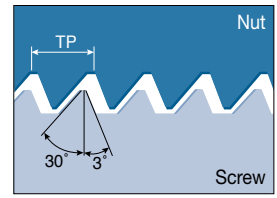
**DIN 513**




External right hand shown
(Internal left hand)




U-type




• Application: For high forces in one direction

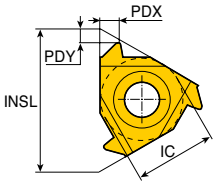
| Insert | Designation | TP (mm) | Dimension (mm) | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **16ER/L 2 SAGE** | 2.0 | 9.52 | 16 | 1.1 | 1.6 | | ● | | |
| | **22ER 3 SAGE** | 3.0 | 12.70 | 22 | 1.5 | 2.4 | | ● | | |
| | **22ER 4 SAGE** | 4.0 | 12.70 | 22 | 1.9 | 3.1 | ● | ● | | |
| External  U | **22UER 5 SAGE** | 5.0(1) | 12.70 | 22 | 1.2 | 11.6 | | ● | | |
| | **22UER/L 6 SAGE** | 6.0(1) | 12.70 | 22 | 1.2 | 11.7 | | ● | | |
| Internal  Regular | **16IR 2 SAGE** | 2.0 | 9.52 | 16 | 1.2 | 1.7 | | ● | | |
| | **22IR 3 SAGE** | 3.0 | 12.70 | 22 | 1.9 | 2.9 | | ● | | |
| | **22IR 4 SAGE** | 4.0 | 12.70 | 22 | 2.3 | 3.5 | | ● | | |
| Internal  U | **22UIR 5 SAGE** | 5.0(1) | 12.70 | 22 | 1.9 | 11.7 | | ● | | |
| | **22UIR 6 SAGE** | 6.0(1) | 12.70 | 22 | 2.1 | 11.9 | | ● | | |

Cutting Condition
C11-C17 C52-C60

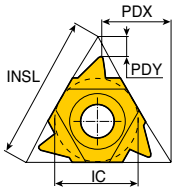
▸ (1) Requires special anvil

●: Standard items

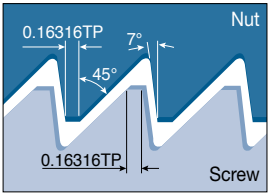
# External & Internal American Buttress



External right hand shown
(Internal left hand)



U-type




• Application: For high forces in one direction

| Insert | Designation | TPI | Dimension (mm) | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External<br>Regular | **16ER 20 ABUT** | 20 | 9.52 | 16 | 1.0 | 1.3 | | ● | | |
| | **16ER 16 ABUT** | 16 | 9.52 | 16 | 1.1 | 1.5 | | ● | | |
| | **16ER 12 ABUT** | 12 | 9.52 | 16 | 1.4 | 2.0 | | ● | | |
| | **16ER/L 10 ABUT** | 10 | 9.52 | 16 | 1.5 | 2.3 | | ● | | |
| | **22ER 8 ABUT** | 8 | 12.70 | 22 | 2.1 | 3.3 | | ● | | |
| | **22ER 6 ABUT** | 6 | 12.70 | 22 | 2.1 | 3.4 | | ● | | |
| External<br>U | **22UER 4 ABUT** | 4 | 12.70 | 22 | 2.3 | 9.5 | | ● | | |
| | **27UER 3 ABUT** | 3 | 15.88 | 27 | 3.1 | 11.7 | | ● | | |
| Internal<br>Regular | **11IR 20 ABUT** | 20 | 6.35 | 11 | 1.0 | 1.3 | | ● | | |
| | **11IR 16 ABUT** | 16 | 6.35 | 11 | 1.0 | 1.5 | | ● | | |
| | **16IR 20 ABUT** | 20 | 9.52 | 16 | 1.0 | 1.3 | | ● | | |
| | **16IR/L 16 ABUT** | 16 | 9.52 | 16 | 1.0 | 1.5 | | ● | | |
| | **16IR/L 12 ABUT** | 12 | 9.52 | 16 | 1.4 | 2.0 | ● | ● | | |
| | **16IR 10 ABUT** | 10 | 9.52 | 16 | 1.5 | 2.3 | | ● | | |
| | **22IR 8 ABUT** | 8 | 12.70 | 22 | 2.1 | 3.3 | | ● | | |
| | **22IR/L 6 ABUT** | 6 | 12.70 | 22 | 2.1 | 3.4 | | ● | | |
| Internal<br>U | **22UIR 4 ABUT** | 4 | 12.70 | 22 | 2.3 | 9.5 | ● | | | |

C11-C17 Cutting Condition C52-C60

▸ ANSI B1.9-1973 class 2

●: Standard items

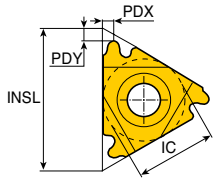


TaeguTec

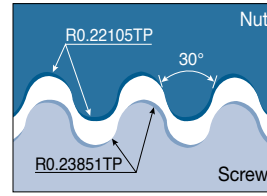
# External & Internal Round

T-THREAD

**DIN 405**




External right hand shown
(Internal left hand)




• Application: Pipe coupings in fire fighting and food industries

| Insert | Designation | TPI | Dimension (mm) | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **16ER 10 RND** | 10 | 9.52 | 16 | 1.1 | 1.2 | ● | ● | | |
| | **16ER/L 8 RND** | 8 | 9.52 | 16 | 1.4 | 1.3 | | ● | | |
| | **16ERM 8 RND** | 8 | 9.52 | 16 | 1.4 | 1.3 | | ● | | |
| | **16ER 6 RND** | 6 | 9.52 | 16 | 1.5 | 1.7 | ● | ● | | |
| | **16ERM 6 RND** | 6 | 9.52 | 16 | 1.5 | 1.7 | | ● | | |
| | **22ER 6 RND** | 6 | 12.70 | 22 | 1.5 | 1.7 | | ● | ● | |
| | **22ER 4 RND** | 4 | 12.70 | 22 | 2.2 | 2.3 | ● | ● | | |
| Internal  Regular | **16IR 10 RND** | 10 | 9.52 | 16 | 1.1 | 1.2 | | ● | | |
| | **16IR/L 8 RND** | 8 | 9.52 | 16 | 1.4 | 1.4 | | ● | | |
| | **16IR 6 RND** | 6 | 9.52 | 16 | 1.4 | 1.5 | ● | ● | ● | |
| | **16IRM 6 RND** | 6 | 9.52 | 16 | 1.4 | 1.5 | | ● | | |
| | **22IR 6 RND** | 6 | 12.70 | 22 | 1.5 | 1.7 | | ● | | |
| | **22IR 4 RND** | 4 | 12.70 | 22 | 2.2 | 2.3 | | ● | | |




▸ ERM / IRM with pressed chip breaker
▸ Tolerance class 7H

●: Standard items

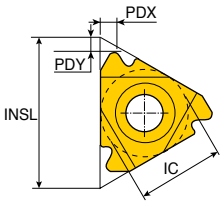


ADVANCE CUTTING TaeguTec

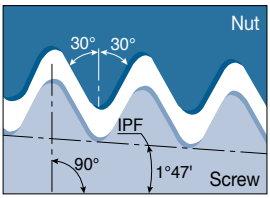
# API - Oil Threads

T-THREAD

## Round profile




External right hand shown
(Internal left hand)




- Application: Oil & gas industry

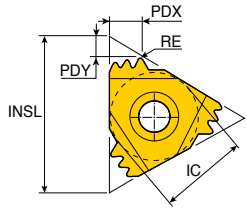
| Insert | Designation | TPI | Dimension (mm) | | | | | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | IPF | PDY | PDX | TT7010 | TT9030 | TT8010 | P30 |
| External<br>Regular | **16ER 10 API RD** | 10 | 9.52 | 16 | 0.75 | 1.5 | 1.4 | ● | ● | | |
| | **16ER/L 8 API RD** | 8 | 9.52 | 16 | 0.75 | 1.3 | 1.6 | ● | ● | | |
| Internal<br>Regular | **16IR 10 API RD** | 10 | 9.52 | 16 | 0.75 | 1.5 | 1.4 | ● | ● | | |
| | **16IR/L 8 API RD** | 8 | 9.52 | 16 | 0.75 | 1.3 | 1.6 | ● | ● | | |

●: Standard items

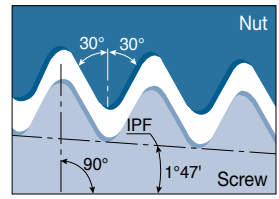
C11-C17
Cutting Condition C52-C60

# API - Oil Threads

**Round profile, multi-tooth**




External right hand shown
(Internal left hand)




- Application: Oil & gas industry

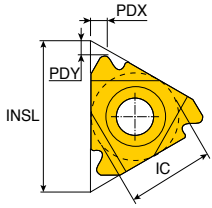
| Insert | Designation | TPI | Dimension (mm) | | | | | | CICT(1) | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | RE | IPF | PDY | PDX | | TT7010 | TT9030 | TT8010 | P30 |
| Internal / External  | **22ER/IR 10 API RD 2M** | 10 | 12.70 | 22 | 0.36 | 0.75 | 2.4 | 3.7 | 2 | | ● | | |
| | **27ER/IR 8 API RD 2M** | 8 | 15.88 | 27 | 0.43 | 0.75 | 3.0 | 4.5 | 2 | | ● | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

C11-C17 | Cutting Condition C52-C60

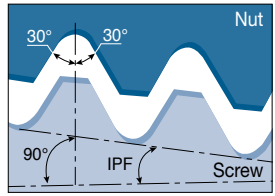
- API Spec 5B8-1996
- (1) Number of teeth per corner

●: Standard items

# API - Oil Thread Profile




External right hand shown
(Internal left hand)




- Application: Oil & gas industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Connection No. or size | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | IPF | PDY | PDX | | TT7010 | TT9030 | TT8010 | P30 |
| External  Regular | **22ER 5 API 403(1)** | 5 | 12.70 | 22 | 3 | 1.8 | 2.5 | 2.375"-4.5"REG | | ● | | |
| | **27ER 4 API 382(2)** | 4 | 15.88 | 27 | 2 | 2.1 | 2.8 | NC23-NC50 | ● | ● | | |
| | **27ER 4 API 383(2)** | 4 | 15.88 | 27 | 3 | 2.1 | 2.8 | NC56-NC77 | | ● | | |
| | **27ER/L 4 API 502(3)** | 4 | 15.88 | 27 | 2 | 2.0 | 3.0 | 6-5/8"REG | ● | ● | | |
| | **27ER 4 API 503(3)** | 4 | 15.88 | 27 | 3 | 2.0 | 3.0 | 5-1/2, 7-5/8, 8-5/8"REG | | ● | | |
| | | | | | | | | | | | | |
| Internal  Regular | **22IR 5 API 403(1)** | 5 | 12.70 | 22 | 3 | 1.8 | 2.5 | 2.375"-4.5"REG | ● | ● | | |
| | **27IR 4 API 382(2)** | 4 | 15.88 | 27 | 2 | 2.1 | 2.8 | NC23-NC50 | ● | ● | | |
| | **27IR/L 4 API 502(3)** | 4 | 15.88 | 27 | 2 | 2.0 | 3.0 | 6-5/8"REG | ● | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

C11-C17 | Cutting Condition C52-C60

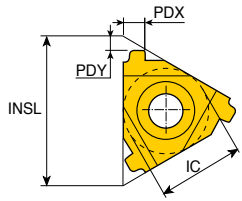
- (1) V-0.040 (2) V-0.038R (3) V-0.050
- 0.050, API spec 74-1994

●: Standard items



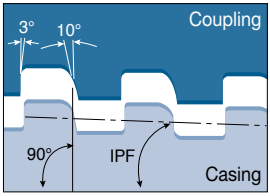
ADVANCE CUTTING TaeguTec

# Buttress Casing / Extreme Line Casing

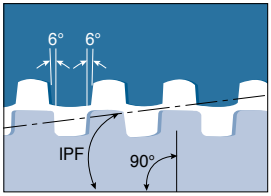



External right hand shown
(Internal left hand)

Buttress casing




Extreme line casing




• Application: Oil & gas industry

| Insert | Designation | TPI | Dimension (mm) | | | | | Connection No. or size | Coated | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | IC | INSL | IPF | PDY | PDX | | TT7010 | TT9030 | TT8010 | P30 |
|  Buttress | **22ER/IR 5 BUT 0.75** | 5 | 12.70 | 22 | 0.75 | 2.2 | 2.4 | 4-1/2" - 13-3/8" | ● | ● | | |
| | **22ER/IR 5 BUT 1.0** | 5 | 12.70 | 22 | 1.0 | 2.3 | 2.4 | 16" - 20" | ● | | | |
|  Extreme line casing | **22ER 6 EL 1.5** | 6 | 12.70 | 22 | 1.5 | 1.9 | 1.9 | 5" - 7-5/8" | | ● | | |
| | **22IR 6 EL 1.5** | 6 | 12.70 | 22 | 1.5 | 1.9 | 1.9 | 5" - 7-5/8" | | ● | | |

C11-C17
Cutting Condition C52-C60

▸ ANSI B1.9-1973 class 2

●: Standard items

# Recommended Cutting Conditions

T-THREAD

## Machining data for thread turning insert

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel



ADVANCE CUTTING TaeguTec

# Recommended Cutting Conditions

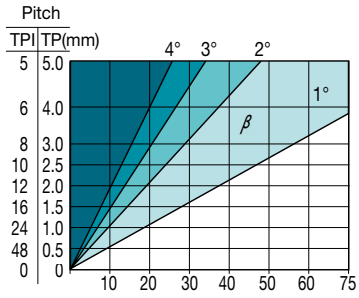
T-THREAD

## Machining data for thread turning insert

| Cutting speed (m/min) | | | | | |
|---|---|---|---|---|---|
| Coated | | | Uncoated | | |
| TT7010 | TT9030 | TT8010 | P30 | | |
| 120-200 | 140-220 | 85-125 | 80-120 | | |
| 120-200 | 140-220 | 85-125 | 80-120 | | |
| 110-190 | 130-210 | 80-120 | 70-110 | | |
| 110-190 | 130-210 | 80-120 | 70-110 | | |
| 90-170 | 110-190 | 70-100 | 65-95 | | |
| 70-120 | 70-120 | 50-70 | 70-110 | | |
| 90-170 | 110-190 | 70-100 | 65-95 | | |
| 80-120 | 100-140 | 60-100 | 70-110 | | |
| 70-120 | 90-140 | 40-80 | 40-80 | | |
| 70-100 | 70-100 | 40-70 | 40-70 | | |
| 40-80 | 40-80 | 40-70 | 40-70 | | |
| 85-125 | 90-130 | 40-70 | 40-70 | | |
| 120-180 | 130-190 | 80-120 | 80-120 | | |
| 50-100 | 60-110 | 40-60 | 40-60 | | |
| | 100-140 | 80-120 | | | |
| | 110-150 | 80-120 | | | |
| | 110-150 | 80-120 | | | |
| | 80-120 | 80-120 | | | |
| | 110-150 | 60-100 | | | |
| | 80-120 | 55-95 | | | |
| | 1300-1500 | 700-900 | | | |
| | 400-600 | 330-430 | | | |
| | 500-800 | 350-450 | | | |
| | 370-470 | 300-360 | | | |
| | 200-280 | 150-210 | | | |
| | 260-340 | 160-240 | | | |
| | 350-450 | 250-310 | | | |
| | 100-140 | 80-120 | | | |
| | 250-350 | 160-200 | | | |
| | 250-350 | 150-210 | | | |
| | 50-70 | 20-50 | | | |
| | 30-50 | 20-50 | | | |
| | 30-50 | 20-40 | | | |
| | 20-40 | 15-30 | | | |
| | 20-40 | 15-30 | | | |
| | 120-140 | 90-110 | | | |
| | 40-60 | 20-50 | | | |
| | 30-60 | 20-35 | | | |
| | 20-40 | 20-30 | | | |
| | 20-40 | 20-30 | | | |
| | 20-30 | 15-25 | | | |

## Thread helix angle and anvil selection

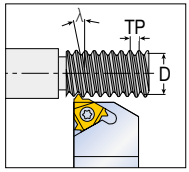
■ Helix angle λ evaluation




(1)β =4.5°
(1)β =3.5°
(1)β =2.5°
(1)β =1.5°
(1)β =0.5°

$$tg\ \lambda = \frac{1 \times TP}{3.14 \cdot D}$$

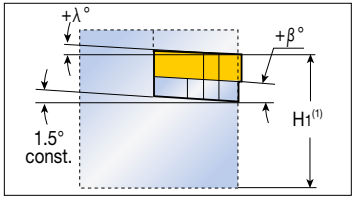
$$\lambda^\circ = \frac{20 \times TP}{D}$$



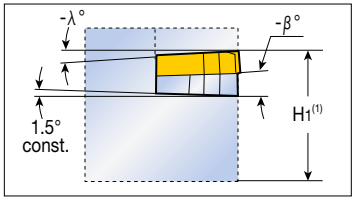

TP - Thread pitch (mm)
D - Effective diameter of thread (mm)
λ - Angle of inclination

## Anvil selection according to thread helix angle λ

| Standard | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Thread helix angle λ | | > 4° | 3°- 4° | 2°- 3° | 1°- 2° | 0°- 1° | Negative anvils | |
| | Inclination angle β | 4.5° | 3.5° | 2.5° | 1.5° | 0.5° | -0.5° | -1.5° |
| INSL(IC) | Toolholder | Anvil designation | | | | | | |
| 16 | EX RH OR IN LH | AE 16 +4.5 | AE 16 +3.5 | AE 16 +2.5 | AE 16 | AE 16 +0.5 | AE 16 -0.5 | AE 16 -1.5 |
| (3/8) | EX LH OR IN RH | AI 16 +4.5 | AI 16 +3.5 | AI 16 +2.5 | AI 16 | AI 16 +0.5 | AI 16 -0.5 | AI 16 -1.5 |
| 22 | EX RH OR IN LH | AE 22 +4.5 | AE 22 +3.5 | AE 22 +2.5 | AE 22 | AE 22 +0.5 | AE 22 -0.5 | AE 22 -1.5 |
| (1/2) | EX LH OR IN RH | AI 22 +4.5 | AI 22 +3.5 | AI 22 +2.5 | AI 22 | AI 22 +0.5 | AI 22 -0.5 | AI 22 -1.5 |
| 27 | EX RH OR IN LH | AE 27 +4.5 | AE 27 +3.5 | AE 27 +2.5 | AE 27 | AI 27 +0.5 | AE 27 -0.5 | AE 27 -1.5 |
| (5/8) | EX LH OR IN RH | AI 27 +4.5 | AI 27 +3.5 | AI 27 +2.5 | AI 27 | AI 27 +0.5 | AI 27 -0.5 | AI 27 -1.5 |
| 22U | EX RH OR IN LH | AE 22U +4.5 | AE 22U +3.5 | AE 22U +2.5 | AE 22U | AE 22U +0.5 | AE 22U -0.5 | AE 22U -1.5 |
| (1/2U) | EX LH OR IN RH | AI 22U +4.5 | AI 22U +3.5 | AI 22U +2.5 | AI 22U | AI 22U +0.5 | AI 22U -0.5 | AI 22U -1.5 |
| 27U | EX RH OR IN LH | AE 27U +4.5 | AE 27U +3.5 | AE 27U +2.5 | AE 27U | AE 27U +0.5 | AE 27U -0.5 | AE 27U -1.5 |
| (5/8U) | EX LH OR IN RH | AI 27U +4.5 | AI 27U +3.5 | AI 27U +2.5 | AI 27U | AI 27U +0.5 | AI 27U -0.5 | AI 27U -1.5 |




■ Anvils for positive inclination angle β applicable when turning
- RH thread with RH holder or LH thread with LH holder

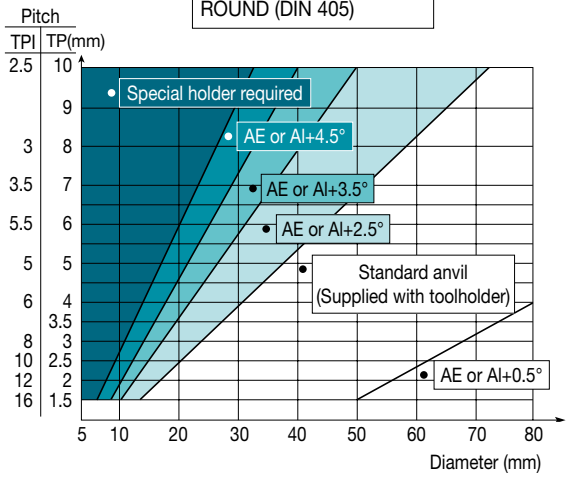


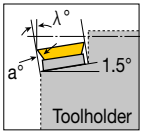

■ Anvils for negative inclination β used when turning
- RH thread with LH holder or LH thread with RH holder

▸ (1) H1 remains constant for every anvil combination.

## Anvil selection according to thread helix angle λ

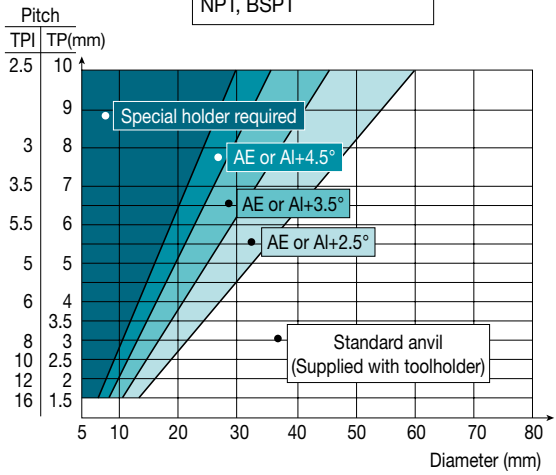
ACME
STUB ACME
TRAPEZE (DIN 103)
ROUND (DIN 405)




AE anvils : EX-RH and IN-LH toolholders
AI anvils : IN-RH and EX-LH toolholders

PARTIAL PROFILES 60°
PARTIAL PROFILES 55°
ISO, UN,WHITWORTH,
NPT, BSPT




AE anvils : EX-RH and IN-LH toolholders
AI anvils : IN-RH and EX-LH toolholders

## Maximum depth of first cut for CNC control / external threading - M-type inserts

| Full profile | Pitch | | Insert designation | No. of passes | | Max. depth for first pass ($D_1$) mm | |
|---|---|---|---|---|---|---|---|
| | | | | | | Low carbon steel | |
| | TP (mm) | TPI | | Min. | Max. | Eq.(2) | Dim.(3) |
| ISO metric | 1.00 | | **16 ERM 1.00 ISO** | 5 | 9 | 0.34 | 0.51 |
| | 1.25 | | **16 ERM 1.25 ISO** | 6 | 11 | 0.42 | 0.63 |
| | 1.50 | | **16 ERM 1.50 ISO** | 6 | 12 | 0.46 | 0.69 |
| | 1.75 | | **16 ERM 1.75 ISO** | 8 | 13 | 0.48 | 0.72 |
| | 2.00 | | **16 ERM 2.00 ISO** | 8 | 14 | 0.50 | 0.75 |
| | 2.50 | | **16 ERM 2.50 ISO** | 10 | 15 | 0.53 | 0.80 |
| | 3.00 | | **16 ERM 3.00 ISO** | 12 | 17 | 0.56 | 0.84 |
| American UN | | 24 | **16 ERM 24 UN** | 5 | 9 | 0.34 | 0.51 |
| | | 20 | **16 ERM 20 UN** | 6 | 10 | 0.42 | 0.63 |
| | | 18 | **16 ERM 18 UN** | 6 | 11 | 0.46 | 0.69 |
| | | 16 | **16 ERM 16 UN** | 7 | 12 | 0.47 | 0.71 |
| | | 14 | **16 ERM 14 UN** | 6 | 13 | 0.46 | 0.69 |
| | | 12 | **16 ERM 12 UN** | 8 | 14 | 0.50 | 0.75 |
| | | 8 | **16 ERM 8 UN** | 12 | 17 | 0.56 | 0.84 |
| British BSW | | 19 | **16 ERM 19 W** | 6 | 11 | 0.35 | 0.52 |
| | | 16 | **16 ERM 16 W** | 7 | 12 | 0.47 | 0.71 |
| | | 14 | **16 ERM 14 W** | 8 | 13 | 0.50 | 0.75 |
| | | 11 | **16 ERM 11 W** | 9 | 14 | 0.44 | 0.66 |
| NPT | | 18 | **16 ERM 18 NPT** | 10 | 20 | 0.24 | 0.36 |
| | | 14 | **16 ERM 14 NPT** | 13 | 26 | 0.24 | 0.36 |
| | | 11.5 | **16 ERM 11.5 NPT** | 15 | 24 | 0.27 | 0.40 |
| | | 8 | **16 ERM 8 NPT** | 17 | 30 | 0.31 | 0.46 |
| Round | | 6 | **16 ERM 6 RND** | 9 | 20 | 0.42 | 0.63 |
| Partial profile 60° | | 48-16 | **16 ERM A 60** | (1) | | 0.22 | 0.33 |
| | | 14-8 | **16 ERM G 60** | | | 0.50 | 0.75 |
| | | 48-8 | **16 ERM AG 60** | | | 0.24 | 0.36 |
| | | 7-5 | **16 ERM N 60** | | | 0.41 | 0.62 |
| Partial profile 55° | | 14-8 | **16 ERM G 55** | | | 0.50 | 0.75 |
| | | 48-8 | **16 ERM AG 55** | | | 0.22 | 0.33 |

(1) As per the number of passes for the relevant pitch
(2) Equal depth of cut method
(3) Diminished depth of cut for each pass method

| Max. depth for first pass (D1) mm | | | | | | | |
|---|---|---|---|---|---|---|---|
| High carbon steel | | Alloy steel | | Stainless steel | | Nonferrous aluminum | |
| Eq.[2] | Dim.[3] | Eq.[2] | Dim.[3] | Eq.[2] | Dim.[3] | Eq.[2] | Dim.[3] |
| 0.31 | 0.46 | 0.27 | 0.41 | 0.22 | 0.33 | 0.48 | 0.71 |
| 0.38 | 0.57 | 0.34 | 0.50 | 0.27 | 0.41 | 0.59 | 0.88 |
| 0.41 | 0.62 | 0.37 | 0.55 | 0.30 | 0.45 | 0.64 | 0.97 |
| 0.43 | 0.65 | 0.38 | 0.58 | 0.31 | 0.47 | 0.67 | 1.01 |
| 0.45 | 0.68 | 0.40 | 0.60 | 0.33 | 0.49 | 0.70 | 1.05 |
| 0.48 | 0.72 | 0.42 | 0.64 | 0.34 | 0.52 | 0.74 | 1.12 |
| 0.50 | 0.76 | 0.45 | 0.67 | 0.36 | 0.55 | 0.78 | 1.18 |
| 0.31 | 0.46 | 0.27 | 0.41 | 0.22 | 0.33 | 0.48 | 0.71 |
| 0.38 | 0.57 | 0.34 | 0.50 | 0.27 | 0.41 | 0.59 | 0.88 |
| 0.41 | 0.62 | 0.37 | 0.55 | 0.30 | 0.45 | 0.64 | 0.97 |
| 0.42 | 0.64 | 0.38 | 0.57 | 0.31 | 0.46 | 0.66 | 0.99 |
| 0.41 | 0.62 | 0.37 | 0.55 | 0.28 | 0.41 | 0.64 | 0.97 |
| 0.45 | 0.68 | 0.40 | 0.60 | 0.33 | 0.49 | 0.70 | 1.05 |
| 0.50 | 0.76 | 0.45 | 0.67 | 0.36 | 0.55 | 0.78 | 1.18 |
| 0.32 | 0.47 | 0.28 | 0.42 | 0.21 | 0.31 | 0.49 | 0.73 |
| 0.42 | 0.64 | 0.38 | 0.57 | 0.31 | 0.46 | 0.66 | 0.99 |
| 0.45 | 0.68 | 0.40 | 0.60 | 0.33 | 0.49 | 0.70 | 1.05 |
| 0.40 | 0.59 | 0.35 | 0.53 | 0.29 | 0.43 | 0.62 | 0.92 |
| 0.22 | 0.32 | 0.19 | 0.29 | 0.16 | 0.23 | 0.34 | 0.50 |
| 0.22 | 0.32 | 0.19 | 0.29 | 0.14 | 0.22 | 0.34 | 0.50 |
| 0.24 | 0.36 | 0.22 | 0.32 | 0.18 | 0.26 | 0.38 | 0.56 |
| 0.28 | 0.41 | 0.25 | 0.37 | 0.20 | 0.30 | 0.43 | 0.64 |
| 0.38 | 0.57 | 0.34 | 0.50 | 0.27 | 0.41 | 0.59 | 0.88 |
| 0.20 | 0.30 | 0.18 | 0.26 | 0.14 | 0.21 | 0.31 | 0.46 |
| 0.45 | 0.68 | 0.40 | 0.60 | 0.33 | 0.49 | 0.70 | 1.05 |
| 0.22 | 0.32 | 0.19 | 0.29 | 0.16 | 0.23 | 0.34 | 0.50 |
| 0.37 | 0.56 | 0.33 | 0.50 | 0.27 | 0.40 | 0.57 | 0.87 |
| 0.45 | 0.68 | 0.40 | 0.60 | 0.33 | 0.49 | 0.70 | 1.05 |
| 0.20 | 0.30 | 0.18 | 0.26 | 0.14 | 0.21 | 0.31 | 0.46 |

## Maximum depth of first cut for CNC control / internal threading - M-type inserts

| Full profile | Pitch | | Insert designation | No. of passes | | Max. depth for first pass ($D_1$) mm | |
|---|---|---|---|---|---|---|---|
| | | | | | | Low carbon steel | |
| | TP (mm) | TPI | | Min. | Max. | Eq.[2] | Dim.[3] |
| ISO metric | 1.50 | | **11 IRM 1.50 ISO** | 10 | 20 | 0.20 | 0.30 |
| | 1.00 | | **16 IRM 1.00 ISO** | 9 | 16 | 0.14 | 0.20 |
| | 1.25 | | **16 IRM 1.25 ISO** | 9 | 16 | 0.19 | 0.28 |
| | 1.50 | | **16 IRM 1.50 ISO** | 10 | 20 | 0.20 | 0.30 |
| | 1.75 | | **16 IRM 1.75 ISO** | 11 | 18 | 0.21 | 0.32 |
| | 2.00 | | **16 IRM 2.00 ISO** | 12 | 21 | 0.22 | 0.33 |
| | 2.50 | | **16 IRM 2.50 ISO** | 14 | 21 | 0.23 | 0.34 |
| | 3.00 | | **16 IRM 3.00 ISO** | 16 | 22 | 0.24 | 0.35 |
| American UN | | 20 | **16 IRM 20 UN** | 7 | 13 | 0.20 | 0.30 |
| | | 18 | **16 IRM 18 UN** | 8 | 15 | 0.20 | 0.30 |
| | | 16 | **16 IRM 16 UN** | 11 | 19 | 0.20 | 0.30 |
| | | 14 | **16 IRM 14 UN** | 11 | 20 | 0.21 | 0.31 |
| | | 12 | **16 IRM 12 UN** | 12 | 21 | 0.23 | 0.34 |
| | | 8 | **16 IRM 8 UN** | 14 | 20 | 0.24 | 0.36 |
| British BSW | | 19 | **16 IRM 19 W** | 7 | 12 | 0.28 | 0.42 |
| | | 16 | **16 IRM 16 W** | 9 | 14 | 0.26 | 0.39 |
| | | 14 | **16 IRM 14 W** | 10 | 16 | 0.27 | 0.41 |
| | | 11 | **16 IRM 11 W** | 12 | 19 | 0.31 | 0.46 |
| NPT | | 14 | **16 IRM 14 NPT** | 21 | 35 | 0.13 | 0.20 |
| | | 11.5 | **16 IRM 11.5 NPT** | 21 | 33 | 0.17 | 0.25 |
| | | 8 | **16 IRM 8 NPT** | 20 | 34 | 0.23 | 0.34 |
| Round | | 6 | **16 IRM 6 RND** | 12 | 24 | 0.30 | 0.46 |
| Partial profile 60° | | 48-16 | **06 IRM A 60** | (1) | | 0.22 | 0.33 |
| | | 48-16 | **08 IRM A 60** | | | 0.13 | 0.20 |
| | | 48-16 | **11 IRM A 60** | | | 0.13 | 0.20 |
| | | 48-16 | **16 IRM A 60** | | | 0.13 | 0.20 |
| | | 14-8 | **16 IRM G 60** | | | 0.22 | 0.33 |
| | | 48-8 | **16 IRM AG 60** | | | 0.14 | 0.21 |
| | | 7-5 | **22 IRM N 60** | | | 0.23 | 0.34 |
| Partial profile 55° | | 14-8 | **16 IRM G 55** | | | 0.34 | 0.50 |
| | | 48-8 | **16 IRM AG 55** | | | 0.14 | 0.20 |

▸ (1) As per the number of passes for the relevant pitch
(2) Equal depth of cut method
(3) Diminished depth of cut for each pass method

## Number of cutting passes for regular type inserts

| Pitch | TP (mm) | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 4.0 | 6.0 |
|---|---|---|---|---|---|---|---|---|---|
| | TPI | 48 | 24 | 16 | 12 | 10 | 8 | 6 | 4 |
| Number of passes | | 4-6 | 5-9 | 5-12 | 6-14 | 7-15 | 8-17 | 10-20 | 11-22 |

▸ For mini-tools (06IR or 08IR) add 1-3 passes. Increase for hard materials

| Max. depth for first pass (D1) mm | | | | | | | |
|---|---|---|---|---|---|---|---|
| High carbon steel | | Alloy steel | | Stainless steel | | Nonferrous aluminum | |
| Eq.[2] | Dim.[3] | Eq.[2] | Dim.[3] | Eq.[2] | Dim.[3] | Eq.[2] | Dim.[3] |
| 0.18 | 0.27 | 0.16 | 0.24 | 0.12 | 0.18 | 0.28 | 0.42 |
| 0.13 | 0.18 | 0.11 | 0.16 | 0.09 | 0.13 | 0.20 | 0.28 |
| 0.17 | 0.25 | 0.15 | 0.22 | 0.12 | 0.18 | 0.27 | 0.39 |
| 0.18 | 0.27 | 0.16 | 0.24 | 0.12 | 0.18 | 0.28 | 0.42 |
| 0.19 | 0.29 | 0.17 | 0.26 | 0.14 | 0.21 | 0.29 | 0.45 |
| 0.20 | 0.30 | 0.18 | 0.26 | 0.14 | 0.21 | 0.31 | 0.46 |
| 0.21 | 0.31 | 0.18 | 0.27 | 0.15 | 0.22 | 0.32 | 0.48 |
| 0.22 | 0.32 | 0.19 | 0.29 | 0.16 | 0.23 | 0.34 | 0.50 |
| 0.18 | 0.27 | 0.16 | 0.24 | 0.12 | 0.18 | 0.28 | 0.42 |
| 0.18 | 0.27 | 0.16 | 0.24 | 0.12 | 0.18 | 0.28 | 0.42 |
| 0.18 | 0.27 | 0.16 | 0.24 | 0.13 | 0.20 | 0.28 | 0.42 |
| 0.19 | 0.28 | 0.17 | 0.25 | 0.13 | 0.19 | 0.29 | 0.43 |
| 0.21 | 0.31 | 0.18 | 0.27 | 0.15 | 0.22 | 0.32 | 0.48 |
| 0.22 | 0.32 | 0.19 | 0.29 | 0.16 | 0.23 | 0.34 | 0.50 |
| 0.25 | 0.38 | 0.22 | 0.34 | 0.17 | 0.25 | 0.39 | 0.59 |
| 0.23 | 0.35 | 0.21 | 0.31 | 0.17 | 0.25 | 0.36 | 0.55 |
| 0.24 | 0.37 | 0.22 | 0.33 | 0.18 | 0.27 | 0.38 | 0.57 |
| 0.28 | 0.41 | 0.25 | 0.37 | 0.20 | 0.30 | 0.43 | 0.64 |
| 0.12 | 0.18 | 0.10 | 0.16 | 0.08 | 0.12 | 0.18 | 0.28 |
| 0.15 | 0.23 | 0.14 | 0.20 | 0.11 | 0.16 | 0.24 | 0.35 |
| 0.21 | 0.31 | 0.18 | 0.27 | 0.14 | 0.20 | 0.32 | 0.48 |
| 0.27 | 0.41 | 0.24 | 0.37 | 0.20 | 0.30 | 0.42 | 0.64 |
| 0.20 | 0.30 | 0.18 | 0.26 | 0.14 | 0.21 | 0.31 | 0.46 |
| 0.12 | 0.18 | 0.10 | 0.16 | 0.08 | 0.13 | 0.18 | 0.28 |
| 0.12 | 0.18 | 0.10 | 0.16 | 0.08 | 0.13 | 0.18 | 0.28 |
| 0.12 | 0.18 | 0.10 | 0.16 | 0.08 | 0.13 | 0.18 | 0.28 |
| 0.20 | 0.30 | 0.18 | 0.26 | 0.14 | 0.21 | 0.31 | 0.46 |
| 0.13 | 0.19 | 0.11 | 0.17 | 0.09 | 0.14 | 0.20 | 0.29 |
| 0.21 | 0.31 | 0.18 | 0.27 | 0.15 | 0.22 | 0.32 | 0.48 |
| 0.31 | 0.45 | 0.27 | 0.40 | 0.22 | 0.33 | 0.48 | 0.70 |
| 0.13 | 0.18 | 0.11 | 0.16 | 0.09 | 0.13 | 0.20 | 0.28 |

## Recommended number of passes for multi-tooth insert

| Full profile | Insert description | No. of passes | 1st pass | 2nd pass | 3rd pass | 4th pass | External / internal |
|---|---|---|---|---|---|---|---|
| ISO metric | **16 ER 1.0 ISO 3M** | 2 | 0.39 | 0.24 | - | - | External |
| | **16 ER 1.5 ISO 2M** | 3 | 0.40 | 0.31 | 0.21 | - | External |
| | **22 ER 1.5 ISO 3M** | 2 | 0.54 | 0.38 | - | - | External |
| | **22 ER 2.0 ISO 2M** | 3 | 0.56 | 0.42 | 0.27 | - | External |
| | **22 ER 2.0 ISO 3M** | 2 | 0.75 | 0.50 | - | - | External |
| | **27 ER 3.0 ISO 2M** | 4 | 0.60 | 0.52 | 0.44 | 0.30 | External |
| | **16 IR 1.0 ISO 3M** | 2 | 0.32 | 0.26 | - | - | Internal |
| | **16 IR 1.5 ISO 2M** | 3 | 0.36 | 0.29 | 0.22 | - | Internal |
| | **22 IR 1.5 ISO 3M** | 2 | 0.49 | 0.38 | - | - | Internal |
| | **22 IR 2.0 ISO 2M** | 3 | 0.50 | 0.40 | 0.25 | - | Internal |
| | **22 IR 2.0 ISO 3M** | 2 | 0.72 | 0.43 | - | - | Internal |
| | **27 IR 3.0 ISO 2M** | 4 | 0.57 | 0.45 | 0.38 | 0.33 | Internal |
| UN | **16 ER 16 UN 2M** | 3 | 0.45 | 0.32 | 0.20 | - | External |
| | **22 ER 16 UN 3M** | 2 | 0.60 | 0.37 | - | - | External |
| | **22 ER 12 UN 2M** | 3 | 0.60 | 0.39 | 0.31 | - | External |
| | **22 ER 12 UN 3M** | 2 | 0.80 | 0.50 | - | - | External |
| | **27 ER 8 UN 2M** | 4 | 0.63 | 0.55 | 0.42 | 0.36 | External |
| | **16 IR 16 UN 2M** | 3 | 0.40 | 0.29 | 0.23 | - | Internal |
| | **22 IR 16 UN 3M** | 2 | 0.57 | 0.35 | - | - | Internal |
| | **22 IR 12 UN 2M** | 3 | 0.55 | 0.39 | 0.28 | - | Internal |
| | **22 IR 12 UN 3M** | 2 | 0.75 | 0.47 | - | - | Internal |
| | **27 IR 8 UN 2M** | 4 | 0.65 | 0.49 | 0.42 | 0.27 | Internal |
| NPT | **22 ER 11.5 NPT 2M** | 4 | 0.55 | 0.46 | 0.35 | 0.32 | External |
| | **27 ER 11.5 NPT 3M** | 3 | 0.75 | 0.57 | 0.36 | - | External |
| | **27 ER 8 NPT 2M** | 4 | 0.80 | 0.62 | 0.54 | 0.45 | External |
| | **22 IR 11.5 NPT 2M** | 4 | 0.55 | 0.46 | 0.35 | 0.32 | Internal |
| | **27 IR 11.5 NPT 3M** | 3 | 0.75 | 0.57 | 0.36 | - | Internal |
| | **27 IR 8 NPT 2M** | 4 | 0.80 | 0.62 | 0.54 | 0.45 | Internal |
| Whitworth | **16 ER 14 W 2M** | 3 | 0.51 | 0.39 | 0.26 | - | External |
| | **22 ER 14 W 3M** | 2 | 0.72 | 0.44 | - | - | External |
| | **22 ER 11 W 2M** | 3 | 0.65 | 0.46 | 0.37 | - | External |
| | **16 IR 14 W 2M** | 3 | 0.51 | 0.39 | 0.26 | - | Internal |
| | **22 IR 14 W 3M** | 2 | 0.72 | 0.44 | - | - | Internal |
| | **22 IR 11 W 2M** | 3 | 0.65 | 0.46 | 0.37 | - | Internal |
| API round | **22 ER 10 API RD 2M** | 3 | 0.58 | 0.53 | 0.30 | - | External |
| | **27 ER 10 API RD 3M** | 2 | 0.98 | 0.43 | - | - | External |
| | **27 ER 8 API RD 2M** | 3 | 0.82 | 0.59 | 0.40 | - | External |
| | **22 IR 10 API RD 2M** | 3 | 0.58 | 0.53 | 0.30 | - | Internal |
| | **27 IR 10 API RD 3M** | 2 | 0.98 | 0.43 | - | - | Internal |
| | **27 IR 8 API RD 2M** | 3 | 0.82 | 0.59 | 0.40 | - | Internal |

# HOLEMAKING



# HOLEMAKING

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## Guide to Icons


External Coolant

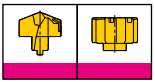

Internal Coolant


Through Hole


Blind Hole



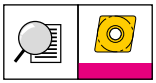
Tube Page

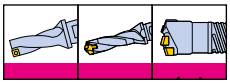

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# Tool Selection Guide

## Drilling tools

| Series | | | Indexable drill | | | | |
|---|---|---|---|---|---|---|---|
| | | | TOPDRILL | | TDRILL | | TOPCAP |
| | | | TOP 2/3/4/5 | TOP-CA | TDR 2/3/4/5 | TDR-CA | TCAP |
| | | |  |  |  |  |  |
| **Pages** | | | D18-D29 | D30-D33 | D34-D46 | D47-D49 | D51-D53 |
| **DC(mm)** | | | Ø12.0-Ø50.0 | Ø51.0-Ø80.0 | Ø12.5-Ø50.0 | Ø51.0-Ø80.0 | Ø8.0-Ø32.0 |
| **Drilling depth(L/D)** | | | 2, 3, 4, 5 x Dc | 2, 3, 4 x Dc | 2, 3, 4, 5 x Dc | 2.5, 3.5 x Dc | 2.25, 3 x Dc |
| **Hole tolerance** | | | IT 11-13 | IT 12-13 | IT 12-13 | IT 12-13 | IT 10-12 |
| **Application** | General drilling |  | ● | ● | ● | ● | ● |
| | Cross hole drilling |  | ● | ● | ● | ● | |
| | Irregular surface drilling |  | ○ | ○ | ○ | ○ | ● |
| | Interrupted drilling |  | ○ | ○ | ○ | ○ | |
| | Chamfering |  | | | | | |
| **Coolant supply** | | | Internal | Internal | Internal | Internal | Internal |

# Tool Selection Guide

**Drilling tools**

| Head changeable drill | | | | | |
|---|---|---|---|---|---|
| DrillSpeed | WinDrill | DrillRush | | | WinDrill |
| **3ED** | **TCD...A0** | **TCD** | **TCD-M** | **TCD...A0 3/5/8D** | **TCD-MRS/TCDM** |
|  |  |  |  |  |  |
| D55-D57 | D58 | D59-D67 | D68 | D70 | D71-D74 |
| Ø12.0-Ø25.9 | Ø4.0-Ø5.9 | Ø6.0-Ø25.9 | M8-M24 (ISO) | Ø6.0-Ø9.9 | Ø6.0-Ø20.9 |
| 3, 5, 8 x Dc | 3, 5 x Dc | 1.5, 3, 5, 8, 12 x Dc | | 3, 5, 8 x Dc | 2, 3, 4 x Dc |
| IT 9-10 | IT 9-10 | IT 9-10 | IT 9-10 | IT 9-10 | IT 9-10 |
| ● | ● | ● | ● | ● | ● |
| ○ | ● | ● | | ● | ● |
| | | | | | |
| | | | | | |
| | | | ● | | |
| Internal | Internal | Internal | Internal | Internal | Internal |

● Recommended, ○ Suitable



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# Tool Selection Guide

## Drilling tools

| | | | Head changeable drill | | | Solid carbide drill |
|---|---|---|---|---|---|---|
| | | | WinGun | ModuDrill | SpadeRush | SolidDrill |
| **Series** | | | **TCDGN**  | **TNDH-TP/MDB**  | **LCD**  | **3HD**  |
| **Pages** | | | D125-D126 | D75-D79 | D80-D82 | D83-D88 |
| **DC(mm)** | | | Ø10.0-Ø25.9 | Ø26.0-Ø50.0 | Ø20.0-Ø41.0 | Ø4.0-Ø12.0 |
| **Drilling depth(L/D)** | | | 16, 20 x Dc | 3, 5 x Dc | 3, 5, 8 x Dc | 3, 5, 8, 12 x Dc |
| **Hole tolerance** | | | IT 9-10 | IT 10-12 | IT 9-10 | IT 8-10 |
| **Application** | General drilling |  | ● | ● | ● | ● |
| | Cross hole drilling |  | ● | ● | ● | ● |
| | Irregular surface drilling |  | | | | |
| | Interrupted drilling |  | | | | |
| | Chamfering |  | | | | |
| **Coolant supply** | | | Internal | Internal | Internal | Internal |

# Tool Selection Guide

## Drilling tools

| Solid carbide drill | | | | |
|---|---|---|---|---|
| HDRILL | | | | |
| **NHD-PE/PI**  | **NHD-KI**  | **SHO 10/15/20**  | **SHO-M**  | **CDF**  |
| D89-D100 | D101-D102 | D104 | D105 | D106 |
| Ø3.0-Ø12.0 | Ø3.0-Ø12.0 | Ø4.0-Ø10.0 | M4-M10 (ISO) | Ø3.0-Ø12.7 |
| 3, 5 x Dc | 3, 5 x Dc | 10, 15, 20 x Dc | | |
| IT 8-10 | IT 8-10 | IT 8-10 | IT 8-10 | IT 8-10 |
| ● | ● | ● | ● | ● |
| ● | ● | ○ | | |
| | | | | |
| | | | | |
| | | | ● | |
| External / Internal | Internal | Internal | Internal | External |

● Recommended, ○ Suitable



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# Tool Selection Guide

## Reaming tools

| Series | | | | Indexable reamer | | Solid reamer | |
|---|---|---|---|---|---|---|---|
| | | | | XM-REAM | TM-REAM | TBREAM | TSREAM |
| | | | | XR-SO | TM | TB | TS |
| | | | |  |  |  |  |
| **Pages** | | | | D112-D113 | D115 | D118-D119 | D122-D123 |
| **DC(mm)** | | | | Ø8.000-Ø12.999 | Ø11.501-Ø32.000 | Ø8.000-Ø32.000 | Ø3.000-Ø12.000 |
| **Reaming depth(L/D)** | | | | 3, 5 x Dc | 3, 5, 8 x Dc | 5-9 x Dc | 7.5-10 x Dc |
| **Hole tolerance** | | | | IT 7 ★ | IT 7 ★ | IT 6 ★★ | IT 7 |
| **Application** | | **Through** | **Blind** | | | | |
| | General reaming |  |  | ● | ● | ● | ● |
| | Cross hole reaming |  |  | | | ● | ● |
| | Irregular surface reaming |  |  | | | ● | ● |
| | Interrupted reaming |  |  | ● | ● | ● | ● |
| **Coolant supply** | | | | Internal | Internal | Internal | Internal |

★ Up to IT 6 tolerance ★★ Up to IT 5 tolerance



ADVANCE CUTTING TaeguTec

# Tool Selection Guide

## Deep drilling tools

| Series | | Indexable deep drill head | | | | |
|---|---|---|---|---|---|---|
| | | TRGD/TRGD3 /TRGDL | TBTA3 | TBTA5 | TBTA7 | TBTA9 |
| | |  |  |  |  |  |
| **Pages** | | D127-D133 | D134-D139 | D140-D143 | D144-D146 | D147-D149 |
| **DC(mm)** | | Ø10.0-Ø36.0 | Ø38.00-Ø106.99 | Ø107.00-Ø168.99 | Ø169.00-Ø232.99 | Ø233.00-Ø293.99 |
| **Drilling depth(L/D)** | | 10-25 x Dc | 100 x Dc | 100 x Dc | 100 x Dc | 100 x Dc |
| **Hole tolerance** | | IT 10-11 | IT 10 | IT 10 | IT 10 | IT 10 |
| **Surface finish** | | | 3μm | 3μm | 3μm | 3μm |
| **Single tube** | Outer four thread | | ● | ● | ● | ● |
| | Inner single thread | | ● | ● | ●★ | ● |
| **Double tube** | Outer four thread | | ● | ● | | |

★ In case of inner single thread connection TBTA7 series can cover up to dia. 245.99mm

| Series | | Indexable deep drill & boring head | | | Brazed deep drill head | |
|---|---|---|---|---|---|---|
| | | TBTA-FB | TBTA-TR | TBTA-R | BTA-SE/DE | BTS-SE |
| | |  |  |  |  |  |
| **Pages** | | D150-D155 | D162-D165 | D156-D161 | D166-D168 | D169 |
| **DC(mm)** | | Ø25.00-Ø89.00 | Ø16.00-Ø40.00 | Ø25.00-Ø110.99 | Ø12.60-Ø65.00 | Ø8.00-Ø20.00 |
| **Drilling depth(L/D)** | | 100 x Dc | 100 x Dc | 100 x Dc | 100 x Dc | 100 x Dc |
| **Hole tolerance** | | IT 10 | IT 10 | IT 7 - IT 9 | IT 9 | IT 9 |
| **Surface finish** | | 3μm | 3μm | 1-2μm | 2μm | 2μm |
| **Single tube** | Outer four thread | ● | ● | ● | ● | ●★ |
| | Inner single thread | ● | ● | ● | | |
| **Double tube** | Outer four thread | ● | ● | | ● | |

★ Two start thread: Diameter 12.60 to 15.59mm

● Recommended

# Tool Selection Guide

## Drill inserts

| | | | TOPDRILL | TDRILL | DRILLSPEED | |
|---|---|---|---|---|---|---|
| | | | **SOMT** | **SPMG / SPGG** | **3ED-P+** | **3ED-F** |
| **Series** | | |  |  |  |  |
| **Pages** | | | D180-D181 | D182-D183 | D184-D186 | D187 |
| **Size** | | | 04/05/06/07/08<br>09/11/13/15 | 05/06/07/09<br>11/12/14 | Ø12.0-Ø25.9 | Ø12.0-Ø25.9 |
| **Chip former** | | | DP, DK, DL, DA | DG, DK, DA | P+ | F |
| **Grades** | | | TT9080, TT9300<br>TT8020, TT6080, K10 | TT9030, TT8020<br>TT7400, TT6030, K10 | TT5130 | TT5130 |
| **Application** | General drilling |  | ● | ● | ● | ● |
| | Cross hole drilling |  | ● | ● | ● | ● |
| | Irregular surface drilling |  | ○ | ○ | ○ | ○ |
| | Interrupted drilling |  | ○ | ○ | | |
| | Chamfering |  | | | | |

# Tool Selection Guide

**Drill inserts**

| WINDRILL | DRILLROUGH | | | | |
|---|---|---|---|---|---|
| **TCD-P** | **TCD-P/M/K/N** | **TCD-P+** | **TCD-F** | **AOMT** | **CRNG** |
|  |  |  |  |  |  |
| D188 | D189-D195 | D196-D200 | D201-D202 | D203 | D203 |
| Ø4.0-Ø5.9 | Ø6.0-Ø25.9 | Ø6.0-Ø25.9 | Ø6.0-Ø25.9 | 03,04,06-C30/C45 | 08-45CD |
| P | P/M/K/N | P+ | F | - | - |
| TT9080 | TT9080<br>UF10 | TT9080 | TT9080 | TT9080 | TT9080 |
| ● | ● | ● | ● | | |
| ● | ● | ● | ● | | |
| ○ | ○ | ○ | ○ | | |
| | | | | | |
| | | | | ● | ● |

● Recommended, ○ Suitable



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# Tool Selection Guide

## Drill inserts

| Series | | | MODU DRILL | | SPADE RUSH | |
|---|---|---|---|---|---|---|
| | | | TCD-P-CO+ | SPGX...DW | LCD-P | LCD-P+ |
| | | |  |  |  |  |
| **Pages** | | | D204 | D204 | D205-D206 | D207 |
| **Size** | | | Ø15.9-Ø25.9 | 06/07/09/11/14 | Ø20.0-Ø41.0 | Ø20.0-Ø34.5 |
| **Chip former** | | | P-CO+ | DW | P | P+ |
| **Grades** | | | TT9080 | TT9080 | TT9080 | TT9080 |
| **Application** | General drilling |  | ● | ● | ● | ● |
| | Cross hole drilling |  | ● | ● | ● | ● |
| | Irregular surface drilling |  | ○ | ○ | ○ | ○ |
| | Interrupted drilling |  | | | | |
| | Chamfering |  | | | | |

# Tool Selection Guide

**Drill inserts**

| SPADE DRILL | T-CHAMFER | TOP CAP | T-DEEP | |
|---|---|---|---|---|
| **LCD-F** | **XCGT-C** | **XCGT-TA<br>XCMT** | **NPHT<br>NPMT** | **NPMX<br>TPMX** |
|  |  |  |  |  |
| D208-D209 | D210 | D211-D212 | D213 -D215 | D216 |
| Ø20.0-Ø41.0 | 06/09 | 04/05/06/07/08<br>10/13/17 | 06/07/08/09<br>/11/13 | 08/14/17/24/28 |
| F | C30/C45/C60 | TA/GV/TC | R(L)-G... /R(L)-HF... | R-B/R-G |
| TT9080 | TT9080 | TT9080, TT8020,<br>TT9030, K10 | TT9030, TT9130,<br>TT8125, TT6130,<br>TT5030 | TT9030, TT9130,<br>TT8125, TT7200,<br>TT6130, TT6020,<br>TT5100, TT5030 |
| ● | | ● | ● | ● |
| ● | | | ○ | ○ |
| ○ | | | | |
| | | | | |
| | ● | | | |

● Recommended, ○ Suitable



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# Tool Selection Guide

## Drill inserts

| Series | | | TOGT | ZSGT | LOGT | TPMX XPMT |
|---|---|---|---|---|---|---|
| | | |  |  |  |  |
| **Pages** | | | D218 | D217 | D217 | D219 |
| **Size** | | | 07/08/09/10/11 /12/13/14 | 06 | 06 | 14/16/17/24 |
| **Chip former** | | | RS/GF | RS | RS | LG/-45 |
| **Grades** | | | TT9030 | TT9130 | TT9130, TT8125 | TT9030, TT9130, TT6020, TT5100 |
| **Application** | General drilling |  | ● | ● | ● | ● |
| | Cross hole drilling |  | | | | ○ |
| | Irregular surface drilling |  | | | | |
| | Interrupted drilling |  | | | | |
| | Chamfering |  | | | | |

# Tool Selection Guide

**Reamer heads & blades**

| | | | | XM-REAM | TM-REAM | TB-REAM |
|---|---|---|---|---|---|---|
| **Series** | | | | **XR**  | **TM**  | **TB**  |
| **Pages** | | | | D114 | D116 - D117 | D121 |
| **Size** | | | | Ø8.000-Ø12.000 | Ø11.50-Ø32.000 | 1/2/3/4 |
| **Chip former** | | | | AS/BL | AS/BL | A06/B06/B12 |
| **Grades** | | | | TT9030 | TT9030 | TT5030, TT5050 |
| **Application** | | **Through** | **Blind** | | | |
| | General reaming |  |  | ● | ● | ● |
| | Cross hole reaming |  |  | | | |
| | Irregular surface reaming |  |  | | | |
| | Interrupted reaming |  |  | | | |

● Recommended, ○ Suitable

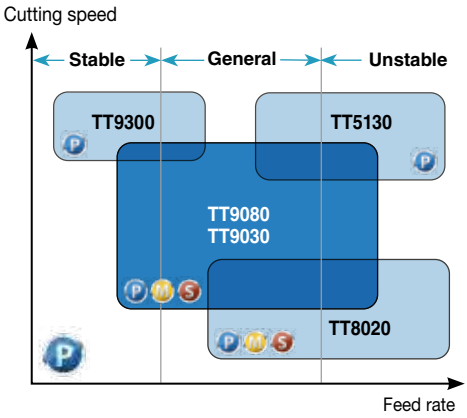
# Grades

## Holemaking grades

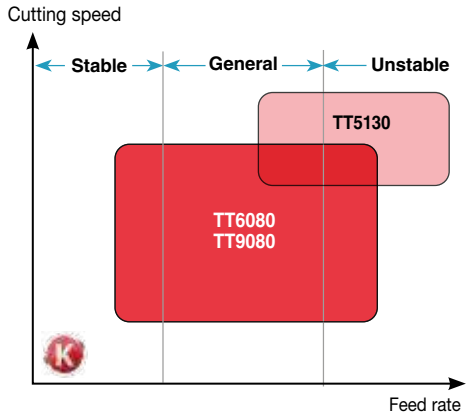
| Grades | ISO | Characteristics & applications |
|---|---|---|
| **TT6080**<br>PVD carbide | K05 – K25<br>H05 – H25 | • General machining for gray and ductile cast iron<br>• Finish and medium machining of hardened steel |
| **TT9300**<br>CVD carbide | P10 – P25 | • High speed drilling of carbon & alloy steel |
| **TT5130**<br>PVD carbide | P20 – P40<br>K20 – K40 | • High speed drilling of carbon & alloy steel |
| **TT9080**<br>PVD carbide | P20 – P40<br>M20 – M40<br>S20 – S40 | • General machining of steel<br>• General machining of stainless steel<br>• General machining of heat-resistant alloy |
| **TT9030**<br>PVD carbide | P20 – P40<br>M20 – M40<br>S20 – S40 | • General machining of steel<br>• General machining of stainless steel<br>• General machining of heat-resistant alloy |
| **TT8020**<br>PVD carbide | P30 – P50<br>M30 – M50<br>S30 – S50 | • Interrupted and rough machining of steel<br>• Interrupted and rough machining of stainless steel<br>• Low speed and interrupted machining of heat-resistant alloy |
| **K10**<br>Uncoated | K05 – K15<br>N05 – N15<br>S05 – S15 | • General machining of cast iron<br>• General machining of aluminum alloys and non-ferrous materials<br>• General machining of heat-resistant alloy |
| **UF1A/UF10**<br>Uncoated | N10 – N25<br>S10 – S30 | • General machining of aluminum alloys and non-ferrous materials<br>• General machining of heat-resistant alloy |

## Selection guide for holemaking grades

### For steel




### For cast iron



# Drilling Tools



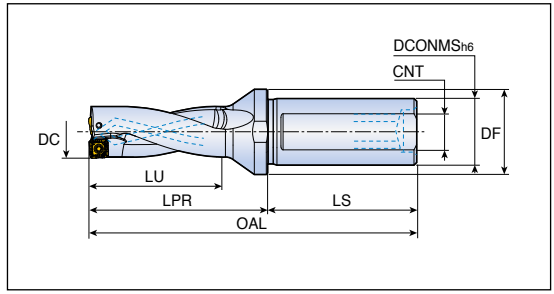
# TOP 2...-T2

**Indexable drill holders**



• Drilling depth: 2xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 2120-20T2-04** | 12.0 | 20 | 25 | 24 | 44 | 50 | M13X1.0 | SOMT 04...DP |
| **2125-20T2-04** | 12.5 | 20 | 25 | 26 | 46 | 50 | M13X1.0 | D180 |
| **2130-20T2-04** | 13.0 | 20 | 25 | 26 | 46 | 50 | M13X1.0 | |
| **2135-20T2-04** | 13.5 | 20 | 25 | 28 | 46 | 50 | M13X1.0 | |
| **2140-20T2-05** | 14.0 | 20 | 25 | 28 | 46 | 50 | M13X1.0 | SOMT 05...DP/DL/DK/DA |
| **2145-20T2-05** | 14.5 | 20 | 25 | 30 | 49 | 50 | M13X1.0 | D180-D181 |
| **2150-20T2-05** | 15.0 | 20 | 25 | 30 | 49 | 50 | M13X1.0 | |
| **2155-20T2-05** | 15.5 | 20 | 25 | 32 | 52 | 50 | M13X1.0 | |
| **2160-20T2-05** | 16.0 | 20 | 25 | 32 | 52 | 50 | M13X1.0 | |
| **2165-25T2-06** | 16.5 | 25 | 32 | 34 | 54 | 56 | M16X1.5 | SOMT 06...DP/DL/DK/DA |
| **2170-25T2-06** | 17.0 | 25 | 32 | 34 | 54 | 56 | M16X1.5 | D180-D181 |
| **2175-25T2-06** | 17.5 | 25 | 32 | 36 | 57 | 56 | M16X1.5 | |
| **2180-25T2-06** | 18.0 | 25 | 32 | 36 | 57 | 56 | M16X1.5 | |
| **2185-25T2-06** | 18.5 | 25 | 32 | 38 | 59 | 56 | M16X1.5 | |
| **2190-25T2-06** | 19.0 | 25 | 32 | 38 | 59 | 56 | M16X1.5 | |
| **2195-25T2-07** | 19.5 | 25 | 32 | 40 | 63 | 56 | M16X1.5 | SOMT 07...DP/DL/DK/DA |
| **2200-25T2-07** | 20.0 | 25 | 32 | 40 | 63 | 56 | M16X1.5 | D180-D181 |
| **2205-25T2-07** | 20.5 | 25 | 32 | 42 | 65 | 56 | M16X1.5 | |
| **2210-25T2-07** | 21.0 | 25 | 32 | 42 | 65 | 56 | M16X1.5 | |
| **2215-25T2-07** | 21.5 | 25 | 32 | 44 | 67 | 56 | M16X1.5 | |
| **2220-25T2-07** | 22.0 | 25 | 32 | 44 | 67 | 56 | M16X1.5 | |
| **2225-25T2-08** | 22.5 | 25 | 32 | 46 | 68 | 56 | M16X1.5 | SOMT 08...DP/DL/DK/DA |
| **2230-25T2-08** | 23.0 | 25 | 32 | 46 | 68 | 56 | M16X1.5 | D180-D181 |
| **2230-32T2-08** | 23.0 | 32 | 40 | 46 | 68 | 60 | M22X2.0 | |
| **2235-25T2-08** | 23.5 | 25 | 32 | 48 | 70 | 56 | M16X1.5 | |
| **2235-32T2-08** | 23.5 | 32 | 40 | 48 | 70 | 60 | M22X2.0 | |
| **2240-25T2-08** | 24.0 | 25 | 32 | 48 | 70 | 56 | M16X1.5 | |
| **2240-32T2-08** | 24.0 | 32 | 40 | 48 | 70 | 60 | M22X2.0 | |
| **2245-25T2-08** | 24.5 | 25 | 32 | 50 | 72 | 56 | M16X1.5 | |
| **2245-32T2-08** | 24.5 | 32 | 40 | 50 | 72 | 60 | M22X2.0 | |
| **2250-25T2-08** | 25.0 | 25 | 32 | 50 | 72 | 56 | M16X1.5 | |
| **2250-32T2-08** | 25.0 | 32 | 40 | 50 | 72 | 60 | M22X2.0 | |
| **2255-25T2-08** | 25.5 | 25 | 32 | 52 | 73 | 56 | M16X1.5 | |
| **2255-32T2-08** | 25.5 | 32 | 40 | 52 | 73 | 60 | M22X2.0 | |
| **2260-25T2-08** | 26.0 | 25 | 32 | 52 | 73 | 56 | M16X1.5 | |
| **2260-32T2-08** | 26.0 | 32 | 40 | 52 | 73 | 60 | M22X2.0 | |

Cutting Condition D226

▸ OAL: LPR+LS



ADVANCE CUTTING TaeguTec

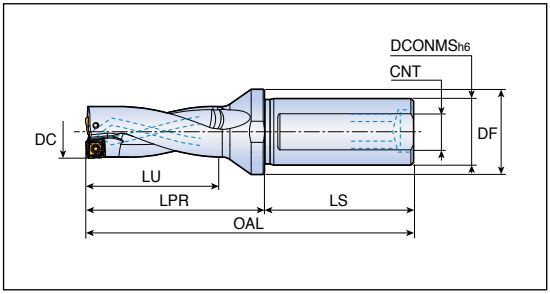
# TOP 2...-T2

TOPDRILL

**Indexable drill holders**



• Drilling depth: 2xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TOP 2265-32T2-09 | 26.5 | 32 | 40 | 54 | 77 | 60 | M22X2.0 | SOMT 09...DP/DL/DK/DA |
| 2270-25T2-09 | 27.0 | 25 | 40 | 54 | 77 | 56 | M16X1.5 | D180-D181 |
| 2270-32T2-09 | 27.0 | 32 | 40 | 54 | 77 | 60 | M22X2.0 | |
| 2275-32T2-09 | 27.5 | 32 | 40 | 56 | 79 | 60 | M22X2.0 | |
| 2280-25T2-09 | 28.0 | 25 | 40 | 56 | 79 | 56 | M16X1.5 | |
| 2280-32T2-09 | 28.0 | 32 | 40 | 56 | 79 | 60 | M22X2.0 | |
| 2285-32T2-09 | 28.5 | 32 | 40 | 58 | 81 | 60 | M22X2.0 | |
| 2290-25T2-09 | 29.0 | 25 | 40 | 58 | 81 | 56 | M16X1.5 | |
| 2290-32T2-09 | 29.0 | 32 | 40 | 58 | 81 | 60 | M22X2.0 | |
| 2295-32T2-09 | 29.5 | 32 | 40 | 60 | 83 | 60 | M22X2.0 | |
| 2300-32T2-09 | 30.0 | 32 | 40 | 60 | 83 | 60 | M22X2.0 | |
| 2305-32T2-09 | 30.5 | 32 | 40 | 62 | 85 | 60 | M22X2.0 | |
| 2310-32T2-09 | 31.0 | 32 | 40 | 62 | 85 | 60 | M22X2.0 | |
| 2320-32T2-11 | 32.0 | 32 | 40 | 64 | 87 | 60 | M22X2.0 | SOMT 11...DP/DL/DK/DA |
| 2320-40T2-11 | 32.0 | 40 | 50 | 64 | 87 | 70 | M30X2.0 | D180-D181 |
| 2330-32T2-11 | 33.0 | 32 | 40 | 66 | 89 | 60 | M22X2.0 | |
| 2330-40T2-11 | 33.0 | 40 | 50 | 66 | 89 | 70 | M30X2.0 | |
| 2340-32T2-11 | 34.0 | 32 | 40 | 68 | 91 | 60 | M22X2.0 | |
| 2340-40T2-11 | 34.0 | 40 | 50 | 68 | 91 | 70 | M30X2.0 | |
| 2350-32T2-11 | 35.0 | 32 | 40 | 70 | 93 | 60 | M22X2.0 | |
| 2350-40T2-11 | 35.0 | 40 | 50 | 70 | 93 | 70 | M30X2.0 | |
| 2360-32T2-11 | 36.0 | 32 | 40 | 72 | 95 | 60 | M22X2.0 | |
| 2360-40T2-11 | 36.0 | 40 | 50 | 72 | 95 | 70 | M30X2.0 | |
| 2370-32T2-13 | 37.0 | 32 | 50 | 74 | 102 | 60 | M22X2.0 | SOMT 13...DP/DL/DK/DA |
| 2370-40T2-13 | 37.0 | 40 | 50 | 74 | 102 | 70 | M30X2.0 | D180-D181 |
| 2380-32T2-13 | 38.0 | 32 | 50 | 76 | 104 | 60 | M22X2.0 | |
| 2380-40T2-13 | 38.0 | 40 | 50 | 76 | 104 | 70 | M30X2.0 | |
| 2390-32T2-13 | 39.0 | 32 | 50 | 78 | 106 | 60 | M22X2.0 | |
| 2390-40T2-13 | 39.0 | 40 | 50 | 78 | 106 | 70 | M30X2.0 | |
| 2400-32T2-13 | 40.0 | 32 | 50 | 80 | 108 | 60 | M22X2.0 | |
| 2400-40T2-13 | 40.0 | 40 | 50 | 80 | 108 | 70 | M30X2.0 | |
| 2410-40T2-13 | 41.0 | 40 | 50 | 82 | 110 | 70 | M30X2.0 | |
| 2420-40T2-13 | 42.0 | 40 | 50 | 84 | 112 | 70 | M30X2.0 | |
| 2430-40T2-13 | 43.0 | 40 | 50 | 86 | 114 | 70 | M30X2.0 | |

Cutting Condition D226

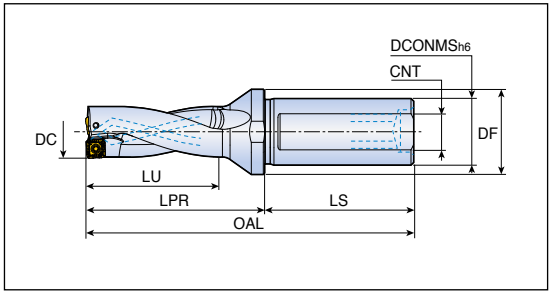
▸ OAL: LPR+LS

# TOP 2...-T2

**Indexable drill holders**



• Drilling depth: 2xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 2440-40T2-15** | 44.0 | 40 | 60 | 88 | 123 | 70 | M30X2.0 | SOMT 15...DP/DL/DK/DA |
| **2450-40T2-15** | 45.0 | 40 | 60 | 90 | 125 | 70 | M30X2.0 | D180-D181 |
| **2460-40T2-15** | 46.0 | 40 | 60 | 92 | 127 | 70 | M30X2.0 | |
| **2470-40T2-15** | 47.0 | 40 | 60 | 94 | 129 | 70 | M30X2.0 | |
| **2480-40T2-15** | 48.0 | 40 | 60 | 96 | 131 | 70 | M30X2.0 | |
| **2490-40T2-15** | 49.0 | 40 | 60 | 98 | 133 | 70 | M30X2.0 | |
| **2500-40T2-15** | 50.0 | 40 | 60 | 100 | 135 | 70 | M30X2.0 | |

▸ OAL: LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| **TOP 2120 - 2135** | TS 18041I/HG | TD 6P | SL 20M | |
| **TOP 2140 - 2160** | TS 20043I/HG-P | TD 6P | SL 20M | |
| **TOP 2165 - 2220** | TS 22052I/HG-P | TD 7P | SL 25M | |
| **TOP 2225 - 2260** | SO 25065I | TD 7 | SL 25M / SL 32M | |
| **TOP 2265 - 2360** | TS 35088I | TD 10 | SL 25M / SL 32M / SL 40M | |
| **TOP 2370 - 2430** | TS 40093I | TD 15 | SL 32M / SL 40M | |
| **TOP 2440 - 2550** | TS 50115I | TD 20 | SL 40M | |

Cutting Condition D226

▸ *Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

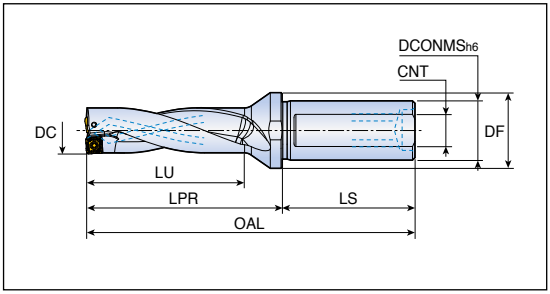
# TOP 3...-T2

## Indexable drill holders



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TOP 3120-20T2-04 | 12.0 | 20 | 25 | 36 | 56 | 50 | M13X1.0 | SOMT 04...DP<br>D180 |
| 3125-20T2-04 | 12.5 | 20 | 25 | 39 | 59 | 50 | M13X1.0 | |
| 3130-20T2-04 | 13.0 | 20 | 25 | 39 | 59 | 50 | M13X1.0 | |
| 3135-20T2-04 | 13.5 | 20 | 25 | 42 | 60 | 50 | M13X1.0 | |
| 3140-20T2-05 | 14.0 | 20 | 25 | 42 | 60 | 50 | M13X1.0 | SOMT 05...DP/DL/DK/DA<br>D180-D181 |
| 3145-20T2-05 | 14.5 | 20 | 25 | 45 | 64 | 50 | M13X1.0 | |
| 3150-20T2-05 | 15.0 | 20 | 25 | 45 | 64 | 50 | M13X1.0 | |
| 3155-20T2-05 | 15.5 | 20 | 25 | 48 | 68 | 50 | M13X1.0 | |
| 3160-20T2-05 | 16.0 | 20 | 25 | 48 | 68 | 50 | M13X1.0 | |
| 3165-25T2-06 | 16.5 | 25 | 32 | 51 | 71 | 56 | M16X1.5 | SOMT 06...DP/DL/DK/DA<br>D180-D181 |
| 3167-25T2-06 * | 16.7 | 25 | 32 | 51 | 71 | 56 | M16X1.5 | |
| 3170-25T2-06 | 17.0 | 25 | 32 | 51 | 71 | 56 | M16X1.5 | |
| 3175-25T2-06 | 17.5 | 25 | 32 | 54 | 75 | 56 | M16X1.5 | |
| 3180-25T2-06 | 18.0 | 25 | 32 | 54 | 75 | 56 | M16X1.5 | |
| 3185-25T2-06 | 18.5 | 25 | 32 | 57 | 78 | 56 | M16X1.5 | |
| 3190-25T2-06 | 19.0 | 25 | 32 | 57 | 78 | 56 | M16X1.5 | |
| 3195-25T2-07 | 19.5 | 25 | 32 | 60 | 83 | 56 | M16X1.5 | SOMT 07...DP/DL/DK/DA<br>D180-D181 |
| 3200-25T2-07 | 20.0 | 25 | 32 | 60 | 83 | 56 | M16X1.5 | |
| 3205-25T2-07 | 20.5 | 25 | 32 | 63 | 86 | 56 | M16X1.5 | |
| 3210-25T2-07 | 21.0 | 25 | 32 | 63 | 86 | 56 | M16X1.5 | |
| 3215-25T2-07 | 21.5 | 25 | 32 | 66 | 89 | 56 | M16X1.5 | |
| 3220-25T2-07 | 22.0 | 25 | 32 | 66 | 89 | 56 | M16X1.5 | |
| 3222-25T2-07 * | 22.2 | 25 | 32 | 66 | 89 | 56 | M16X1.5 | |
| 3225-25T2-08 | 22.5 | 25 | 32 | 69 | 91 | 56 | M16X1.5 | SOMT 08...DP/DL/DK/DA<br>D180-D181 |
| 3230-25T2-08 | 23.0 | 25 | 32 | 69 | 91 | 56 | M16X1.5 | |
| 3230-32T2-08 | 23.0 | 32 | 40 | 69 | 91 | 60 | M22X2.0 | |
| 3235-25T2-08 | 23.5 | 25 | 32 | 72 | 94 | 56 | M16X1.5 | |
| 3235-32T2-08 | 23.5 | 32 | 40 | 72 | 94 | 60 | M22X2.0 | |
| 3240-25T2-08 | 24.0 | 25 | 32 | 72 | 94 | 56 | M16X1.5 | |
| 3240-32T2-08 | 24.0 | 32 | 40 | 72 | 94 | 60 | M22X2.0 | |
| 3245-25T2-08 | 24.5 | 25 | 32 | 75 | 97 | 56 | M16X1.5 | |
| 3245-32T2-08 | 24.5 | 32 | 40 | 75 | 97 | 60 | M22X2.0 | |
| 3250-25T2-08 | 25.0 | 25 | 32 | 75 | 97 | 56 | M16X1.5 | |
| 3250-32T2-08 | 25.0 | 32 | 40 | 75 | 97 | 60 | M22X2.0 | |
| 3254-25T2-08 * | 25.4 | 25 | 32 | 75 | 97 | 56 | M16X1.5 | |

Cutting Condition D226

- *: Inch sized hole
- OAL: LPR+LS

# TOP 3...-T2

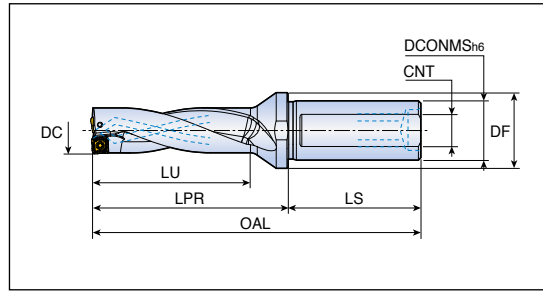
TOPDRILL

**Indexable drill holders**



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 3255-25T2-08** | 25.5 | 25 | 32 | 78 | 99 | 56 | M16X1.5 | SOMT 08...DP/DL/DK/DA |
| **3255-32T2-08** | 25.5 | 32 | 40 | 78 | 99 | 60 | M22X2.0 | D180-D181 |
| **3260-25T2-08** | 26.0 | 25 | 32 | 78 | 99 | 56 | M16X1.5 | |
| **3260-32T2-08** | 26.0 | 32 | 32 | 78 | 99 | 60 | M22X2.0 | |
| **3265-25T2-09** | 26.5 | 25 | 40 | 81 | 104 | 56 | M16X1.5 | SOMT 09...DP/DL/DK/DA |
| **3265-32T2-09** | 26.5 | 32 | 40 | 81 | 104 | 60 | M22X2.0 | D180-D181 |
| **3270-25T2-09** | 27.0 | 25 | 40 | 81 | 104 | 56 | M16X1.5 | |
| **3270-32T2-09** | 27.0 | 32 | 40 | 81 | 104 | 60 | M22X2.0 | |
| **3275-25T2-09** | 27.5 | 25 | 40 | 84 | 107 | 56 | M16X1.5 | |
| **3275-32T2-09** | 27.5 | 32 | 40 | 84 | 107 | 60 | M22X2.0 | |
| **3280-25T2-09** | 28.0 | 25 | 40 | 84 | 107 | 56 | M16X1.5 | |
| **3280-32T2-09** | 28.0 | 32 | 40 | 84 | 107 | 60 | M22X2.0 | |
| **3285-25T2-09** | 28.5 | 25 | 40 | 87 | 110 | 56 | M16X1.5 | |
| **3285-32T2-09** | 28.5 | 32 | 40 | 87 | 110 | 60 | M22X2.0 | |
| **3290-25T2-09** | 29.0 | 25 | 40 | 87 | 110 | 56 | M16X1.5 | |
| **3290-32T2-09** | 29.0 | 32 | 40 | 87 | 110 | 60 | M22X2.0 | |
| **3295-32T2-09** | 29.5 | 32 | 40 | 90 | 113 | 60 | M22X2.0 | |
| **3300-32T2-09** | 30.0 | 32 | 40 | 90 | 113 | 60 | M22X2.0 | |
| **3305-32T2-09** | 30.5 | 32 | 40 | 93 | 116 | 60 | M22X2.0 | |
| **3310-32T2-09** | 31.0 | 32 | 40 | 93 | 116 | 60 | M22X2.0 | |
| **3320-32T2-11** | 32.0 | 32 | 40 | 96 | 119 | 60 | M22X2.0 | SOMT 11...DP/DL/DK/DA |
| **3320-40T2-11** | 32.0 | 40 | 50 | 96 | 119 | 70 | M30X2.0 | D180-D181 |
| **3330-32T2-11** | 33.0 | 32 | 40 | 99 | 122 | 60 | M22X2.0 | |
| **3330-40T2-11** | 33.0 | 40 | 50 | 99 | 122 | 70 | M30X2.0 | |
| **3340-32T2-11** | 34.0 | 32 | 40 | 102 | 125 | 60 | M22X2.0 | |
| **3340-40T2-11** | 34.0 | 40 | 50 | 102 | 125 | 70 | M30X2.0 | |
| **3350-32T2-11** | 35.0 | 32 | 40 | 105 | 128 | 60 | M22X2.0 | |
| **3350-40T2-11** | 35.0 | 40 | 50 | 105 | 128 | 70 | M30X2.0 | |
| **3360-32T2-11** | 36.0 | 32 | 40 | 108 | 131 | 60 | M22X2.0 | |
| **3360-40T2-11** | 36.0 | 40 | 50 | 108 | 131 | 70 | M30X2.0 | |
| **3370-32T2-13** | 37.0 | 32 | 50 | 111 | 139 | 60 | M22X2.0 | SOMT 13...DP/DL/DK/DA |
| **3370-40T2-13** | 37.0 | 40 | 50 | 111 | 139 | 70 | M30X2.0 | D180-D181 |
| **3380-32T2-13** | 38.0 | 32 | 50 | 114 | 142 | 60 | M22X2.0 | |
| **3380-40T2-13** | 38.0 | 40 | 50 | 114 | 142 | 70 | M30X2.0 | |
| **3390-32T2-13** | 39.0 | 32 | 50 | 117 | 145 | 60 | M22X2.0 | |

Cutting Condition D226

▸ OAL: LPR+LS



ADVANCE CUTTING TaeguTec

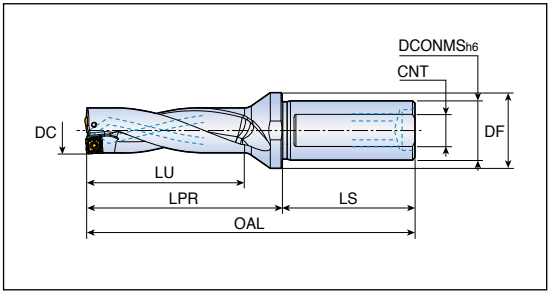
# TOP 3...-T2

## Indexable drill holders



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 3390-40T2-13** | 39.0 | 40 | 50 | 117 | 145 | 70 | M30X2.0 | SOMT 13...DP/DL/DK/DA |
| **3400-32T2-13** | 40.0 | 32 | 50 | 120 | 148 | 60 | M22X2.0 | D180-D181 |
| **3400-40T2-13** | 40.0 | 40 | 50 | 120 | 148 | 70 | M30X2.0 | |
| **3410-40T2-13** | 41.0 | 40 | 50 | 123 | 151 | 70 | M30X2.0 | |
| **3420-40T2-13** | 42.0 | 40 | 50 | 126 | 154 | 70 | M30X2.0 | |
| **3430-40T2-13** | 43.0 | 40 | 50 | 129 | 157 | 70 | M30X2.0 | |
| **3440-40T2-15** | 44.0 | 40 | 60 | 132 | 167 | 70 | M30X2.0 | SOMT 15...DP/DL/DK/DA |
| **3450-40T2-15** | 45.0 | 40 | 60 | 135 | 170 | 70 | M30X2.0 | D180-D181 |
| **3460-40T2-15** | 46.0 | 40 | 60 | 138 | 173 | 70 | M30X2.0 | |
| **3470-40T2-15** | 47.0 | 40 | 60 | 141 | 176 | 70 | M30X2.0 | |
| **3480-40T2-15** | 48.0 | 40 | 60 | 144 | 179 | 70 | M30X2.0 | |
| **3490-40T2-15** | 49.0 | 40 | 60 | 147 | 182 | 70 | M30X2.0 | |
| **3500-40T2-15** | 50.0 | 40 | 60 | 150 | 185 | 70 | M30X2.0 | |

▸ OAL: LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| **TOP 3120 - 3135** | TS 18041I/HG | TD 6P | SL 20M | |
| **TOP 3140 - 3160** | TS 20043I/HG-P | TD 6P | SL 20M | |
| **TOP 3165 - 3220** | TS 22052I/HG-P | TD 7P | SL 25M | |
| **TOP 3225 - 3260** | SO 25065I | TD 7 | SL 25M / SL 32M | |
| **TOP 3265 - 3360** | TS 35088I | TD 10 | SL 25M / SL 32M / SL 40M | |
| **TOP 3370 - 3430** | TS 40093I | TD 15 | SL 32M / SL 40M | |
| **TOP 3440 - 3500** | TS 50115I | TD 20 | SL 40M | |

Cutting Condition D226

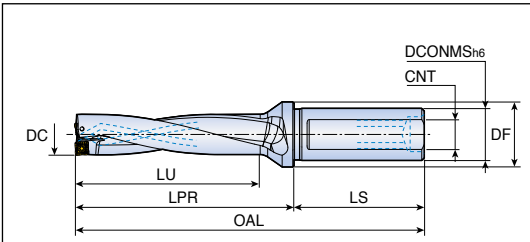
▸ * Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

# TOP 4...-T2

**Indexable drill holders**



• Drilling depth: 4xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 4120-20T2-04** | 12.0 | 20 | 25 | 48 | 68 | 50 | M13X1.0 | SOMT 04...DP |
| **4125-20T2-04** | 12.5 | 20 | 25 | 52 | 72 | 50 | M13X1.0 | D180 |
| **4130-20T2-04** | 13.0 | 20 | 25 | 52 | 72 | 50 | M13X1.0 | |
| **4135-20T2-04** | 13.5 | 20 | 25 | 56 | 74 | 50 | M13X1.0 | |
| **4140-20T2-05** | 14.0 | 20 | 25 | 56 | 74 | 50 | M13X1.0 | SOMT 05...DP/DL/DK/DA |
| **4145-20T2-05** | 14.5 | 20 | 25 | 60 | 79 | 50 | M13X1.0 | D180-D181 |
| **4150-20T2-05** | 15.0 | 20 | 25 | 60 | 79 | 50 | M13X1.0 | |
| **4155-20T2-05** | 15.5 | 20 | 25 | 64 | 84 | 50 | M13X1.0 | |
| **4160-20T2-05** | 16.0 | 20 | 25 | 64 | 84 | 50 | M13X1.0 | |
| **4165-25T2-06** | 16.5 | 25 | 32 | 68 | 88 | 56 | M16X1.5 | SOMT 06...DP/DL/DK/DA |
| **4170-25T2-06** | 17.0 | 25 | 32 | 68 | 88 | 56 | M16X1.5 | D180-D181 |
| **4175-25T2-06** | 17.5 | 25 | 32 | 72 | 93 | 56 | M16X1.5 | |
| **4180-25T2-06** | 18.0 | 25 | 32 | 72 | 93 | 56 | M16X1.5 | |
| **4185-25T2-06** | 18.5 | 25 | 32 | 76 | 97 | 56 | M16X1.5 | |
| **4190-25T2-06** | 19.0 | 25 | 32 | 76 | 97 | 56 | M16X1.5 | |
| **4195-25T2-07** | 19.5 | 25 | 32 | 80 | 103 | 56 | M16X1.5 | SOMT 07...DP/DL/DK/DA |
| **4200-25T2-07** | 20.0 | 25 | 32 | 80 | 103 | 56 | M16X1.5 | D180-D181 |
| **4205-25T2-07** | 20.5 | 25 | 32 | 84 | 107 | 56 | M16X1.5 | |
| **4210-25T2-07** | 21.0 | 25 | 32 | 84 | 107 | 56 | M16X1.5 | |
| **4215-25T2-07** | 21.5 | 25 | 32 | 88 | 111 | 56 | M16X1.5 | |
| **4220-25T2-07** | 22.0 | 25 | 32 | 88 | 111 | 56 | M16X1.5 | |
| **4225-25T2-08** | 22.5 | 25 | 32 | 92 | 114 | 56 | M16X1.5 | SOMT 08...DP/DL/DK/DA |
| **4230-25T2-08** | 23.0 | 25 | 32 | 92 | 114 | 56 | M16X1.5 | D180-D181 |
| **4230-32T2-08** | 23.0 | 32 | 40 | 92 | 114 | 60 | M22X2.0 | |
| **4235-25T2-08** | 23.5 | 25 | 32 | 96 | 118 | 56 | M16X1.5 | |
| **4235-32T2-08** | 23.5 | 32 | 40 | 96 | 118 | 60 | M22X2.0 | |
| **4240-25T2-08** | 24.0 | 25 | 32 | 96 | 118 | 56 | M16X1.5 | |
| **4240-32T2-08** | 24.0 | 32 | 40 | 96 | 118 | 60 | M22X2.0 | |
| **4245-25T2-08** | 24.5 | 25 | 32 | 100 | 122 | 56 | M16X1.5 | |
| **4245-32T2-08** | 24.5 | 32 | 40 | 100 | 122 | 60 | M22X2.0 | |
| **4250-25T2-08** | 25.0 | 25 | 32 | 100 | 122 | 56 | M16X1.5 | |
| **4250-32T2-08** | 25.0 | 32 | 40 | 100 | 122 | 60 | M22X2.0 | |
| **4254-25T2-08 *** | 25.4 | 25 | 32 | 100 | 122 | 56 | M16X1.5 | |
| **4255-25T2-08** | 25.5 | 25 | 32 | 104 | 125 | 56 | M16X1.5 | |
| **4255-32T2-08** | 25.5 | 32 | 40 | 104 | 125 | 60 | M22X2.0 | |

Cutting Condition D226

- *: Inch sized hole
- OAL: LPR+LS



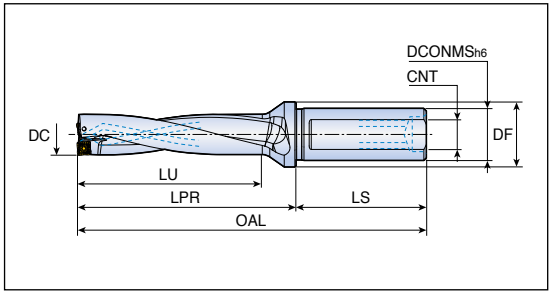
ADVANCE CUTTING TaeguTec

# TOP 4...-T2

## Indexable drill holders



• Drilling depth: 4xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TOP 4260-25T2-08 | 26.0 | 25 | 32 | 104 | 125 | 56 | M16X1.5 | SOMT 08...DP/DL/DK/DA |
| 4260-32T2-08 | 26.0 | 32 | 40 | 104 | 125 | 60 | M22X2.0 | D180-D181 |
| 4265-25T2-09 | 26.5 | 25 | 40 | 108 | 131 | 56 | M16X1.5 | SOMT 09...DP/DL/DK/DA |
| 4265-32T2-09 | 26.5 | 32 | 40 | 108 | 131 | 60 | M22X2.0 | D180-D181 |
| 4270-25T2-09 | 27.0 | 25 | 40 | 108 | 131 | 56 | M16X1.5 | |
| 4270-32T2-09 | 27.0 | 32 | 40 | 108 | 131 | 60 | M22X2.0 | |
| 4275-25T2-09 | 27.5 | 25 | 40 | 112 | 135 | 56 | M16X1.5 | |
| 4275-32T2-09 | 27.5 | 32 | 40 | 112 | 135 | 60 | M22X2.0 | |
| 4280-25T2-09 | 28.0 | 25 | 40 | 112 | 135 | 56 | M16X1.5 | |
| 4280-32T2-09 | 28.0 | 32 | 40 | 112 | 135 | 60 | M22X2.0 | |
| 4285-25T2-09 | 28.5 | 25 | 40 | 116 | 139 | 56 | M16X1.5 | |
| 4285-32T2-09 | 28.5 | 32 | 40 | 116 | 139 | 60 | M22X2.0 | |
| 4286-32T2-09 * | 28.6 | 32 | 40 | 116 | 139 | 60 | M22X2.0 | |
| 4290-25T2-09 | 29.0 | 25 | 40 | 116 | 139 | 56 | M16X1.5 | |
| 4290-32T2-09 | 29.0 | 32 | 40 | 116 | 139 | 60 | M22X2.0 | |
| 4295-32T2-09 | 29.5 | 32 | 40 | 120 | 143 | 60 | M22X2.0 | |
| 4300-32T2-09 | 30.0 | 32 | 40 | 120 | 143 | 60 | M22X2.0 | |
| 4305-32T2-09 | 30.5 | 32 | 40 | 124 | 147 | 60 | M22X2.0 | |
| 4310-32T2-09 | 31.0 | 32 | 40 | 124 | 147 | 60 | M22X2.0 | |
| 4318-32T2-11 * | 31.8 | 32 | 40 | 128 | 151 | 60 | M22X2.0 | SOMT 11...DP/DL/DK/DA |
| 4320-32T2-11 | 32.0 | 32 | 40 | 128 | 151 | 60 | M22X2.0 | D180-D181 |
| 4320-40T2-11 | 32.0 | 40 | 50 | 128 | 151 | 70 | M30X2.0 | |
| 4330-32T2-11 | 33.0 | 32 | 40 | 132 | 155 | 60 | M22X2.0 | |
| 4330-40T2-11 | 33.0 | 40 | 50 | 132 | 155 | 70 | M30X2.0 | |
| 4340-32T2-11 | 34.0 | 32 | 40 | 136 | 159 | 60 | M22X2.0 | |
| 4340-40T2-11 | 34.0 | 40 | 50 | 136 | 159 | 70 | M30X2.0 | |
| 4349-40T2-11 * | 34.9 | 40 | 50 | 140 | 163 | 70 | M30X2.0 | |
| 4350-32T2-11 | 35.0 | 32 | 40 | 140 | 163 | 60 | M22X2.0 | |
| 4350-40T2-11 | 35.0 | 40 | 50 | 140 | 163 | 70 | M30X2.0 | |
| 4360-32T2-11 | 36.0 | 32 | 40 | 144 | 167 | 60 | M22X2.0 | |
| 4360-40T2-11 | 36.0 | 40 | 50 | 144 | 167 | 70 | M30X2.0 | |
| 4370-32T2-13 | 37.0 | 32 | 50 | 148 | 176 | 60 | M22X2.0 | SOMT 13...DP/DL/DK/DA |
| 4370-40T2-13 | 37.0 | 40 | 50 | 148 | 176 | 70 | M30X2.0 | D180-D181 |
| 4371-40T2-13 * | 37.1 | 40 | 50 | 148 | 176 | 70 | M30X2.0 | |

Cutting Condition D226

- *: Inch sized hole
- OAL: LPR+LS

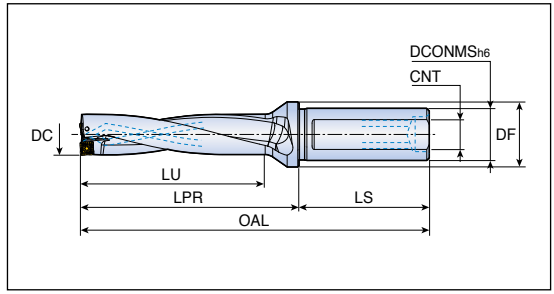
# TOP 4...-T2

**Indexable drill holders**



• Drilling depth: 4xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 4380-32T2-13** | 38.0 | 32 | 50 | 152 | 180 | 60 | M22X2.0 | SOMT 13...DP/DL/DK/DA |
| **4380-40T2-13** | 38.0 | 40 | 50 | 152 | 180 | 70 | M30X2.0 | D180-D181 |
| **4381-40T2-13 *** | 38.1 | 40 | 50 | 152 | 180 | 70 | M30X2.0 | |
| **4390-32T2-13** | 39.0 | 32 | 50 | 156 | 184 | 60 | M22X2.0 | |
| **4390-40T2-13** | 39.0 | 40 | 50 | 156 | 184 | 70 | M30X2.0 | |
| **4400-32T2-13** | 40.0 | 32 | 50 | 160 | 188 | 60 | M22X2.0 | |
| **4400-40T2-13** | 40.0 | 40 | 50 | 160 | 188 | 70 | M30X2.0 | |
| **4410-40T2-13** | 41.0 | 40 | 50 | 164 | 192 | 70 | M30X2.0 | |
| **4413-40T2-13 *** | 41.3 | 40 | 50 | 164 | 192 | 70 | M30X2.0 | |
| **4420-40T2-13** | 42.0 | 40 | 50 | 168 | 196 | 70 | M30X2.0 | |
| **4429-40T2-13 *** | 42.9 | 40 | 50 | 172 | 200 | 70 | M30X2.0 | |
| **4430-40T2-13** | 43.0 | 40 | 50 | 172 | 200 | 70 | M30X2.0 | |
| **4440-40T2-15** | 44.0 | 40 | 60 | 176 | 211 | 70 | M30X2.0 | SOMT 15...DP/DL/DK/DA |
| **4445-40T2-15 *** | 44.5 | 40 | 60 | 180 | 215 | 70 | M30X2.0 | D180-D181 |
| **4450-40T2-15** | 45.0 | 40 | 60 | 180 | 215 | 70 | M30X2.0 | |
| **4460-40T2-15** | 46.0 | 40 | 60 | 184 | 219 | 70 | M30X2.0 | |
| **4470-40T2-15** | 47.0 | 40 | 60 | 188 | 223 | 70 | M30X2.0 | |
| **4476-40T2-15 *** | 47.6 | 40 | 60 | 192 | 227 | 70 | M30X2.0 | |
| **4480-40T2-15** | 48.0 | 40 | 60 | 192 | 227 | 70 | M30X2.0 | |
| **4490-40T2-15** | 49.0 | 40 | 60 | 196 | 231 | 70 | M30X2.0 | |
| **4500-40T2-15** | 50.0 | 40 | 60 | 200 | 235 | 70 | M30X2.0 | |
| **4508-40T2-15 *** | 50.8 | 40 | 60 | 204 | 239 | 70 | M30X2.0 | |

▸ '*' Marked items are for inch sized hole
▸ OAL = LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| **TOP 4120 - 4135** | TS 18041I/HG | TD 6P | SL 20M | |
| **TOP 4140 - 4160** | TS 20043I/HG-P | TD 6P | SL 20M | |
| **TOP 4165 - 4220** | TS 22052I/HG-P | TD 7P | SL 25M | |
| **TOP 4225 - 4260** | SO 25065I | TD 7 | SL 25M / SL 32M | |
| **TOP 4265 - 4360** | TS 35088I | TD 10 | SL 25M / SL 32M / SL 40M | |
| **TOP 4370 - 4430** | TS 40093I | TD 15 | SL 32M / SL 40M | |
| **TOP 4440 - 4508** | TS 50115I | TD 20 | SL 40M | |

Cutting Condition D228

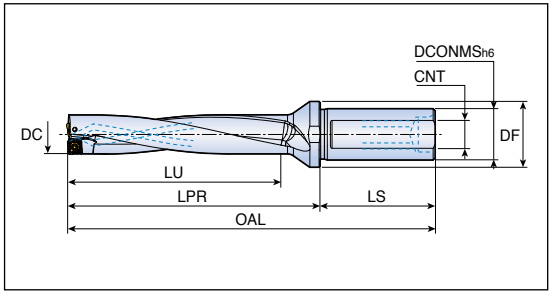
▸ *Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

# TOP 5...-T2

## Indexable drill holders



• Drilling depth: 5xdiameter




| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TOP | 5120-20T2-04 | 12.0 | 20 | 25 | 60 | 80 | 50 | M13X1.0 | SOMT 04...DP |
| | 5125-20T2-04 | 12.5 | 20 | 25 | 65 | 85 | 50 | M13X1.0 | D180 |
| | 5130-20T2-04 | 13.0 | 20 | 25 | 65 | 85 | 50 | M13X1.0 | |
| | 5135-20T2-04 | 13.5 | 20 | 25 | 70 | 88 | 50 | M13X1.0 | |
| | 5140-20T2-05 | 14.0 | 20 | 25 | 70 | 88 | 50 | M13X1.0 | SOMT 05...DP/DL/DK/DA |
| | 5145-20T2-05 | 14.5 | 20 | 25 | 75 | 94 | 50 | M13X1.0 | D180-D181 |
| | 5150-20T2-05 | 15.0 | 20 | 25 | 75 | 94 | 50 | M13X1.0 | |
| | 5155-20T2-05 | 15.5 | 20 | 25 | 80 | 100 | 50 | M13X1.0 | |
| | 5160-20T2-05 | 16.0 | 20 | 25 | 80 | 100 | 50 | M13X1.0 | |
| | 5165-25T2-06 | 16.5 | 25 | 32 | 85 | 105 | 56 | M16X1.5 | SOMT 06...DP/DL/DK/DA |
| | 5170-25T2-06 | 17.0 | 25 | 32 | 85 | 105 | 56 | M16X1.5 | D180-D181 |
| | 5175-25T2-06 | 17.5 | 25 | 32 | 90 | 111 | 56 | M16X1.5 | |
| | 5180-25T2-06 | 18.0 | 25 | 32 | 90 | 111 | 56 | M16X1.5 | |
| | 5185-25T2-06 | 18.5 | 25 | 32 | 95 | 116 | 56 | M16X1.5 | |
| | 5190-25T2-06 | 19.0 | 25 | 32 | 95 | 116 | 56 | M16X1.5 | |
| | 5195-25T2-07 | 19.5 | 25 | 32 | 100 | 123 | 56 | M16X1.5 | SOMT 07...DP/DL/DK/DA |
| | 5200-25T2-07 | 20.0 | 25 | 32 | 100 | 123 | 56 | M16X1.5 | D180-D181 |
| | 5205-25T2-07 | 20.5 | 25 | 32 | 105 | 128 | 56 | M16X1.5 | |
| | 5210-25T2-07 | 21.0 | 25 | 32 | 105 | 128 | 56 | M16X1.5 | |
| | 5215-25T2-07 | 21.5 | 25 | 32 | 110 | 133 | 56 | M16X1.5 | |
| | 5220-25T2-07 | 22.0 | 25 | 32 | 110 | 133 | 56 | M16X1.5 | |
| | 5222-25T2-07 * | 22.2 | 25 | 32 | 110 | 133 | 56 | M16X1.5 | |
| | 5225-25T2-08 | 22.5 | 25 | 32 | 115 | 137 | 56 | M16X1.5 | SOMT 08...DP/DL/DK/DA |
| | 5230-25T2-08 | 23.0 | 25 | 32 | 115 | 137 | 56 | M16X1.5 | D180-D181 |
| | 5230-32T2-08 | 23.0 | 32 | 40 | 115 | 137 | 60 | M22X2.0 | |
| | 5235-25T2-08 | 23.5 | 25 | 32 | 120 | 142 | 56 | M16X1.5 | |
| | 5235-32T2-08 | 23.5 | 32 | 40 | 120 | 142 | 60 | M22X2.0 | |
| | 5240-25T2-08 | 24.0 | 25 | 32 | 120 | 142 | 56 | M16X1.5 | |
| | 5240-32T2-08 | 24.0 | 32 | 40 | 120 | 142 | 60 | M22X2.0 | |
| | 5245-25T2-08 | 24.5 | 25 | 32 | 125 | 147 | 56 | M16X1.5 | |
| | 5245-32T2-08 | 24.5 | 32 | 40 | 125 | 147 | 60 | M22X2.0 | |
| | 5250-25T2-08 | 25.0 | 25 | 32 | 125 | 147 | 56 | M16X1.5 | |
| | 5250-32T2-08 | 25.0 | 32 | 40 | 125 | 147 | 60 | M22X2.0 | |
| | 5255-25T2-08 | 25.5 | 25 | 32 | 130 | 151 | 56 | M16X1.5 | |
| | 5255-32T2-08 | 25.5 | 32 | 40 | 130 | 151 | 60 | M22X2.0 | |

Cutting Condition D228

- *: Inch sized hole
- OAL: LPR+LS

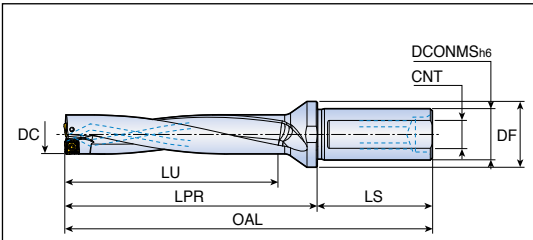
# TOP 5...-T2

TOPDRILL

## Indexable drill holders



• Drilling depth: 5xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 5260-25T2-08** | 26.0 | 25 | 32 | 130 | 151 | 56 | M16X1.5 | SOMT 08...DP/DL/DK/DA |
| **5260-32T2-08** | 26.0 | 32 | 40 | 130 | 151 | 60 | M22X2.0 | D180-D181 |
| **5265-32T2-09** | 26.5 | 32 | 40 | 135 | 158 | 60 | M22X2.0 | SOMT 09...DP/DL/DK/DA |
| **5270-25T2-09** | 27.0 | 25 | 40 | 135 | 158 | 56 | M16X1.5 | D180-D181 |
| **5270-32T2-09** | 27.0 | 32 | 40 | 135 | 158 | 60 | M22X2.0 | |
| **5275-32T2-09** | 27.5 | 32 | 40 | 140 | 163 | 60 | M22X2.0 | |
| **5280-25T2-09** | 28.0 | 25 | 40 | 140 | 163 | 56 | M16X1.5 | |
| **5280-32T2-09** | 28.0 | 32 | 40 | 140 | 163 | 60 | M22X2.0 | |
| **5282-32T2-09 *** | 28.2 | 32 | 40 | 140 | 163 | 60 | M22X2.0 | |
| **5285-32T2-09** | 28.5 | 32 | 40 | 145 | 168 | 60 | M22X2.0 | |
| **5290-25T2-09** | 29.0 | 25 | 40 | 145 | 168 | 56 | M16X1.5 | |
| **5290-32T2-09** | 29.0 | 32 | 40 | 145 | 168 | 60 | M22X2.0 | |
| **5295-32T2-09** | 29.5 | 32 | 40 | 150 | 173 | 60 | M22X2.0 | |
| **5300-32T2-09** | 30.0 | 32 | 40 | 150 | 173 | 60 | M22X2.0 | |
| **5305-32T2-09** | 30.5 | 32 | 40 | 155 | 178 | 60 | M22X2.0 | |
| **5310-32T2-09** | 31.0 | 32 | 40 | 155 | 178 | 60 | M22X2.0 | |
| **5320-32T2-11** | 32.0 | 32 | 40 | 160 | 183 | 60 | M22X2.0 | SOMT 11...DP/DL/DK/DA |
| **5320-40T2-11** | 32.0 | 40 | 50 | 160 | 183 | 70 | M30X2.0 | D180-D181 |
| **5330-32T2-11** | 33.0 | 32 | 40 | 165 | 188 | 60 | M22X2.0 | |
| **5330-40T2-11** | 33.0 | 40 | 50 | 165 | 188 | 70 | M30X2.0 | |
| **5340-32T2-11** | 34.0 | 32 | 40 | 170 | 193 | 60 | M22X2.0 | |
| **5340-40T2-11** | 34.0 | 40 | 50 | 170 | 193 | 70 | M30X2.0 | |
| **5350-32T2-11** | 35.0 | 32 | 40 | 175 | 198 | 60 | M22X2.0 | |
| **5350-40T2-11** | 35.0 | 40 | 50 | 175 | 198 | 70 | M30X2.0 | |
| **5360-32T2-11** | 36.0 | 32 | 40 | 180 | 203 | 60 | M22X2.0 | |
| **5360-40T2-11** | 36.0 | 40 | 50 | 180 | 203 | 70 | M30X2.0 | |
| **5370-32T2-13** | 37.0 | 32 | 50 | 185 | 213 | 60 | M22X2.0 | SOMT 13...DP/DL/DK/DA |
| **5370-40T2-13** | 37.0 | 40 | 50 | 185 | 213 | 70 | M30X2.0 | D180-D181 |
| **5380-32T2-13** | 38.0 | 32 | 50 | 190 | 218 | 60 | M22X2.0 | |
| **5380-40T2-13** | 38.0 | 40 | 50 | 190 | 218 | 70 | M30X2.0 | |
| **5390-32T2-13** | 39.0 | 32 | 50 | 195 | 223 | 60 | M22X2.0 | |
| **5390-40T2-13** | 39.0 | 40 | 50 | 195 | 223 | 70 | M30X2.0 | |
| **5400-32T2-13** | 40.0 | 32 | 50 | 200 | 228 | 60 | M22X2.0 | |
| **5400-40T2-13** | 40.0 | 40 | 50 | 200 | 228 | 70 | M30X2.0 | |

Cutting Condition D228

- *: Inch sized hole
- OAL: LPR+LS



ADVANCE CUTTING TaeguTec

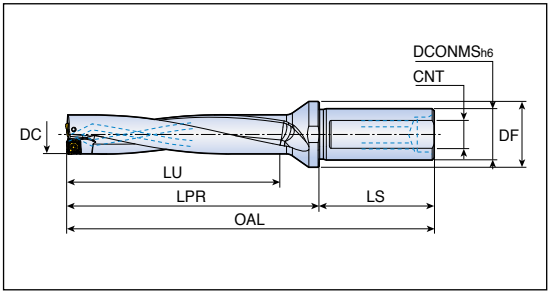
# TOP 5...-T2

## Indexable drill holders



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TOP 5410-40T2-13** | 41.0 | 40 | 50 | 205 | 233 | 70 | M30X2.0 | SOMT 13...DP/DL/DK/DA |
| **5420-40T2-13** | 42.0 | 40 | 50 | 210 | 238 | 70 | M30X2.0 | D180-D181 |
| **5430-40T2-13** | 43.0 | 40 | 50 | 215 | 243 | 70 | M30X2.0 | |
| **5440-40T2-15** | 44.0 | 40 | 60 | 220 | 255 | 70 | M30X2.0 | SOMT 15...DP/DL/DK/DA |
| **5450-40T2-15** | 45.0 | 40 | 60 | 225 | 260 | 70 | M30X2.0 | D180-D181 |
| **5460-40T2-15** | 46.0 | 40 | 60 | 230 | 265 | 70 | M30X2.0 | |
| **5470-40T2-15** | 47.0 | 40 | 60 | 235 | 270 | 70 | M30X2.0 | |
| **5480-40T2-15** | 48.0 | 40 | 60 | 240 | 275 | 70 | M30X2.0 | |
| **5490-40T2-15** | 49.0 | 40 | 60 | 245 | 280 | 70 | M30X2.0 | |
| **5500-40T2-15** | 50.0 | 40 | 60 | 250 | 285 | 70 | M30X2.0 | |

▸ OAL: LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| |  |  |  | |
| **TOP 5120 - 5135** | TS 18041I/HG | TD 6P | SL 20M | |
| **TOP 5140 - 5160** | TS 20043I/HG-P | TD 6P | SL 20M | |
| **TOP 5165 - 5220** | TS 22052I/HG-P | TD 7P | SL 25M | |
| **TOP 5225 - 5260** | SO 25065I | TD 7 | SL 25M / SL 32M | |
| **TOP 5265 - 5360** | TS 35088I | TD 10 | SL 25M / SL 32M / SL 40M | |
| **TOP 5370 - 5430** | TS 40093I | TD 15 | SL 32M / SL 40M | |
| **TOP 5440 - 5500** | TS 50115I | TD 20 | SL 40M | |

Cutting Condition D228

▸ * Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

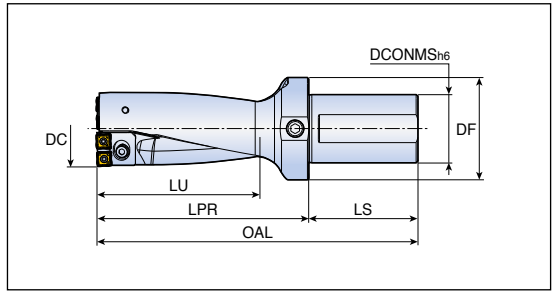
# TOP 20…CA

**Indexable drill holders for cartridge**



• Drilling depth: 2xdiameter






| Designation | Dimension (mm) | | | | | | | Setting Plate | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | OAL | LU | LPR | LS | | |
| **TOP 2051-55-50T2-09CA** | 51 | 50 | 64 | 223 | 110 | 143 | 80 | - | SOMT 09… DP/DL/DK/DA D180-D181 |
| | 52 | 50 | 64 | 223 | 110 | 143 | 80 | TOP-0901 | |
| | 53 | 50 | 64 | 223 | 110 | 143 | 80 | TOP-0902 | |
| | 54 | 50 | 64 | 223 | 110 | 143 | 80 | TOP-0903 | |
| | 55 | 50 | 64 | 223 | 110 | 143 | 80 | TOP-0904 | |
| **TOP 2056-60-50T2-11CA** | 56 | 50 | 64 | 236 | 120 | 156 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 57 | 50 | 64 | 236 | 120 | 156 | 80 | TOP-0901 | |
| | 58 | 50 | 64 | 236 | 120 | 156 | 80 | TOP-0902 | |
| | 59 | 50 | 64 | 236 | 120 | 156 | 80 | TOP-0903 | |
| | 60 | 50 | 64 | 236 | 120 | 156 | 80 | TOP-0904 | |
| **TOP 2061-65-50T2-11CA** | 61 | 50 | 69 | 249 | 130 | 169 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 62 | 50 | 69 | 249 | 130 | 169 | 80 | TOP-0901 | |
| | 63 | 50 | 69 | 249 | 130 | 169 | 80 | TOP-0902 | |
| | 64 | 50 | 69 | 249 | 130 | 169 | 80 | TOP-0903 | |
| | 65 | 50 | 69 | 249 | 130 | 169 | 80 | TOP-0904 | |
| **TOP 2066-70-50T2-11CA** | 66 | 50 | 69 | 262 | 140 | 182 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 67 | 50 | 69 | 262 | 140 | 182 | 80 | TOP-0901 | |
| | 68 | 50 | 69 | 262 | 140 | 182 | 80 | TOP-0902 | |
| | 69 | 50 | 69 | 262 | 140 | 182 | 80 | TOP-0903 | |
| | 70 | 50 | 69 | 262 | 140 | 182 | 80 | TOP-0904 | |
| **TOP 2071-75-50T2-13CA** | 71 | 50 | 74 | 275 | 150 | 195 | 80 | - | SOMT 13… DP/DL/DK/DA D180-D181 |
| | 72 | 50 | 74 | 275 | 150 | 195 | 80 | TOP-0901 | |
| | 73 | 50 | 74 | 275 | 150 | 195 | 80 | TOP-0902 | |
| | 74 | 50 | 74 | 275 | 150 | 195 | 80 | TOP-0903 | |
| | 75 | 50 | 74 | 275 | 150 | 195 | 80 | TOP-0904 | |
| **TOP 2076-80-50T2-13CA** | 76 | 50 | 74 | 288 | 160 | 208 | 80 | - | SOMT 13… DP/DL/DK/DA D180-D181 |
| | 77 | 50 | 74 | 288 | 160 | 208 | 80 | TOP-0901 | |
| | 78 | 50 | 74 | 288 | 160 | 208 | 80 | TOP-0902 | |
| | 79 | 50 | 74 | 288 | 160 | 208 | 80 | TOP-0903 | |
| | 80 | 50 | 74 | 288 | 160 | 208 | 80 | TOP-0904 | |

Cutting Condition D230

▸ OAL: LPR+LS



ADVANCE CUTTING TaeguTec

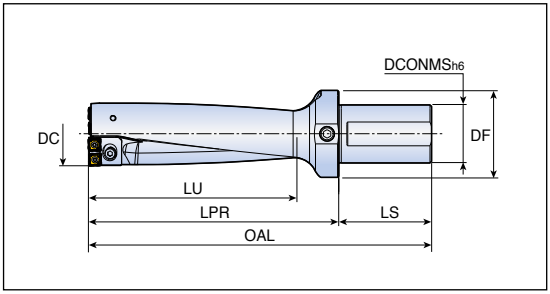
# TOP 30…CA

**Indexable drill holders for cartridge**



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Setting Plate | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | OAL | LU | LPR | LS | | |
| **TOP 3051-55-50T2-09CA** | 51 | 50 | 64 | 278 | 165 | 198 | 80 | - | SOMT 09… DP/DL/DK/DA D180-D181 |
| | 52 | 50 | 64 | 278 | 165 | 198 | 80 | TOP-0901 | |
| | 53 | 50 | 64 | 278 | 165 | 198 | 80 | TOP-0902 | |
| | 54 | 50 | 64 | 278 | 165 | 198 | 80 | TOP-0903 | |
| | 55 | 50 | 64 | 278 | 165 | 198 | 80 | TOP-0904 | |
| **TOP 3056-60-50T2-11CA** | 56 | 50 | 64 | 296 | 180 | 216 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 57 | 50 | 64 | 296 | 180 | 216 | 80 | TOP-0901 | |
| | 58 | 50 | 64 | 296 | 180 | 216 | 80 | TOP-0902 | |
| | 59 | 50 | 64 | 296 | 180 | 216 | 80 | TOP-0903 | |
| | 60 | 50 | 64 | 296 | 180 | 216 | 80 | TOP-0904 | |
| **TOP 3061-65-50T2-11CA** | 61 | 50 | 69 | 314 | 195 | 234 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 62 | 50 | 69 | 314 | 195 | 234 | 80 | TOP-0901 | |
| | 63 | 50 | 69 | 314 | 195 | 234 | 80 | TOP-0902 | |
| | 64 | 50 | 69 | 314 | 195 | 234 | 80 | TOP-0903 | |
| | 65 | 50 | 69 | 314 | 195 | 234 | 80 | TOP-0904 | |
| **TOP 3066-70-50T2-11CA** | 66 | 50 | 69 | 332 | 210 | 252 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 67 | 50 | 69 | 332 | 210 | 252 | 80 | TOP-0901 | |
| | 68 | 50 | 69 | 332 | 210 | 252 | 80 | TOP-0902 | |
| | 69 | 50 | 69 | 332 | 210 | 252 | 80 | TOP-0903 | |
| | 70 | 50 | 69 | 332 | 210 | 252 | 80 | TOP-0904 | |
| **TOP 3071-75-50T2-13CA** | 71 | 50 | 74 | 350 | 225 | 270 | 80 | - | SOMT 13… DP/DL/DK/DA D180-D181 |
| | 72 | 50 | 74 | 350 | 225 | 270 | 80 | TOP-0901 | |
| | 73 | 50 | 74 | 350 | 225 | 270 | 80 | TOP-0902 | |
| | 74 | 50 | 74 | 350 | 225 | 270 | 80 | TOP-0903 | |
| | 75 | 50 | 74 | 350 | 225 | 270 | 80 | TOP-0904 | |
| **TOP 3076-80-50T2-13CA** | 76 | 50 | 74 | 368 | 240 | 288 | 80 | - | SOMT 13… DP/DL/DK/DA D180-D181 |
| | 77 | 50 | 74 | 368 | 240 | 288 | 80 | TOP-0901 | |
| | 78 | 50 | 74 | 368 | 240 | 288 | 80 | TOP-0902 | |
| | 79 | 50 | 74 | 368 | 240 | 288 | 80 | TOP-0903 | |
| | 80 | 50 | 74 | 368 | 240 | 288 | 80 | TOP-0904 | |

Cutting Condition D230

▸ OAL: LPR+LS

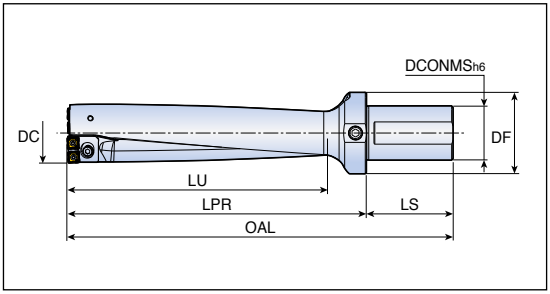
# TOP 40…CA

**Indexable drill holders for cartridge**



• Drilling depth: 4xdiameter






| Designation | Dimension (mm) | | | | | | | Setting Plate | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | OAL | LU | LPR | LS | | |
| **TOP 4051-55-50T2-09CA** | 51 | 50 | 64 | 333 | 220 | 253 | 80 | - | SOMT 09… DP/DL/DK/DA D180-D181 |
| | 52 | 50 | 64 | 333 | 220 | 253 | 80 | TOP-0901 | |
| | 53 | 50 | 64 | 333 | 220 | 253 | 80 | TOP-0902 | |
| | 54 | 50 | 64 | 333 | 220 | 253 | 80 | TOP-0903 | |
| | 55 | 50 | 64 | 333 | 220 | 253 | 80 | TOP-0904 | |
| **TOP 4056-60-50T2-11CA** | 56 | 50 | 64 | 356 | 240 | 276 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 57 | 50 | 64 | 356 | 240 | 276 | 80 | TOP-0901 | |
| | 58 | 50 | 64 | 356 | 240 | 276 | 80 | TOP-0902 | |
| | 59 | 50 | 64 | 356 | 240 | 276 | 80 | TOP-0903 | |
| | 60 | 50 | 64 | 356 | 240 | 276 | 80 | TOP-0904 | |
| **TOP 4061-65-50T2-11CA** | 61 | 50 | 69 | 379 | 260 | 299 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 62 | 50 | 69 | 379 | 260 | 299 | 80 | TOP-0901 | |
| | 63 | 50 | 69 | 379 | 260 | 299 | 80 | TOP-0902 | |
| | 64 | 50 | 69 | 379 | 260 | 299 | 80 | TOP-0903 | |
| | 65 | 50 | 69 | 379 | 260 | 299 | 80 | TOP-0904 | |
| **TOP 4066-70-50T2-11CA** | 66 | 50 | 69 | 402 | 280 | 322 | 80 | - | SOMT 11… DP/DL/DK/DA D180-D181 |
| | 67 | 50 | 69 | 402 | 280 | 322 | 80 | TOP-0901 | |
| | 68 | 50 | 69 | 402 | 280 | 322 | 80 | TOP-0902 | |
| | 69 | 50 | 69 | 402 | 280 | 322 | 80 | TOP-0903 | |
| | 70 | 50 | 69 | 402 | 280 | 322 | 80 | TOP-0904 | |
| **TOP 4071-75-50T2-13CA** | 71 | 50 | 74 | 425 | 300 | 345 | 80 | - | SOMT 13… DP/DL/DK/DA D180-D181 |
| | 72 | 50 | 74 | 425 | 300 | 345 | 80 | TOP-0901 | |
| | 73 | 50 | 74 | 425 | 300 | 345 | 80 | TOP-0902 | |
| | 74 | 50 | 74 | 425 | 300 | 345 | 80 | TOP-0903 | |
| | 75 | 50 | 74 | 425 | 300 | 345 | 80 | TOP-0904 | |
| **TOP 4076-80-50T2-13CA** | 76 | 50 | 74 | 448 | 320 | 368 | 80 | - | SOMT 13… DP/DL/DK/DA D180-D181 |
| | 77 | 50 | 74 | 448 | 320 | 368 | 80 | TOP-0901 | |
| | 78 | 50 | 74 | 448 | 320 | 368 | 80 | TOP-0902 | |
| | 79 | 50 | 74 | 448 | 320 | 368 | 80 | TOP-0903 | |
| | 80 | 50 | 74 | 448 | 320 | 368 | 80 | TOP-0904 | |

Cutting Condition D230

▸ OAL: LPR+LS

# TOP…CA

**Indexable drill holders for cartridge**

## Spare parts

| Designation | Screw | Cartridge for peripheral | Cartridge for center |
|---|---|---|---|
| |  |  |  |
| **TOP ..51-55-50T2-09CA** | TS 35088I | TOP 09CA-P1 | TOP 09CA-C1 |
| **TOP ..56-60-50T2-11CA** | TS 35088I | TOP 11CA-P1 | TOP 11CA-C1 |
| **TOP ..61-65-50T2-11CA** | TS 35088I | TOP 11CA-P2 | TOP 11CA-C2 |
| **TOP ..66-70-50T2-11CA** | TS 35088I | TOP 11CA-P3 | TOP 11CA-C3 |
| **TOP ..71-75-50T2-13CA** | TS 40093I | TOP 13CA-P1 | TOP 13CA-C1 |
| **TOP ..76-80-50T2-13CA** | TS 40093I | TOP 13CA-P2 | TOP 13CA-C2 |

## Spare parts for cartridge

| Designation | Cartridge clamping screw | Washer | Setting plate screw |
|---|---|---|---|
| **TOP 09CA-P1** | SH M4x0.7x16 | MW 4.3x8 | TS 20043I/HG-P |
| **TOP 09CA-C1** | SH M4x0.7x16 | MW 4.3x8 | - |
| **TOP 11CA-P1** | SH M5x0.8x16 | MW 5.5x10 | TS 20043I/HG-P |
| **TOP 11CA-C1** | SH M5x0.8x16 | MW 5.5x10 | - |
| **TOP 11CA-P2** | SH M5x0.8x16 | MW 5.5x10 | TS 20043I/HG-P |
| **TOP 11CA-C2** | SH M5x0.8x16 | MW 5.5x10 | - |
| **TOP 11CA-P3** | SH M5x0.8x16 | MW 5.5x10 | TS 20043I/HG-P |
| **TOP 11CA-C3** | SH M5x0.8x16 | MW 5.5x10 | - |
| **TOP 13CA-P1** | SH M6x1.0x20 | MW 6.4x12 | TS 20043I/HG-P |
| **TOP 13CA-C1** | SH M6x1.0x20 | MW 6.4x12 | - |
| **TOP 13CA-P2** | SH M6x1.0x20 | MW 6.4x12 | TS 20043I/HG-P |
| **TOP 13CA-C2** | SH M6x1.0x20 | MW 6.4x12 | - |

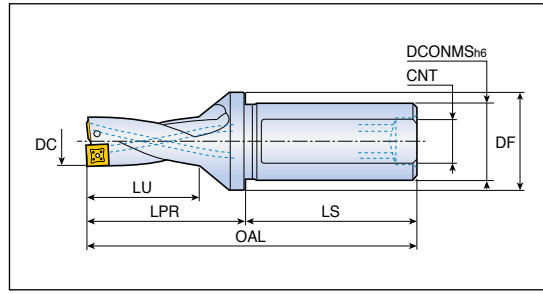
# TDR 2...-T2

**Indexable drill holders**



• Drilling depth: 2xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TDR 2125-20T2-05 | 12.5 | 20 | 25 | 26 | 44 | 50 | M13X1.0 | SPMG 05... |
| 2130-20T2-05 | 13.0 | 20 | 25 | 26 | 44 | 50 | M13X1.0 | DG/DK |
| 2135-20T2-05 | 13.5 | 20 | 25 | 28 | 46 | 50 | M13X1.0 | SPGG 05..DA |
| 2140-20T2-05 | 14.0 | 20 | 25 | 28 | 46 | 50 | M13X1.0 | D182-D183 |
| 2145-20T2-05 | 14.5 | 20 | 25 | 30 | 49 | 50 | M13X1.0 | |
| 2150-20T2-05 | 15.0 | 20 | 25 | 30 | 49 | 50 | M13X1.0 | |
| 2155-25T2-06 | 15.5 | 25 | 32 | 32 | 52 | 56 | M16X1.5 | SPMG 06... |
| 2160-25T2-06 | 16.0 | 25 | 32 | 32 | 52 | 56 | M16X1.5 | DG/DK |
| 2165-25T2-06 | 16.5 | 25 | 32 | 34 | 54 | 56 | M16X1.5 | SPGG 06..DA |
| 2170-25T2-06 | 17.0 | 25 | 32 | 34 | 54 | 56 | M16X1.5 | D182-D183 |
| 2175-25T2-06 | 17.5 | 25 | 32 | 36 | 57 | 56 | M16X1.5 | |
| 2180-25T2-06 | 18.0 | 25 | 32 | 36 | 57 | 56 | M16X1.5 | |
| 2185-25T2-06 | 18.5 | 25 | 32 | 38 | 59 | 56 | M16X1.5 | |
| 2190-25T2-06 | 19.0 | 25 | 32 | 38 | 59 | 56 | M16X1.5 | |
| 2195-25T2-06 | 19.5 | 25 | 32 | 40 | 63 | 56 | M16X1.5 | |
| 2200-25T2-06 | 20.0 | 25 | 32 | 40 | 63 | 56 | M16X1.5 | |
| 2205-25T2-06 | 20.5 | 25 | 32 | 42 | 65 | 56 | M16X1.5 | |
| 2210-25T2-06 | 21.0 | 25 | 32 | 42 | 65 | 56 | M16X1.5 | |
| 2215-25T2-06 | 21.5 | 25 | 32 | 44 | 67 | 56 | M16X1.5 | |
| 2220-25T2-07 | 22.0 | 25 | 32 | 44 | 67 | 56 | M16X1.5 | SPMG 07... |
| 2225-25T2-07 | 22.5 | 25 | 32 | 46 | 71 | 56 | M16X1.5 | DG/DK |
| 2225-32T2-07 | 22.5 | 32 | 40 | 46 | 71 | 60 | M22X2.0 | SPGG 07..DA |
| 2230-25T2-07 | 23.0 | 25 | 32 | 46 | 71 | 56 | M16X1.5 | D182-D183 |
| 2230-32T2-07 | 23.0 | 32 | 40 | 46 | 71 | 60 | M22X2.0 | |
| 2235-25T2-07 | 23.5 | 25 | 32 | 48 | 74 | 56 | M16X1.5 | |
| 2235-32T2-07 | 23.5 | 32 | 40 | 48 | 74 | 60 | M22X2.0 | |
| 2240-25T2-07 | 24.0 | 25 | 32 | 48 | 74 | 56 | M16X1.5 | |
| 2240-32T2-07 | 24.0 | 32 | 40 | 48 | 74 | 60 | M22X2.0 | |
| 2245-25T2-07 | 24.5 | 25 | 32 | 50 | 77 | 56 | M16X1.5 | |
| 2245-32T2-07 | 24.5 | 32 | 40 | 50 | 77 | 60 | M22X2.0 | |
| 2250-25T2-07 | 25.0 | 25 | 32 | 50 | 77 | 56 | M16X1.5 | |
| 2250-32T2-07 | 25.0 | 32 | 40 | 50 | 77 | 60 | M22X2.0 | |
| 2255-25T2-07 | 25.5 | 25 | 32 | 52 | 79 | 56 | M16X1.5 | |
| 2255-32T2-07 | 25.5 | 32 | 40 | 52 | 79 | 60 | M22X2.0 | |
| 2260-25T2-07 | 26.0 | 25 | 32 | 52 | 79 | 56 | M16X1.5 | |

Cutting Condition D232

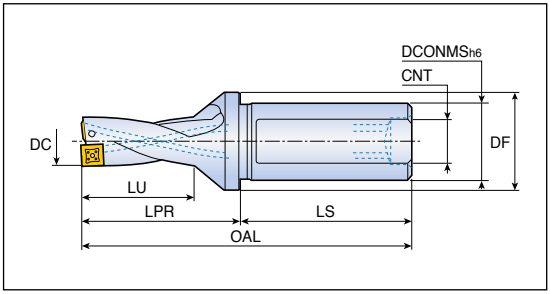
▸ OAL: LPR+LS

# TDR 2...-T2

**Indexable drill holders**



• Drilling depth: 2xdiameter




| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TDR | 2260-32T2-07 | 26.0 | 32 | 40 | 52 | 79 | 60 | M22X2.0 | SPMG 07... |
| | 2265-25T2-07 | 26.5 | 25 | 32 | 54 | 81 | 56 | M16X1.5 | DG/DK |
| | 2265-32T2-07 | 26.5 | 32 | 40 | 54 | 81 | 60 | M22X2.0 | SPGG 07..DA |
| | 2270-25T2-07 | 27.0 | 25 | 32 | 54 | 81 | 56 | M16X1.5 | D182-D183 |
| | 2270-32T2-07 | 27.0 | 32 | 40 | 54 | 81 | 60 | M22X2.0 | |
| | 2275-25T2-07 | 27.5 | 25 | 32 | 56 | 84 | 56 | Rc 1/8 | |
| | 2275-32T2-07 | 27.5 | 32 | 40 | 56 | 84 | 60 | Rc 1/4 | |
| | 2280-25T2-09 | 28.0 | 25 | 40 | 56 | 84 | 56 | Rc 1/8 | SPMG 09... |
| | 2280-32T2-09 | 28.0 | 32 | 40 | 56 | 84 | 60 | Rc 1/4 | DG/DK |
| | 2285-25T2-09 | 28.5 | 25 | 40 | 58 | 86 | 56 | Rc 1/8 | SPGG 09..DA |
| | 2285-32T2-09 | 28.5 | 32 | 40 | 58 | 86 | 60 | Rc 1/4 | D182-D183 |
| | 2290-25T2-09 | 29.0 | 25 | 40 | 58 | 86 | 56 | Rc 1/8 | |
| | 2290-32T2-09 | 29.0 | 32 | 40 | 58 | 86 | 60 | Rc 1/4 | |
| | 2295-32T2-09 | 29.5 | 32 | 40 | 60 | 91 | 60 | Rc 1/4 | |
| | 2295-40T2-09 | 29.5 | 40 | 50 | 60 | 91 | 70 | Rc 1/4 | |
| | 2300-32T2-09 | 30.0 | 32 | 40 | 60 | 91 | 60 | Rc 1/4 | |
| | 2300-40T2-09 | 30.0 | 40 | 50 | 60 | 91 | 70 | Rc 1/4 | |
| | 2305-32T2-09 | 30.5 | 32 | 40 | 62 | 94 | 60 | Rc 1/4 | |
| | 2305-40T2-09 | 30.5 | 40 | 50 | 62 | 94 | 70 | Rc 1/4 | |
| | 2310-32T2-09 | 31.0 | 32 | 40 | 62 | 94 | 60 | Rc 1/4 | |
| | 2310-40T2-09 | 31.0 | 40 | 50 | 62 | 94 | 70 | Rc 1/4 | |
| | 2315-32T2-09 | 31.5 | 32 | 40 | 64 | 96 | 60 | Rc 1/4 | |
| | 2315-40T2-09 | 31.5 | 40 | 50 | 64 | 96 | 70 | Rc 1/4 | |
| | 2320-32T2-09 | 32.0 | 32 | 40 | 64 | 96 | 60 | Rc 1/4 | |
| | 2320-40T2-09 | 32.0 | 40 | 50 | 64 | 96 | 70 | Rc 1/4 | |
| | 2325-32T2-09 | 32.5 | 32 | 40 | 66 | 99 | 60 | Rc 1/4 | |
| | 2325-40T2-09 | 32.5 | 40 | 50 | 66 | 99 | 70 | Rc 1/4 | |
| | 2330-32T2-09 | 33.0 | 32 | 40 | 66 | 99 | 60 | Rc 1/4 | |
| | 2330-40T2-09 | 33.0 | 40 | 50 | 66 | 99 | 70 | Rc 1/4 | |
| | 2340-32T2-11 | 34.0 | 32 | 50 | 68 | 101 | 60 | Rc 1/4 | SPMG 11... |
| | 2340-40T2-11 | 34.0 | 40 | 55 | 68 | 101 | 70 | Rc 1/4 | DG/DK |
| | 2350-32T2-11 | 35.0 | 32 | 50 | 70 | 104 | 60 | Rc 1/4 | SPGG 11..DA |
| | 2350-40T2-11 | 35.0 | 40 | 55 | 70 | 104 | 70 | Rc 1/4 | D182-D183 |
| | 2360-32T2-11 | 36.0 | 32 | 50 | 72 | 107 | 60 | Rc 1/4 | |
| | 2360-40T2-11 | 36.0 | 40 | 55 | 72 | 107 | 70 | Rc 1/4 | |

Cutting Condition D232

▸ OAL: LPR+LS

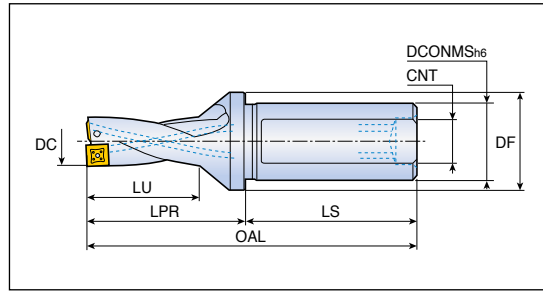
# TDR 2...-T2

## Indexable drill holders



• Drilling depth: 2xdiameter






| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TDR** | **2370-32T2-11** | 37.0 | 32 | 50 | 74 | 110 | 60 | Rc 1/4 | SPMG 11... |
| | **2370-40T2-11** | 37.0 | 40 | 55 | 74 | 110 | 70 | Rc 1/4 | DG/DK |
| | **2380-32T2-11** | 38.0 | 32 | 50 | 76 | 113 | 60 | Rc 1/4 | SPGG 11..DA |
| | **2380-40T2-11** | 38.0 | 40 | 55 | 76 | 113 | 70 | Rc 1/4 | D182-D183 |
| | **2390-32T2-11** | 39.0 | 32 | 50 | 78 | 115 | 60 | Rc 1/4 | |
| | **2390-40T2-11** | 39.0 | 40 | 55 | 78 | 115 | 70 | Rc 1/4 | |
| | **2400-32T2-11** | 40.0 | 32 | 50 | 80 | 118 | 60 | Rc 1/4 | |
| | **2400-40T2-11** | 40.0 | 40 | 55 | 80 | 118 | 70 | Rc 1/4 | |
| | **2410-40T2-11** | 41.0 | 40 | 55 | 82 | 121 | 70 | Rc 1/4 | |
| | **2420-40T2-14** | 42.0 | 40 | 60 | 84 | 123 | 70 | Rc 1/4 | SPMG 14... |
| | **2430-40T2-14** | 43.0 | 40 | 60 | 86 | 126 | 70 | Rc 1/4 | DG/DK |
| | **2440-40T2-14** | 44.0 | 40 | 60 | 88 | 128 | 70 | Rc 1/4 | SPGG 14..DA |
| | **2450-40T2-14** | 45.0 | 40 | 60 | 90 | 132 | 70 | Rc 1/4 | D182-D183 |
| | **2460-40T2-14** | 46.0 | 40 | 60 | 92 | 135 | 70 | Rc 1/4 | |
| | **2470-40T2-14** | 47.0 | 40 | 60 | 94 | 137 | 70 | Rc 1/4 | |
| | **2480-40T2-14** | 48.0 | 40 | 60 | 96 | 140 | 70 | Rc 1/4 | |
| | **2490-40T2-14** | 49.0 | 40 | 60 | 98 | 142 | 70 | Rc 1/4 | |
| | **2500-40T2-14** | 50.0 | 40 | 60 | 100 | 145 | 70 | Rc 1/4 | |

▸ OAL: LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| |  |  |  | |
| **TDR 2125 - 2150** | TS 20043I/HG-P | TD 6P | SL 20 M | |
| **TDR 2155 - 2215** | TS 22052I/HG | TD 7 | SL 25 M | |
| **TDR 2220 - 2270** | TS 25064I | TD 8 | SL 25 M / SL 32 M | |
| **TDR 2275** | TS 25064I | TD 8 | - | |
| **TDR 2280 - 2330** | TS 35088I | TD 10 | - | |
| **TDR 2340 - 2390** | TS 40093I | TD 15 | - | |
| **TDR 2400 - 2410** | TS 40093I | TD 15 | - | |
| **TDR 2420 - 2500** | SO 50090I | TD 20 | - | |

Cutting Condition D232

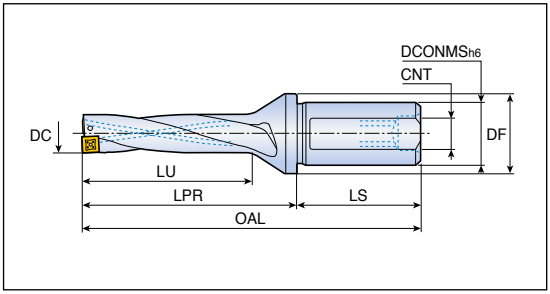
▸ *Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

# TDR 3...-T2

**Indexable drill holders**



• Drilling depth: 3xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TDR 3125-20T2-05** | 12.5 | 20 | 25 | 39 | 57 | 50 | M13X1.0 | SPMG 05... |
| **3130-20T2-05** | 13.0 | 20 | 25 | 39 | 57 | 50 | M13X1.0 | DG/DK |
| **3135-20T2-05** | 13.5 | 20 | 25 | 42 | 60 | 50 | M13X1.0 | SPGG 05..DA |
| **3140-20T2-05** | 14.0 | 20 | 25 | 42 | 60 | 50 | M13X1.0 | D182-D183 |
| **3145-20T2-05** | 14.5 | 20 | 25 | 45 | 64 | 50 | M13X1.0 | |
| **3150-20T2-05** | 15.0 | 20 | 25 | 45 | 64 | 50 | M13X1.0 | |
| **3155-25T2-06** | 15.5 | 25 | 32 | 48 | 68 | 56 | M16X1.5 | SPMG 06... |
| **3160-25T2-06** | 16.0 | 25 | 32 | 48 | 68 | 56 | M16X1.5 | DG/DK |
| **3165-25T2-06** | 16.5 | 25 | 32 | 51 | 71 | 56 | M16X1.5 | SPGG 06..DA |
| **3170-25T2-06** | 17.0 | 25 | 32 | 51 | 71 | 56 | M16X1.5 | D182-D183 |
| **3175-25T2-06** | 17.5 | 25 | 32 | 54 | 75 | 56 | M16X1.5 | |
| **3180-25T2-06** | 18.0 | 25 | 32 | 54 | 75 | 56 | M16X1.5 | |
| **3185-25T2-06** | 18.5 | 25 | 32 | 57 | 78 | 56 | M16X1.5 | |
| **3190-25T2-06** | 19.0 | 25 | 32 | 57 | 78 | 56 | M16X1.5 | |
| **3195-25T2-06** | 19.5 | 25 | 32 | 60 | 83 | 56 | M16X1.5 | |
| **3200-25T2-06 *** | 20.0 | 25 | 32 | 60 | 83 | 56 | M16X1.5 | |
| **3205-25T2-06** | 20.5 | 25 | 32 | 63 | 86 | 56 | M16X1.5 | |
| **3209-25T2-06 *** | 20.9 | 25 | 32 | 63 | 86 | 56 | M16X1.5 | |
| **3210-25T2-06** | 21.0 | 25 | 32 | 63 | 86 | 56 | M16X1.5 | |
| **3215-25T2-06** | 21.5 | 25 | 32 | 66 | 89 | 56 | M16X1.5 | |
| **3220-25T2-07** | 22.0 | 25 | 32 | 66 | 89 | 56 | M16X1.5 | SPMG 07... |
| **3225-25T2-07** | 22.5 | 25 | 32 | 69 | 94 | 56 | M16X1.5 | DG/DK |
| **3225-32T2-07** | 22.5 | 32 | 40 | 69 | 94 | 60 | M22X2.0 | SPGG 07..DA |
| **3230-25T2-07** | 23.0 | 25 | 32 | 69 | 94 | 56 | M16X1.5 | D182-D183 |
| **3230-32T2-07** | 23.0 | 32 | 40 | 69 | 94 | 60 | M22X2.0 | |
| **3235-25T2-07** | 23.5 | 25 | 32 | 72 | 98 | 56 | M16X1.5 | |
| **3235-32T2-07** | 23.5 | 32 | 40 | 72 | 98 | 60 | M22X2.0 | |
| **3239-25T2-07 *** | 23.9 | 25 | 32 | 72 | 98 | 56 | M16X1.5 | |
| **3239-32T2-07 *** | 23.9 | 32 | 45 | 72 | 98 | 60 | M22X2.0 | |
| **3240-25T2-07** | 24.0 | 25 | 32 | 72 | 98 | 56 | M16X1.5 | |
| **3240-32T2-07** | 24.0 | 32 | 40 | 72 | 98 | 60 | M22X2.0 | |
| **3245-25T2-07** | 24.5 | 25 | 32 | 75 | 102 | 56 | M16X1.5 | |
| **3245-32T2-07** | 24.5 | 32 | 40 | 75 | 102 | 60 | M22X2.0 | |
| **3250-25T2-07** | 25.0 | 25 | 32 | 75 | 102 | 56 | M16X1.5 | |
| **3250-32T2-07** | 25.0 | 32 | 40 | 75 | 102 | 60 | M22X2.0 | |

Cutting Condition D232

- *: Pre-thread hole making
- OAL: LPR+LS

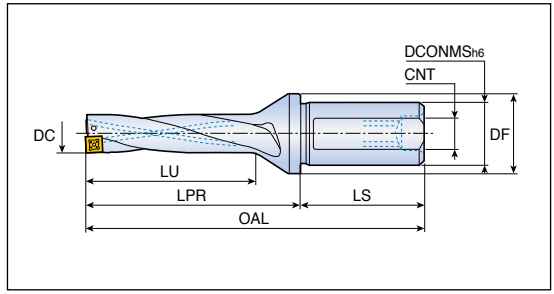
# TDR 3...-T2

## Indexable drill holders



• Drilling depth: 3xdiameter






| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TDR** | **3255-25T2-07** | 25.5 | 25 | 32 | 78 | 105 | 56 | M16X1.5 | SPMG 07... |
| | **3255-32T2-07** | 25.5 | 32 | 40 | 78 | 105 | 60 | M22X2.0 | DG/DK |
| | **3260-25T2-07** | 26.0 | 25 | 32 | 78 | 105 | 56 | M16X1.5 | SPGG 07..DA |
| | **3260-32T2-07** | 26.0 | 32 | 40 | 78 | 105 | 60 | M22X2.0 | D182-D183 |
| | **3264-25T2-07 *** | 26.4 | 25 | 45 | 81 | 108 | 56 | M16X1.5 | |
| | **3264-32T2-07 *** | 26.4 | 32 | 45 | 81 | 108 | 60 | M22X2.0 | |
| | **3265-25T2-07** | 26.5 | 25 | 32 | 81 | 108 | 56 | M16X1.5 | |
| | **3265-32T2-07** | 26.5 | 32 | 40 | 81 | 108 | 60 | M22X2.0 | |
| | **3270-25T2-07** | 27.0 | 25 | 32 | 81 | 108 | 56 | M16X1.5 | |
| | **3270-32T2-07** | 27.0 | 32 | 40 | 81 | 108 | 60 | M22X2.0 | |
| | **3275-25T2-07** | 27.5 | 25 | 32 | 84 | 112 | 56 | Rc 1/8 | |
| | **3275-32T2-07** | 27.5 | 32 | 40 | 84 | 112 | 60 | Rc 1/4 | |
| | **3280-25T2-09** | 28.0 | 25 | 40 | 84 | 112 | 56 | Rc 1/8 | SPMG 09... |
| | **3280-32T2-09** | 28.0 | 32 | 40 | 84 | 112 | 60 | Rc 1/4 | DG/DK |
| | **3285-25T2-09** | 28.5 | 25 | 40 | 87 | 115 | 56 | Rc 1/8 | SPGG 09..DA |
| | **3285-32T2-09** | 28.5 | 32 | 40 | 87 | 115 | 56 | Rc 1/4 | D182-D183 |
| | **3290-25T2-09** | 29.0 | 25 | 40 | 87 | 115 | 56 | Rc 1/8 | |
| | **3290-32T2-09** | 29.0 | 32 | 40 | 87 | 115 | 60 | Rc 1/4 | |
| | **3294-32T2-09 *** | 29.4 | 32 | 55 | 90 | 121 | 60 | Rc 1/4 | |
| | **3294-40T2-09 *** | 29.4 | 40 | 55 | 90 | 121 | 70 | Rc 1/4 | |
| | **3295-32T2-09** | 29.5 | 32 | 40 | 90 | 121 | 60 | Rc 1/4 | |
| | **3295-40T2-09** | 29.5 | 40 | 50 | 90 | 121 | 70 | Rc 1/4 | |
| | **3300-32T2-09** | 30.0 | 32 | 40 | 90 | 121 | 60 | Rc 1/4 | |
| | **3300-40T2-09** | 30.0 | 40 | 50 | 90 | 121 | 70 | Rc 1/4 | |
| | **3305-32T2-09** | 30.5 | 32 | 40 | 93 | 125 | 60 | Rc 1/4 | |
| | **3305-40T2-09** | 30.5 | 40 | 50 | 93 | 125 | 70 | Rc 1/4 | |
| | **3310-32T2-09** | 31.0 | 32 | 40 | 93 | 125 | 60 | Rc 1/4 | |
| | **3310-40T2-09** | 31.0 | 40 | 50 | 93 | 125 | 70 | Rc 1/4 | |
| | **3315-32T2-09** | 31.5 | 32 | 40 | 96 | 128 | 60 | Rc 1/4 | |
| | **3315-40T2-09** | 31.5 | 40 | 50 | 96 | 128 | 70 | Rc 1/4 | |
| | **3320-32T2-09** | 32.0 | 32 | 40 | 96 | 128 | 60 | Rc 1/4 | |
| | **3320-40T2-09** | 32.0 | 40 | 50 | 96 | 128 | 70 | Rc 1/4 | |

Cutting Condition D232

- *: Pre-thread hole making
- OAL: LPR+LS

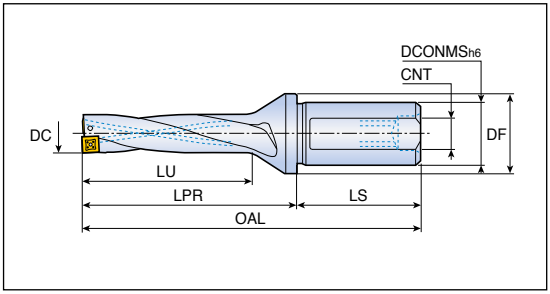
# TDR 3...-T2

**Indexable drill holders**



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TDR 3325-32T2-09** | 32.5 | 32 | 40 | 99 | 132 | 60 | Rc 1/4 | SPMG 09... DG/DK SPGG 09..DA D182-D183 |
| **3325-40T2-09** | 32.5 | 40 | 50 | 99 | 132 | 70 | Rc 1/4 | |
| **3330-32T2-09** | 33.0 | 32 | 40 | 99 | 132 | 60 | Rc 1/4 | |
| **3330-40T2-09** | 33.0 | 40 | 50 | 99 | 132 | 70 | Rc 1/4 | |
| **3340-32T2-11** | 34.0 | 32 | 50 | 102 | 135 | 60 | Rc 1/4 | SPMG 11... DG/DK SPGG 09..DA D182-D183 |
| **3340-40T2-11** | 34.0 | 40 | 55 | 102 | 135 | 70 | Rc 1/4 | |
| **3350-32T2-11** | 35.0 | 32 | 50 | 105 | 139 | 60 | Rc 1/4 | |
| **3350-40T2-11** | 35.0 | 40 | 55 | 105 | 139 | 70 | Rc 1/4 | |
| **3360-32T2-11** | 36.0 | 32 | 50 | 108 | 143 | 60 | Rc 1/4 | |
| **3360-40T2-11** | 36.0 | 40 | 55 | 108 | 143 | 70 | Rc 1/4 | |
| **3370-32T2-11** | 37.0 | 32 | 50 | 111 | 147 | 60 | Rc 1/4 | |
| **3370-40T2-11** | 37.0 | 40 | 55 | 111 | 147 | 70 | Rc 1/4 | |
| **3375-32T2-11 *** | 37.5 | 32 | 55 | 114 | 151 | 60 | Rc 1/4 | |
| **3375-40T2-11 *** | 37.5 | 40 | 55 | 114 | 151 | 70 | Rc 1/4 | |
| **3380-32T2-11** | 38.0 | 32 | 50 | 114 | 151 | 60 | Rc 1/4 | |
| **3380-40T2-11** | 38.0 | 40 | 55 | 114 | 151 | 70 | Rc 1/4 | |
| **3390-32T2-11** | 39.0 | 32 | 50 | 117 | 154 | 60 | Rc 1/4 | |
| **3390-40T2-11** | 39.0 | 40 | 55 | 117 | 154 | 70 | Rc 1/4 | |
| **3400-32T2-11** | 40.0 | 32 | 50 | 120 | 158 | 60 | Rc 1/4 | |
| **3400-40T2-11** | 40.0 | 40 | 55 | 120 | 158 | 70 | Rc 1/4 | |
| **3405-40T2-11 *** | 40.5 | 40 | 60 | 123 | 162 | 70 | Rc 1/4 | |
| **3410-40T2-11** | 41.0 | 40 | 55 | 123 | 162 | 70 | Rc 1/4 | |

Cutting Condition D232

- *: Pre-thread hole making
- OAL: LPR+LS

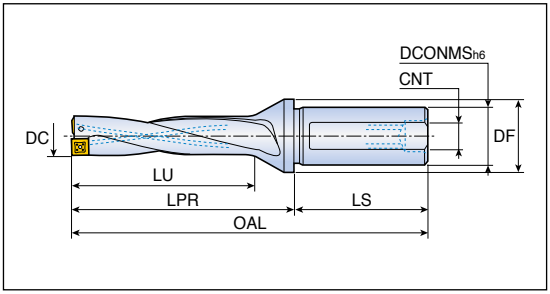
# TDR 3...-T2

## Indexable drill holders



• Drilling depth: 3xdiameter






| Designation | | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TDR | **3420-40T2-14** | 42.0 | 40 | 60 | 126 | 165 | 70 | Rc 1/4 | SPMG 14... |
| | **3430-40T2-14** | 43.0 | 40 | 60 | 129 | 169 | 70 | Rc 1/4 | DG/DK |
| | **3440-40T2-14** | 44.0 | 40 | 60 | 132 | 172 | 70 | Rc 1/4 | SPGG 14..DA |
| | **3450-40T2-14** | 45.0 | 40 | 60 | 135 | 177 | 70 | Rc 1/4 | D182-D183 |
| | **3460-40T2-14** | 46.0 | 40 | 60 | 138 | 181 | 70 | Rc 1/4 | |
| | **3470-40T2-14** | 47.0 | 40 | 60 | 141 | 184 | 70 | Rc 1/4 | |
| | **3480-40T2-14** | 48.0 | 40 | 60 | 144 | 188 | 70 | Rc 1/4 | |
| | **3490-40T2-14** | 49.0 | 40 | 60 | 147 | 191 | 70 | Rc 1/4 | |
| | **3500-40T2-14** | 50.0 | 40 | 60 | 150 | 195 | 70 | Rc 1/4 | |

▸ OAL: LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| **TDR 3125 - 3150** | TS 20043I/HG-P | TD 6P | SL 20 M | |
| **TDR 3155 - 3215** | TS 22052I/HG | TD 7 | SL 25 M | |
| **TDR 3220 - 3270** | TS 25064I | TD 8 | SL 25 M / SL 32 M | |
| **TDR 3275** | TS 25064I | TD 8 | - | |
| **TDR 3280 - 3330** | TS 35088I | TD 10 | - | |
| **TDR 3340 - 3390** | TS 40093I | TD 15 | - | |
| **TDR 3400 - 3410** | TS 40093I | TD 15 | - | |
| **TDR 3420 - 3500** | SO 50090I | TD 20 | - | |

Cutting Condition D232

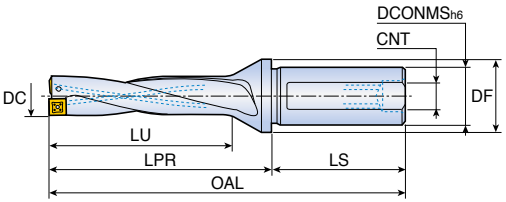
▸ *Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm : SL 25M

# TDR 4...-T2

**Indexable drill holders**



• Drilling depth: 4xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TDR 4125-20T2-05 | 12.5 | 20 | 25 | 52 | 70 | 50 | M13X1.0 | SPMG 05... |
| 4130-20T2-05 | 13.0 | 20 | 25 | 52 | 70 | 50 | M13X1.0 | DG/DK |
| 4135-20T2-05 | 13.5 | 20 | 25 | 56 | 74 | 50 | M13X1.0 | SPGG 05..DA |
| 4140-20T2-05 | 14.0 | 20 | 25 | 56 | 74 | 50 | M13X1.0 | D182-D183 |
| 4145-20T2-05 | 14.5 | 20 | 25 | 60 | 79 | 50 | M13X1.0 | |
| 4150-20T2-05 | 15.0 | 20 | 25 | 60 | 79 | 50 | M13X1.0 | |
| 4155-25T2-06 | 15.5 | 25 | 32 | 64 | 84 | 56 | M16X1.5 | SPMG 06... |
| 4160-25T2-06 | 16.0 | 25 | 32 | 64 | 84 | 56 | M16X1.5 | DG/DK |
| 4165-25T2-06 | 16.5 | 25 | 32 | 68 | 88 | 56 | M16X1.5 | SPGG 06..DA |
| 4170-25T2-06 | 17.0 | 25 | 32 | 68 | 88 | 56 | M16X1.5 | D182-D183 |
| 4175-25T2-06 | 17.5 | 25 | 32 | 72 | 93 | 56 | M16X1.5 | |
| 4180-25T2-06 | 18.0 | 25 | 32 | 72 | 93 | 56 | M16X1.5 | |
| 4185-25T2-06 | 18.5 | 25 | 32 | 76 | 97 | 56 | M16X1.5 | |
| 4190-25T2-06 | 19.0 | 25 | 32 | 76 | 97 | 56 | M16X1.5 | |
| 4195-25T2-06 | 19.5 | 25 | 32 | 80 | 103 | 56 | M16X1.5 | |
| 4200-25T2-06 | 20.0 | 25 | 32 | 80 | 103 | 56 | M16X1.5 | |
| 4205-25T2-06 | 20.5 | 25 | 32 | 84 | 107 | 56 | M16X1.5 | |
| 4210-25T2-06 | 21.0 | 25 | 32 | 84 | 107 | 56 | M16X1.5 | |
| 4215-25T2-06 | 21.5 | 25 | 32 | 88 | 111 | 56 | M16X1.5 | |
| 4220-25T2-07 | 22.0 | 25 | 32 | 88 | 111 | 56 | M16X1.5 | SPMG 07... |
| 4225-25T2-07 | 22.5 | 25 | 32 | 92 | 117 | 56 | M16X1.5 | DG/DK |
| 4225-32T2-07 | 22.5 | 32 | 40 | 92 | 117 | 60 | M22X2.0 | SPGG 07..DA |
| 4230-25T2-07 | 23.0 | 25 | 32 | 92 | 117 | 56 | M16X1.5 | D182-D183 |
| 4230-32T2-07 | 23.0 | 32 | 40 | 92 | 117 | 60 | M22X2.0 | |
| 4235-25T2-07 | 23.5 | 25 | 32 | 96 | 122 | 56 | M16X1.5 | |
| 4235-32T2-07 | 23.5 | 32 | 40 | 96 | 122 | 60 | M22X2.0 | |
| 4240-25T2-07 | 24.0 | 25 | 32 | 96 | 122 | 56 | M16X1.5 | |
| 4240-32T2-07 | 24.0 | 32 | 40 | 96 | 122 | 60 | M22X2.0 | |
| 4245-25T2-07 | 24.5 | 25 | 32 | 100 | 127 | 56 | M16X1.5 | |
| 4245-32T2-07 | 24.5 | 32 | 40 | 100 | 127 | 60 | M22X2.0 | |
| 4250-25T2-07 | 25.0 | 25 | 32 | 100 | 127 | 56 | M16X1.5 | |
| 4250-32T2-07 | 25.0 | 32 | 40 | 100 | 127 | 60 | M22X2.0 | |
| 4255-25T2-07 | 25.5 | 25 | 32 | 104 | 131 | 56 | M16X1.5 | |
| 4255-32T2-07 | 25.5 | 32 | 40 | 104 | 131 | 60 | M22X2.0 | |
| 4260-25T2-07 | 26.0 | 25 | 32 | 104 | 131 | 56 | M16X1.5 | |

Cutting Condition D232

▸ OAL: LPR+LS

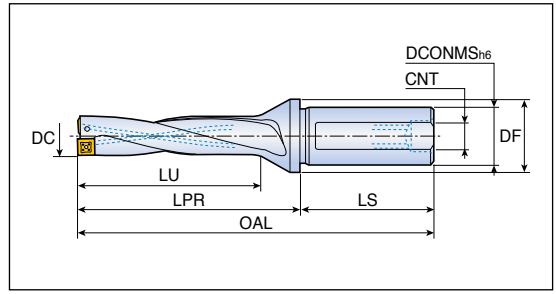
# TDR 4...-T2

## Indexable drill holders



• Drilling depth: 4xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TDR 4260-32T2-07 | 26.0 | 32 | 40 | 104 | 131 | 60 | M22X2.0 | SPMG 07... |
| 4265-25T2-07 | 26.5 | 25 | 32 | 108 | 135 | 56 | M16X1.5 | DG/DK |
| 4265-32T2-07 | 26.5 | 32 | 40 | 108 | 135 | 60 | M22X2.0 | SPGG 07..DA |
| 4270-25T2-07 | 27.0 | 25 | 32 | 108 | 135 | 56 | M16X1.5 | D182-D183 |
| 4270-32T2-07 | 27.0 | 32 | 40 | 108 | 135 | 60 | M22X2.0 | |
| 4275-25T2-07 | 27.5 | 25 | 32 | 112 | 140 | 56 | Rc 1/8 | |
| 4275-32T2-07 | 27.5 | 32 | 40 | 112 | 140 | 60 | Rc 1/4 | |
| 4280-25T2-09 | 28.0 | 25 | 40 | 112 | 140 | 56 | Rc 1/8 | SPMG 09... |
| 4280-32T2-09 | 28.0 | 32 | 40 | 112 | 140 | 60 | Rc 1/4 | DG/DK |
| 4285-25T2-09 | 28.5 | 25 | 40 | 116 | 144 | 56 | Rc 1/8 | SPGG 09..DA |
| 4285-32T2-09 | 28.5 | 32 | 40 | 116 | 144 | 60 | Rc 1/4 | D182-D183 |
| 4290-25T2-09 | 29.0 | 25 | 40 | 116 | 144 | 56 | Rc 1/8 | |
| 4290-32T2-09 | 29.0 | 32 | 40 | 116 | 144 | 60 | Rc 1/4 | |
| 4295-32T2-09 | 29.5 | 32 | 40 | 120 | 151 | 60 | Rc 1/4 | |
| 4295-40T2-09 | 29.5 | 40 | 50 | 120 | 151 | 70 | Rc 1/4 | |
| 4300-32T2-09 | 30.0 | 32 | 40 | 120 | 151 | 60 | Rc 1/4 | |
| 4300-40T2-09 | 30.0 | 40 | 50 | 120 | 151 | 70 | Rc 1/4 | |
| 4305-32T2-09 | 30.5 | 32 | 40 | 124 | 156 | 60 | Rc 1/4 | |
| 4305-40T2-09 | 30.5 | 40 | 50 | 124 | 156 | 70 | Rc 1/4 | |
| 4310-32T2-09 | 31.0 | 32 | 40 | 124 | 156 | 60 | Rc 1/4 | |
| 4310-40T2-09 | 31.0 | 40 | 50 | 124 | 156 | 70 | Rc 1/4 | |
| 4315-32T2-09 | 31.5 | 32 | 40 | 128 | 160 | 60 | Rc 1/4 | |
| 4315-40T2-09 | 31.5 | 40 | 50 | 128 | 160 | 70 | Rc 1/4 | |
| 4320-32T2-09 | 32.0 | 32 | 40 | 128 | 160 | 60 | Rc 1/4 | |
| 4320-40T2-09 | 32.0 | 40 | 50 | 128 | 160 | 70 | Rc 1/4 | |
| 4325-32T2-09 | 32.5 | 32 | 40 | 132 | 165 | 60 | Rc 1/4 | |
| 4325-40T2-09 | 32.5 | 40 | 50 | 132 | 165 | 70 | Rc 1/4 | |
| 4330-32T2-09 | 33.0 | 32 | 40 | 132 | 165 | 60 | Rc 1/4 | |
| 4330-40T2-09 | 33.0 | 40 | 50 | 132 | 165 | 70 | Rc 1/4 | |
| 4340-32T2-11 | 34.0 | 32 | 50 | 136 | 169 | 60 | Rc 1/4 | SPMG 11... |
| 4340-40T2-11 | 34.0 | 40 | 55 | 136 | 169 | 70 | Rc 1/4 | DG/DK |
| 4350-32T2-11 | 35.0 | 32 | 50 | 140 | 174 | 60 | Rc 1/4 | SPGG 11..DA |
| 4350-40T2-11 | 35.0 | 40 | 55 | 140 | 174 | 70 | Rc 1/4 | D182-D183 |
| 4360-32T2-11 | 36.0 | 32 | 50 | 144 | 179 | 60 | Rc 1/4 | |
| 4360-40T2-11 | 36.0 | 40 | 55 | 144 | 179 | 70 | Rc 1/4 | |

Cutting Condition D232

▸ OAL: LPR+LS



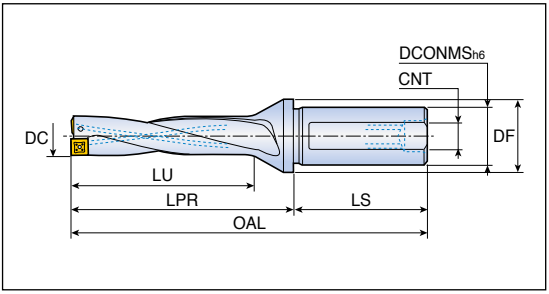
ADVANCE CUTTING TaeguTec

# TDR 4...-T2

## Indexable drill holders



• Drilling depth: 4xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TDR 4370-32T2-11** | 37.0 | 32 | 50 | 148 | 184 | 60 | Rc 1/4 | SPMG 11... |
| **4370-40T2-11** | 37.0 | 40 | 55 | 148 | 184 | 70 | Rc 1/4 | DG/DK |
| **4380-32T2-11** | 38.0 | 32 | 50 | 152 | 189 | 60 | Rc 1/4 | SPGG 11..DA |
| **4380-40T2-11** | 38.0 | 40 | 55 | 152 | 189 | 70 | Rc 1/4 | D182-D183 |
| **4390-32T2-11** | 39.0 | 32 | 50 | 156 | 193 | 60 | Rc 1/4 | |
| **4390-40T2-11** | 39.0 | 40 | 55 | 156 | 193 | 70 | Rc 1/4 | |
| **4400-32T2-11** | 40.0 | 32 | 50 | 160 | 198 | 60 | Rc 1/4 | |
| **4400-40T2-11** | 40.0 | 40 | 55 | 160 | 198 | 70 | Rc 1/4 | |
| **4410-40T2-11** | 41.0 | 40 | 55 | 164 | 203 | 70 | Rc 1/4 | |
| **4420-40T2-14** | 42.0 | 40 | 60 | 168 | 207 | 70 | Rc 1/4 | SPMG 14... |
| **4430-40T2-14** | 43.0 | 40 | 60 | 172 | 212 | 70 | Rc 1/4 | DG/DK |
| **4440-40T2-14** | 44.0 | 40 | 60 | 176 | 216 | 70 | Rc 1/4 | SPGG 14..DA |
| **4450-40T2-14** | 45.0 | 40 | 60 | 180 | 222 | 70 | Rc 1/4 | D182-D183 |
| **4460-40T2-14** | 46.0 | 40 | 60 | 184 | 227 | 70 | Rc 1/4 | |
| **4470-40T2-14** | 47.0 | 40 | 60 | 188 | 231 | 70 | Rc 1/4 | |
| **4480-40T2-14** | 48.0 | 40 | 60 | 192 | 236 | 70 | Rc 1/4 | |
| **4490-40T2-14** | 49.0 | 40 | 60 | 196 | 240 | 70 | Rc 1/4 | |
| **4500-40T2-14** | 50.0 | 40 | 60 | 200 | 245 | 70 | Rc 1/4 | |

▸ OAL = LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| **TDR 4125 - 4150** | TS 20043I/HG-P | TD 6P | SL 20 M | |
| **TDR 4155 - 4215** | TS 22052I/HG | TD 7 | SL 25 M | |
| **TDR 4220 - 4270** | TS 25064I | TD 8 | SL 25 M / SL 32 M | |
| **TDR 4275** | TS 25064I | TD 8 | - | |
| **TDR 4280 - 4330** | TS 35088I | TD 10 | - | |
| **TDR 4340 - 4390** | TS 40093I | TD 15 | - | |
| **TDR 4400 - 4410** | TS 40093I | TD 15 | - | |
| **TDR 4420 - 4500** | SO 50090I | TD 20 | - | |

Cutting Condition D232

▸ *Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

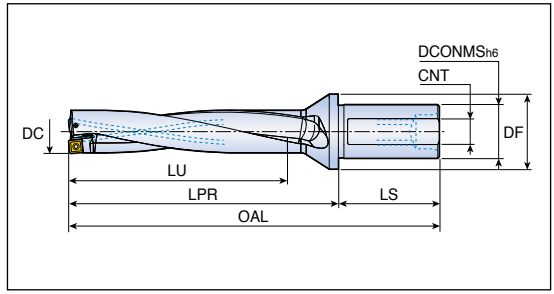
# TDR 5...-T2

**Indexable drill holders**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TDR 5125-20T2-05 | 12.5 | 20 | 25 | 65 | 83 | 50 | M13X1.0 | SPMG 05... |
| 5130-20T2-05 | 13.0 | 20 | 25 | 65 | 83 | 50 | M13X1.0 | DG/DK |
| 5135-20T2-05 | 13.5 | 20 | 25 | 70 | 88 | 50 | M13X1.0 | SPGG 05..DA |
| 5140-20T2-05 | 14.0 | 20 | 25 | 70 | 88 | 50 | M13X1.0 | D182-D183 |
| 5145-20T2-05 | 14.5 | 20 | 25 | 75 | 94 | 50 | M13X1.0 | |
| 5150-20T2-05 | 15.0 | 20 | 25 | 75 | 94 | 50 | M13X1.0 | |
| 5155-25T2-06 | 15.5 | 25 | 32 | 80 | 100 | 56 | M16X1.5 | SPMG 06... |
| 5160-25T2-06 | 16.0 | 25 | 32 | 80 | 100 | 56 | M16X1.5 | DG/DK |
| 5165-25T2-06 | 16.5 | 25 | 32 | 85 | 105 | 56 | M16X1.5 | SPGG 06..DA |
| 5170-25T2-06 | 17.0 | 25 | 32 | 85 | 105 | 56 | M16X1.5 | D182-D183 |
| 5175-25T2-06 | 17.5 | 25 | 32 | 90 | 111 | 56 | M16X1.5 | |
| 5180-25T2-06 | 18.0 | 25 | 32 | 90 | 111 | 56 | M16X1.5 | |
| 5185-25T2-06 | 18.5 | 25 | 32 | 95 | 116 | 56 | M16X1.5 | |
| 5190-25T2-06 | 19.0 | 25 | 32 | 95 | 116 | 56 | M16X1.5 | |
| 5195-25T2-06 | 19.5 | 25 | 32 | 100 | 123 | 56 | M16X1.5 | |
| 5200-25T2-06 | 20.0 | 25 | 32 | 100 | 123 | 56 | M16X1.5 | |
| 5205-25T2-06 | 20.5 | 25 | 32 | 105 | 128 | 56 | M16X1.5 | |
| 5210-25T2-06 | 21.0 | 25 | 32 | 105 | 128 | 56 | M16X1.5 | |
| 5215-25T2-06 | 21.5 | 25 | 32 | 110 | 133 | 56 | M16X1.5 | |
| 5220-25T2-07 | 22.0 | 25 | 32 | 110 | 133 | 56 | M22X2.0 | SPMG 07... |
| 5225-32T2-07 | 22.5 | 32 | 40 | 115 | 140 | 60 | M22X2.0 | DG/DK |
| 5230-32T2-07 | 23.0 | 32 | 40 | 115 | 140 | 60 | M22X2.0 | SPGG 07..DA |
| 5235-32T2-07 | 23.5 | 32 | 40 | 120 | 146 | 60 | M22X2.0 | D182-D183 |
| 5240-32T2-07 | 24.0 | 32 | 40 | 120 | 146 | 60 | M22X2.0 | |
| 5245-32T2-07 | 24.5 | 32 | 40 | 125 | 152 | 60 | M22X2.0 | |
| 5250-32T2-07 | 25.0 | 32 | 40 | 125 | 152 | 60 | M22X2.0 | |
| 5255-32T2-07 | 25.5 | 32 | 40 | 130 | 157 | 60 | M22X2.0 | |
| 5260-32T2-07 | 26.0 | 32 | 40 | 130 | 157 | 60 | M22X2.0 | |
| 5265-32T2-07 | 26.5 | 32 | 40 | 135 | 162 | 60 | M22X2.0 | |
| 5270-32T2-07 | 27.0 | 32 | 40 | 135 | 162 | 60 | M22X2.0 | |
| 5275-32T2-07 | 27.5 | 32 | 40 | 140 | 168 | 60 | Rc 1/4 | |

Cutting Condition D234

▸ OAL: LPR+LS



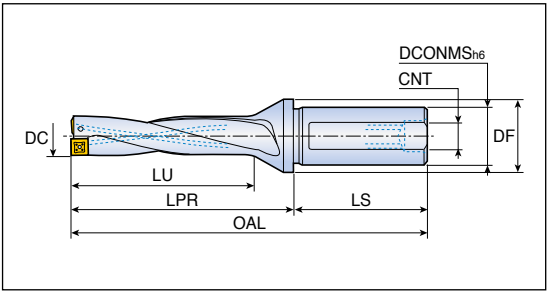
ADVANCE CUTTING TaeguTec

# TDR 5...-T2

**Indexable drill holders**



• Drilling depth: 5xdiameter




| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| TDR 5280-32T2-09 | 28.0 | 32 | 40 | 140 | 168 | 60 | Rc 1/4 | SPMG 09... |
| 5285-32T2-09 | 28.5 | 32 | 40 | 145 | 173 | 60 | Rc 1/4 | DG/DK |
| 5290-32T2-09 | 29.0 | 32 | 40 | 145 | 173 | 60 | Rc 1/4 | SPGG 09..DA |
| 5295-32T2-09 | 29.5 | 32 | 40 | 150 | 181 | 60 | Rc 1/4 | D182-D183 |
| 5300-32T2-09 | 30.0 | 32 | 40 | 150 | 181 | 60 | Rc 1/4 | |
| 5300-40T2-09 | 30.0 | 40 | 50 | 150 | 181 | 70 | Rc 1/4 | |
| 5310-32T2-09 | 31.0 | 32 | 40 | 155 | 187 | 60 | Rc 1/4 | |
| 5310-40T2-09 | 31.0 | 40 | 50 | 155 | 187 | 70 | Rc 1/4 | |
| 5320-32T2-09 | 32.0 | 32 | 40 | 160 | 192 | 60 | Rc 1/4 | |
| 5320-40T2-09 | 32.0 | 40 | 50 | 160 | 192 | 70 | Rc 1/4 | |
| 5330-32T2-09 | 33.0 | 32 | 40 | 165 | 198 | 60 | Rc 1/4 | |
| 5330-40T2-09 | 33.0 | 40 | 50 | 165 | 198 | 70 | Rc 1/4 | |
| 5340-32T2-11 | 34.0 | 32 | 50 | 170 | 203 | 60 | Rc 1/4 | SPMG 11... |
| 5340-40T2-11 | 34.0 | 40 | 55 | 170 | 203 | 70 | Rc 1/4 | DG/DK |
| 5350-32T2-11 | 35.0 | 32 | 50 | 175 | 209 | 60 | Rc 1/4 | SPGG 11..DA |
| 5350-40T2-11 | 35.0 | 40 | 55 | 175 | 209 | 70 | Rc 1/4 | D182-D183 |
| 5360-32T2-11 | 36.0 | 32 | 50 | 180 | 215 | 60 | Rc 1/4 | |
| 5360-40T2-11 | 36.0 | 40 | 55 | 180 | 215 | 70 | Rc 1/4 | |
| 5370-32T2-11 | 37.0 | 32 | 50 | 185 | 221 | 60 | Rc 1/4 | |
| 5370-40T2-11 | 37.0 | 40 | 55 | 185 | 221 | 70 | Rc 1/4 | |
| 5380-32T2-11 | 38.0 | 32 | 50 | 190 | 227 | 60 | Rc 1/4 | |
| 5380-40T2-11 | 38.0 | 40 | 55 | 190 | 227 | 70 | Rc 1/4 | |
| 5390-32T2-11 | 39.0 | 32 | 50 | 195 | 232 | 60 | Rc 1/4 | |
| 5390-40T2-11 | 39.0 | 40 | 55 | 195 | 232 | 70 | Rc 1/4 | |
| 5400-32T2-11 | 40.0 | 32 | 50 | 200 | 238 | 60 | Rc 1/4 | |
| 5400-40T2-11 | 40.0 | 40 | 55 | 200 | 238 | 70 | Rc 1/4 | |
| 5410-40T2-11 | 41.0 | 40 | 55 | 205 | 244 | 70 | Rc 1/4 | |

Cutting Condition D234

▸ OAL: LPR+LS

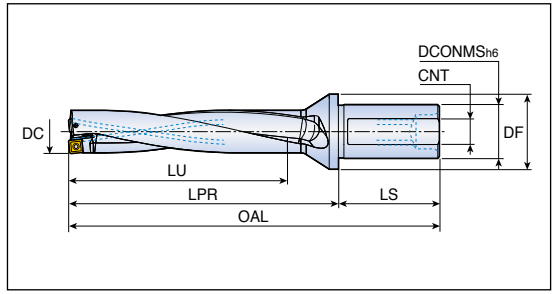
# TDR 5...-T2

## Indexable drill holders



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | CNT | |
| **TDR 5420-40T2-14** | 42.0 | 40 | 60 | 210 | 249 | 70 | Rc 1/4 | SPMG 14... |
| **5430-40T2-14** | 43.0 | 40 | 60 | 215 | 255 | 70 | Rc 1/4 | DG/DK |
| **5440-40T2-14** | 44.0 | 40 | 60 | 220 | 260 | 70 | Rc 1/4 | SPGG 14..DA |
| **5450-40T2-14** | 45.0 | 40 | 60 | 225 | 267 | 70 | Rc 1/4 | D182-D183 |
| **5460-40T2-14** | 46.0 | 40 | 60 | 230 | 273 | 70 | Rc 1/4 | |
| **5470-40T2-14** | 47.0 | 40 | 60 | 235 | 278 | 70 | Rc 1/4 | |
| **5480-40T2-14** | 48.0 | 40 | 60 | 240 | 284 | 70 | Rc 1/4 | |
| **5490-40T2-14** | 49.0 | 40 | 60 | 245 | 289 | 70 | Rc 1/4 | |
| **5500-40T2-14** | 50.0 | 40 | 60 | 250 | 295 | 70 | Rc 1/4 | |

▸ OAL: LPR+LS

## Spare parts

| Designation | Screw | Wrench | Plug* | |
|---|---|---|---|---|
| **TDR 5125 - 5150** | TS 20043I/HG-P | TD 6P | SL 20 M | |
| **TDR 5155 - 5215** | TS 22052I/HG | TD 7 | SL 25 M | |
| **TDR 5220 - 5270** | TS 25064I | TD 8 | SL 25 M / SL 32 M | |
| **TDR 5275** | TS 25064I | TD 8 | - | |
| **TDR 5280 - 5330** | TS 35088I | TD 10 | - | |
| **TDR 5340 - 5390** | TS 40093I | TD 15 | - | |
| **TDR 5400 - 5410** | TS 40093I | TD 15 | - | |
| **TDR 5420 - 5500** | SO 50090I | TD 20 | - | |

Cutting Condition D234

▸ *Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

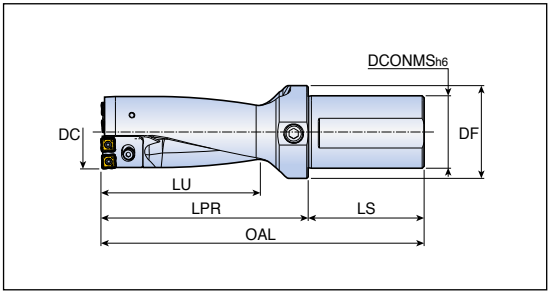
# TDR 25...CA-T

**Indexable cartridge drill holders**



• Drilling depth: 2.5xdiameter






| Designation | Dimension (mm) | | | | | | Setting plate | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | | |
| TDR 2551-53-50T2-07CA-T | 51 | 50 | 64 | 133 | 170 | 80 | - | SPMG 07... DG/DK SPGG 07..DA D182-D183 |
| | 52 | 50 | 64 | 133 | 170 | 80 | TDP-0701 | |
| | 53 | 50 | 64 | 133 | 170 | 80 | TDP-0702 | |
| 2554-56-50T2-07CA-T | 54 | 50 | 64 | 140 | 180 | 80 | - | SPMG 07... DG/DK SPGG 07..DA D182-D183 |
| | 55 | 50 | 64 | 140 | 180 | 80 | TDP-0701 | |
| | 56 | 50 | 64 | 140 | 180 | 80 | TDP-0702 | |
| 2557-62-50T2-09CA-T | 57 | 50 | 64 | 155 | 201 | 80 | - | SPMG 09... DG/DK SPGG 09..DA D182-D183 |
| | 58 | 50 | 64 | 155 | 201 | 80 | TDP-0901 | |
| | 59 | 50 | 64 | 155 | 201 | 80 | TDP-0902 | |
| | 60 | 50 | 64 | 155 | 201 | 80 | TDP-0903 | |
| | 61 | 50 | 64 | 155 | 201 | 80 | TDP-0904 | |
| | 62 | 50 | 64 | 155 | 201 | 80 | TDP-0905 | |
| 2563-66-50T2-09CA-T | 63 | 50 | 69 | 165 | 215 | 80 | - | SPMG 09... DG/DK SPGG 09..DA D182-D183 |
| | 64 | 50 | 69 | 165 | 215 | 80 | TDP-0901 | |
| | 65 | 50 | 69 | 165 | 215 | 80 | TDP-0902 | |
| | 66 | 50 | 69 | 165 | 215 | 80 | TDP-0903 | |
| 2567-73-50T2-11CA-T | 67 | 50 | 69 | 183 | 240 | 80 | - | SPMG 11... DG/DK SPGG 11..DA D182-D183 |
| | 68 | 50 | 69 | 183 | 240 | 80 | TDP-1101 | |
| | 69 | 50 | 69 | 183 | 240 | 80 | TDP-1102 | |
| | 70 | 50 | 69 | 183 | 240 | 80 | TDP-1103 | |
| | 71 | 50 | 69 | 183 | 240 | 80 | TDP-1104 | |
| | 72 | 50 | 69 | 183 | 240 | 80 | TDP-1105 | |
| | 73 | 50 | 69 | 183 | 240 | 80 | TDP-1106 | |
| 2574-80-50T2-12CA-T | 74 | 50 | 74 | 200 | 250 | 80 | - | SPMG 12...DG D182 |
| | 75 | 50 | 74 | 200 | 250 | 80 | TDP-1101 | |
| | 76 | 50 | 74 | 200 | 250 | 80 | TDP-1102 | |
| | 77 | 50 | 74 | 200 | 250 | 80 | TDP-1103 | |
| | 78 | 50 | 74 | 200 | 250 | 80 | TDP-1104 | |
| | 79 | 50 | 74 | 200 | 250 | 80 | TDP-1105 | |
| | 80 | 50 | 74 | 200 | 250 | 80 | TDP-1106 | |

Cutting Condition D236

▸ OAL: LPR+LS

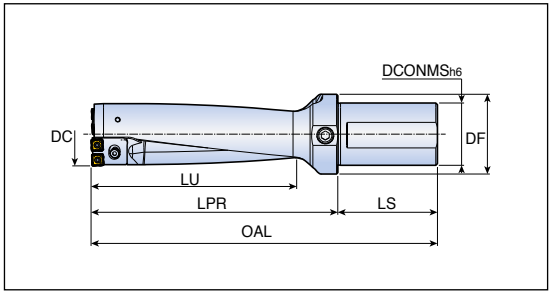
# TDR 35...CA-T

**Indexable cartridge drill holders**



• Drilling depth: 3.5xdiameter






| Designation | Dimension (mm) | | | | | | Setting plate | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | | |
| **TDR 3551-53-50T2-07CA-T** | 51 | 50 | 64 | 186 | 223 | 80 | - | SPMG 07... DG/DK SPGG 07..DA D182-D183 |
| | 52 | 50 | 75 | 186 | 223 | 80 | TDP-0701 | |
| | 53 | 50 | 75 | 186 | 223 | 80 | TDP-0702 | |
| **3554-56-50T2-07CA-T** | 54 | 50 | 75 | 196 | 236 | 80 | - | SPMG 07... DG/DK SPGG 07..DA D182-D183 |
| | 55 | 50 | 75 | 196 | 236 | 80 | TDP-0701 | |
| | 56 | 50 | 75 | 196 | 236 | 80 | TDP-0702 | |
| **3557-62-50T2-09CA-T** | 57 | 50 | 75 | 217 | 263 | 80 | - | SPMG 09... DG/DK SPGG 09..DA D182-D183 |
| | 58 | 50 | 75 | 217 | 263 | 80 | TDP-0901 | |
| | 59 | 50 | 75 | 217 | 263 | 80 | TDP-0902 | |
| | 60 | 50 | 75 | 217 | 263 | 80 | TDP-0903 | |
| | 61 | 50 | 75 | 217 | 263 | 80 | TDP-0904 | |
| | 62 | 50 | 75 | 217 | 263 | 80 | TDP-0905 | |
| **3563-66-50T2-09CA-T** | 63 | 50 | 75 | 231 | 281 | 80 | - | SPMG 09... DG/DK SPGG 09..DA D182-D183 |
| | 64 | 50 | 75 | 231 | 281 | 80 | TDP-0901 | |
| | 65 | 50 | 75 | 231 | 281 | 80 | TDP-0902 | |
| | 66 | 50 | 75 | 231 | 281 | 80 | TDP-0903 | |
| **3567-73-50T2-11CA-T** | 67 | 50 | 75 | 256 | 313 | 80 | - | SPMG 11... DG/DK SPGG 11..DA D182-D183 |
| | 68 | 50 | 75 | 256 | 313 | 80 | TDP-1101 | |
| | 69 | 50 | 75 | 256 | 313 | 80 | TDP-1102 | |
| | 70 | 50 | 75 | 256 | 313 | 80 | TDP-1103 | |
| | 71 | 50 | 75 | 256 | 313 | 80 | TDP-1104 | |
| | 72 | 50 | 75 | 256 | 313 | 80 | TDP-1105 | |
| | 73 | 50 | 75 | 256 | 313 | 80 | TDP-1106 | |

Cutting Condition D236

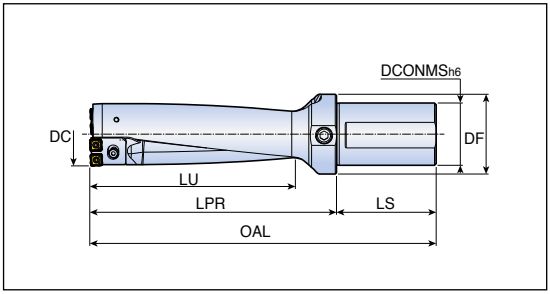
▸ OAL: LPR+LS

# TDR 35...CA-T

**Indexable cartridge drill holders**



• Drilling depth: 3.5xdiameter




| Designation | Dimension (mm) | | | | | | Setting plate | Insert |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | | |
| **TDR 3574-80-50T2-12CA-T** | 74 | 50 | 75 | 280 | 330 | 80 | - | SPMG 12...DG |
| | 75 | 50 | 75 | 280 | 330 | 80 | TDP-1101 | D182 |
| | 76 | 50 | 75 | 280 | 330 | 80 | TDP-1102 | |
| | 77 | 50 | 75 | 280 | 330 | 80 | TDP-1103 | |
| | 78 | 50 | 75 | 280 | 330 | 80 | TDP-1104 | |
| | 79 | 50 | 75 | 280 | 330 | 80 | TDP-1105 | |
| | 80 | 50 | 75 | 280 | 330 | 80 | TDP-1106 | |

▸ OAL: LPR+LS

## Spare parts

| Designation | Screw | Cartridge for peripheral | Cartridge for center |
|---|---|---|---|
| **TDR.. 51-53...** | TS 25064I | TDR 07CA-P1-T | TDR 07CA-C1-T |
| **TDR.. 54-56...** | TS 25064I | TDR 07CA-P2-T | TDR 07CA-C2-T |
| **TDR.. 57-62...** | TS 35088I | TDR 09CA-P1-T | TDR 09CA-C1-T |
| **TDR.. 63-66...** | TS 35088I | TDR 09CA-P2-T | TDR 09CA-C2-T |
| **TDR.. 67-73...** | TS 40093I | TDR 11CA-P1-T | TDR 11CA-C1-T |
| **TDR.. 74-80...** | TS 40093I | TDR 12CA-P2-T | TDR 12CA-C2-T |

## Spare parts for cartridges

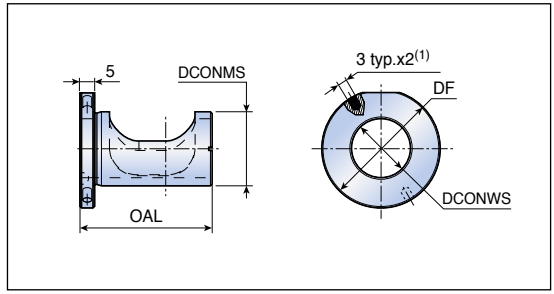
| Designation | Cartridge clamping screw | Washer | Setting plate screw |
|---|---|---|---|
| **TDR 07CA-P1-T** | SH M4x0.7x16 | MW 4.3x8 | TS 20043I/HG-P |
| **TDR 07CA-C1-T** | SH M4x0.7x16 | MW 4.3x8 | - |
| **TDR 07CA-P2-T** | SH M4x0.7x16 | MW 4.3x8 | TS 20043I/HG-P |
| **TDR 07CA-C2-T** | SH M4x0.7x16 | MW 4.3x8 | - |
| **TDR 09CA-P1-T** | SH M5x0.8x16 | MW 5.5x10 | SO 30055I |
| **TDR 09CA-C1-T** | SH M5x0.8x16 | MW 5.5x10 | - |
| **TDR 09CA-P2-T** | SH M5x0.8x16 | MW 5.5x10 | SO 30055I |
| **TDR 09CA-C2-T** | SH M5x0.8x16 | MW 5.5x10 | - |
| **TDR 11CA-P1-T** | SH M6x1.0x20 | MW 6.4x12 | SO 30055I |
| **TDR 11CA-C1-T** | SH M6x1.0x20 | MW 6.4x12 | - |
| **TDR 12CA-P2-T** | SH M6x1.0x20 | MW 6.4x12 | SO 30055I |
| **TDR 12CA-C2-T** | SH M6x1.0x20 | MW 6.4x12 | - |

Cutting Condition D236

# ECCENTER SLEEVE

**Drill center adjustment sleeves / eccentric sleeve**






| Designation | Dimension (mm) | | | |
|---|---|---|---|---|
| | DCONWS | DCONMS | DF | OAL |
| **ECCENTER SLEEVE 20x25** | 20 | 25 | 40 | 44 |
| **25x32** | 25 | 32 | 50 | 46 |
| **32x40** | 32 | 40 | 65 | 55 |
| **40x50** | 40 | 50 | 75 | 62 |

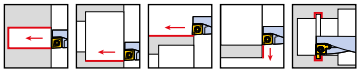
▸ (1) Holes for inserting a pin are used to facilitate radial adjustment of the sleeve (Pin is not supplied)

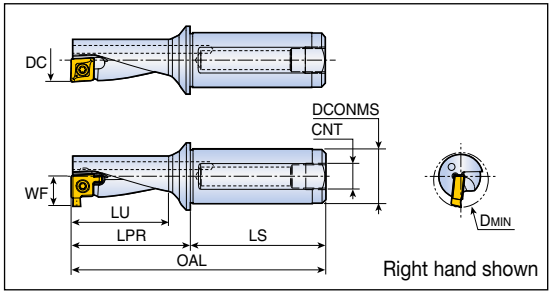
# TCAP...-2.25DN

**Multi-function toolholders - 2.25xD**



• Internal coolant






| Designation | Dimension (mm) | | | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | WF | LU | LPR | LS | DMIN | CNT | For drilling, boring, turning | For grooving |
| **TCAP 08R/L-2.25DN** | 8 | 12 | - | 18.0 | 22.5 | 42 | - | G 1/16 | XCM(G)T 04...TC/TA | - |
| **10R/L-2.25DN-GV** | 10 | 12 | 7.1 | 22.5 | 27.5 | 42 | 12.0 | G 1/16 | XCM(G)T 05...TC/TA | XCMT 05R...GV |
| **12R/L-2.25DN-GV** | 12 | 16 | 8.5 | 27.0 | 33.0 | 45 | 14.5 | G 1/8 | XCM(G)T 06...TC/TA | XCMT 06R...GV |
| **14R/L-2.25DN-GV** | 14 | 16 | 9.5 | 31.5 | 38.5 | 45 | 16.5 | G 1/8 | XCM(G)T 07...TC/TA | XCMT 07R...GV |
| **16R/L-2.25DN-GV** | 16 | 20 | 11.1 | 36.0 | 44.0 | 50 | 19.0 | G 1/8 | XCM(G)T 08...TC/TA | XCMT 08R...GV |
| **20R/L-2.25DN-GV** | 20 | 25 | 13.2 | 45.0 | 55.0 | 56 | 23.5 | G 1/8 | XCM(G)T 10...TC/TA | XCMT 10R...GV |
| **25R/L-2.25DN-GV** | 25 | 32 | 16.5 | 56.2 | 69.0 | 61 | 29.0 | G 1/8 | XCM(G)T 13...TC/TA | XCMT 13R...GV |
| **32R/L-2.25DN-GV** | 32 | 40 | 20.5 | 72.0 | 86.0 | 74 | 36.5 | G 1/8 | XCM(G)T 17...TC/TA | XCMT 17R...GV |
| | | | | | | | | | D211-D212 | D211 |

▸ OAL: LPR+LS
▸ Grooving insert is available for right handed type

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  |  | |
| **TCAP 08** | TS 18034I/HG-P | T 6P | - | |
| **TCAP 10** | TS 20038I/HG-P | T 6P | - | |
| **TCAP 12** | TS 22052I/HG-P | T 7P | - | |
| **TCAP 14** | TS 25064I/HG-P | T 8P | - | |
| **TCAP 16** | TS 30100I/HG-P | - | TD 9P | |
| **TCAP 20** | TS 35088I/HG-P | - | TD10P | |
| **TCAP 25** | TS 45A100I/HG | - | TD 20 | |
| **TCAP 32** | TS 45A100I/HG | - | TD 20 | |

Cutting Condition D238

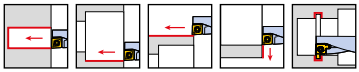
# TCAP...-3.0DN

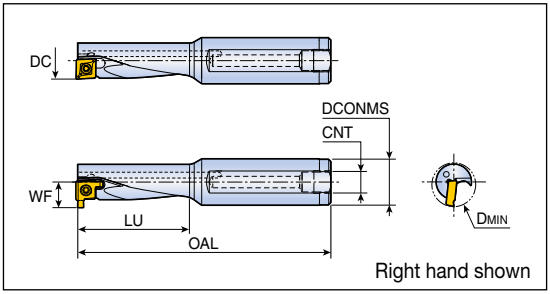
TOPCAP

**Multi-function toolholders - 3.0xD**



• Internal coolant






| Designation | Dimension (mm) | | | | | | | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | WF | LU | OAL | DMIN | CNT | For drilling, boring, turning | For grooving |
| **TCAP 08R/L-3.0DN12** | 8 | 12 | - | 24 | 80 | - | G 1/16 | XCM(G)T 04...TC/TA | - |
| **10R/L-3.0DN-GV** | 10 | 12 | 7.1 | 30 | 85 | 12.0 | G 1/16 | XCM(G)T 05...TC/TA | XCMT 05R...GV |
| **12R/L-3.0DN-GV** | 12 | 16 | 8.5 | 36 | 95 | 14.5 | G 1/8 | XCM(G)T 06...TC/TA | XCMT 06R...GV |
| **14R/L-3.0DN-GV** | 14 | 16 | 9.5 | 42 | 100 | 16.5 | G 1/8 | XCM(G)T 07...TC/TA | XCMT 07R...GV |
| **16R/L-3.0DN-GV** | 16 | 20 | 11.1 | 48 | 110 | 19.0 | G 1/8 | XCM(G)T 08...TC/TA | XCMT 08R...GV |
| **20R/L-3.0DN-GV** | 20 | 25 | 13.2 | 60 | 130 | 23.5 | G 1/8 | XCM(G)T 10...TC/TA | XCMT 10R...GV |
| **25R/L-3.0DN-GV** | 25 | 32 | 16.5 | 75 | 150 | 29.0 | G 1/8 | XCM(G)T 13...TC/TA | XCMT 13R...GV |
| **32R/L-3.0DN-GV** | 32 | 40 | 20.5 | 96 | 185 | 36.5 | G 1/8 | XCM(G)T 17...TC/TA | XCMT 17R...GV |
| | | | | | | | | D211-D212 | D211 |

▸ OA: LPR+LS
▸ Grooving insert is available for right handed type

## Spare parts

| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  |  | |
| **TCAP 08** | TS 18034I/HG-P | T 6P | - | |
| **TCAP 10** | TS 20038I/HG-P | T 6P | - | |
| **TCAP 12** | TS 22052I/HG-P | T 7P | - | |
| **TCAP 14** | TS 25064I/HG-P | T 8P | - | |
| **TCAP 16** | TS 30100I/HG-P | - | TD 9P | |
| **TCAP 20** | TS 35088I/HG-P | - | TD10P | |
| **TCAP 25** | TS 45A100I/HG | - | TD 20 | |
| **TCAP 32** | TS 45A100I/HG | - | TD 20 | |

Cutting Condition D238



ADVANCE CUTTING TaeguTec

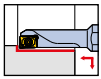
# S...SXUCR/L

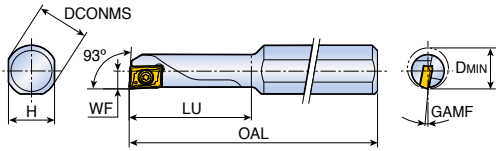
TOP CAP

## Boring bars with TOP-CAP inserts



- For boring
- External coolant






Right hand shown

| Designation | Dimension (mm) | | | | | | | Insert |
|---|---|---|---|---|---|---|---|---|
| | DCONMS | H | OAL | LU | WF | DMIN | GAMF | |
| **S10H SXUCR/L 04-06** (1) | 10 | 9 | 100 | 21 | 3.0 | 6 | 9° | XCMT 04...R/L TC |
| **S10J SXUCR/L 04-07** (1) | 10 | 9 | 110 | 24.5 | 3.5 | 7 | 5° | D212 |
| **S10J SXUCR/L 04-08** (1) | 10 | 9 | 110 | 28 | 4.0 | 8 | 2° | |
| **S10K SXUCR/L 05-10** | 10 | 9 | 125 | 35 | 5.0 | 10 | 2° | XCMT 05..TC |
| | | | | | | | | D212 |

▸ (1) Right hand Insert should be used in right hand boring bar

## Spare parts

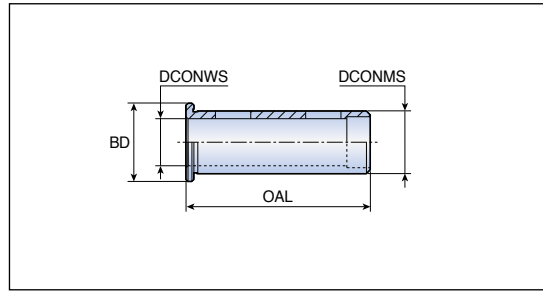
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **S10H SXUCR/L 04-06** | TS 18034I/HG-P | T 6P | | |
| **S10J SXUCR/L 04-07** | TS 18034I/HG-P | T 6P | | |
| **S10J SXUCR/L 04-08** | TS 18034I/HG-P | T 6P | | |
| **S10K SXUCR/L 05-10** | TS 20038I/HG-P | T 6P | | |

Cutting Condition D238

# TSL

## Sleeves for clamping unit



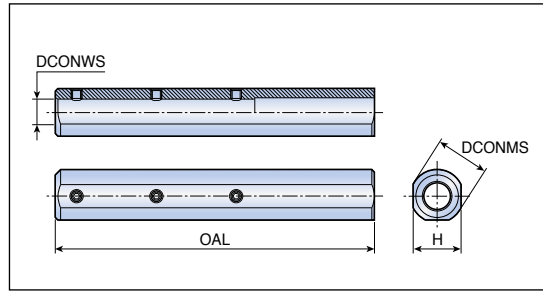



| Designation | Dimension (mm) | | | | Toolholders |
|---|---|---|---|---|---|
| | DCONMS | DCONWS | BD | OAL | |
| **TSL 16-12** | 16 | 12 | 20 | 47 | TCAP 10R/L... |
| **25-20** | 25 | 20 | 32 | 55 | TCAP 16R/L... |

# TBSL

## Sleeves for boring bar






| Designation | Dimension (mm) | | | |
|---|---|---|---|---|
| | DCONMS | DCONWS | OAL | H |
| **TBSL 20-10-120** | 20 | 10 | 120 | 18 |

## Spare parts

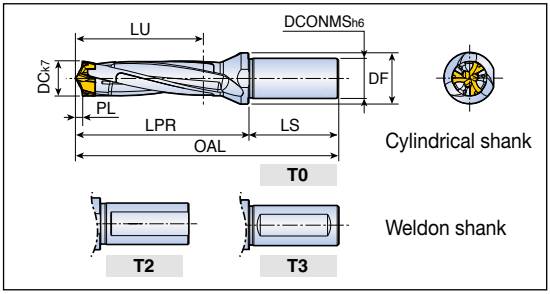
| Designation | Screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TBSL 20-10-120** | SS M4x0.7x4 | L-W 2 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# 3ED...T...-3D

**Head changeable 3 flute drill holder**



• Drilling depth: 3xdiameter




| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC | |
| **3ED 120-124-16T3/T0-3D** | 12.0-12.4 | 16 | 20 | 40.0 | 60.7 | 48 | 2.74 | 12 | K 3ED D12-D13 |
| **125-129-16T3/T0-3D** | 12.5-12.9 | 16 | 20 | 41.5 | 62.5 | 48 | 2.76 | 12 | |
| **130-134-16T3/T0-3D** | 13.0-13.4 | 16 | 20 | 43.0 | 64.8 | 48 | 2.91 | 13 | |
| **135-139-16T3/T0-3D** | 13.5-13.9 | 16 | 20 | 44.5 | 66.6 | 48 | 2.93 | 13 | |
| **140-144-16T3/T0-3D** | 14.0-14.4 | 16 | 20 | 46.0 | 68.9 | 48 | 3.17 | 14 | K 3ED D14-D15 |
| **145-149-16T3/T0-3D** | 14.5-14.9 | 16 | 20 | 47.5 | 70.7 | 48 | 3.19 | 14 | |
| **150-159-20T3/T0-3D** | 15.0-15.9 | 20 | 25 | 49.0 | 73.9 | 50 | 3.31 | 15 | |
| **160-169-20T3/T0-3D** | 16.0-16.9 | 20 | 25 | 52.0 | 79.0 | 50 | 3.70 | 16 | K 3ED D16-D17 |
| **170-179-20T3/T0-3D** | 17.0-17.9 | 20 | 25 | 55.0 | 84.0 | 50 | 3.88 | 17 | |
| **180-189-25T2/T0-3D** | 18.0-18.9 | 25 | 32 | 58.0 | 90.1 | 56 | 4.07 | 18 | K 3ED D18-D19 |
| **190-199-25T2/T0-3D** | 19.0-19.9 | 25 | 32 | 61.0 | 94.7 | 56 | 4.26 | 19 | |
| **200-209-25T2/T0-3D** | 20.0-20.9 | 25 | 32 | 64.0 | 99.3 | 56 | 4.44 | 20 | K 3ED D20-D21 |
| **210-219-25T2/T0-3D** | 21.0-21.9 | 25 | 32 | 67.0 | 103.8 | 56 | 4.62 | 21 | |
| **220-229-25T2/T0-3D** | 22.0-22.9 | 25 | 32 | 70.0 | 108.4 | 56 | 4.78 | 22 | K 3ED D22-D23 |
| **230-239-32T2/T0-3D** | 23.0-23.9 | 32 | 42 | 73.0 | 112.8 | 60 | 5.02 | 23 | |
| **240-249-32T2/T0-3D** | 24.0-24.9 | 32 | 42 | 76.0 | 117.4 | 60 | 5.18 | 24 | K 3ED D24-D25 |
| **250-259-32T2/T0-3D** | 25.0-25.9 | 32 | 42 | 79.0 | 122.0 | 60 | 5.29 | 25 | |

D184-D187

Cutting Condition D240

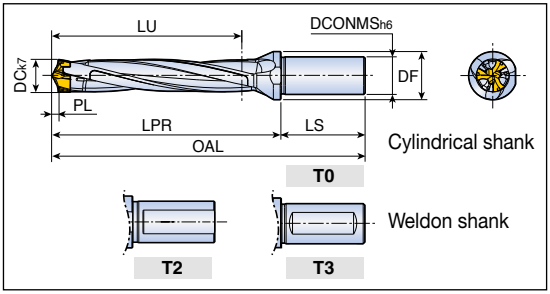
- OAL: LPR+LS
- SSC: Seat size code

# 3ED...T...-5D

**Head changeable 3 flute drill holder**



• Drilling depth: 5xdiameter




| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC | |
| **3ED 120-124-16T3/T0-5D** | 12.0-12.4 | 16 | 20 | 64.0 | 84.7 | 48 | 2.74 | 12 | K 3ED D12-D13 |
| **125-129-16T3/T0-5D** | 12.5-12.9 | 16 | 20 | 66.5 | 87.5 | 48 | 2.76 | 12 | |
| **130-134-16T3/T0-5D** | 13.0-13.4 | 16 | 20 | 69.0 | 90.8 | 48 | 2.91 | 13 | |
| **135-139-16T3/T0-5D** | 13.5-13.9 | 16 | 20 | 71.5 | 93.6 | 48 | 2.93 | 13 | |
| **140-144-16T3/T0-5D** | 14.0-14.4 | 16 | 20 | 74.0 | 96.9 | 48 | 3.17 | 14 | K 3ED D14-D15 |
| **145-149-16T3/T0-5D** | 14.5-14.9 | 16 | 20 | 76.5 | 99.7 | 48 | 3.19 | 14 | |
| **150-159-20T3/T0-5D** | 15.0-15.9 | 20 | 25 | 79.0 | 103.9 | 50 | 3.31 | 15 | |
| **160-169-20T3/T0-5D** | 16.0-16.9 | 20 | 25 | 84.0 | 111.0 | 50 | 3.70 | 16 | K 3ED D16-D17 |
| **170-179-20T3/T0-5D** | 17.0-17.9 | 20 | 25 | 89.0 | 118.0 | 50 | 3.88 | 17 | |
| **180-189-25T2/T0-5D** | 18.0-18.9 | 25 | 32 | 94.0 | 126.1 | 56 | 4.07 | 18 | K 3ED D18-D19 |
| **190-199-25T2/T0-5D** | 19.0-19.9 | 25 | 32 | 99.0 | 132.7 | 56 | 4.26 | 19 | |
| **200-209-25T2/T0-5D** | 20.0-20.9 | 25 | 32 | 104.0 | 139.3 | 56 | 4.44 | 20 | K 3ED D20-D21 |
| **210-219-25T2/T0-5D** | 21.0-21.9 | 25 | 32 | 109.0 | 145.8 | 56 | 4.62 | 21 | |
| **220-229-25T2/T0-5D** | 22.0-22.9 | 25 | 32 | 114.0 | 152.4 | 56 | 4.78 | 22 | K 3ED D22-D23 |
| **230-239-32T2/T0-5D** | 23.0-23.9 | 32 | 42 | 119.0 | 158.8 | 60 | 5.02 | 23 | |
| **240-249-32T2/T0-5D** | 24.0-24.9 | 32 | 42 | 124.0 | 165.4 | 60 | 5.18 | 24 | K 3ED D24-D25 |
| **250-259-32T2/T0-5D** | 25.0-25.9 | 32 | 42 | 129.0 | 172.0 | 60 | 5.29 | 25 | |

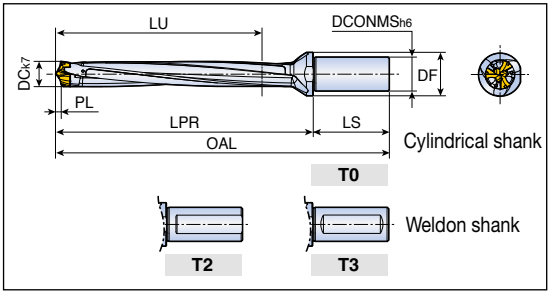
D184-D187
Cutting Condition D240

- OAL: LPR+LS
- SSC: Seat size code

# 3ED...T...-8D

**Head changeable 3 flute drill holder**






- Drilling depth: 8xdiameter

| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC | |
| **3ED 120-124-16T3/T0-8D** | 12.0-12.4 | 16 | 20 | 100 | 120.7 | 48 | 2.74 | 12 | K 3ED D12-D13 |
| **125-129-16T3/T0-8D** | 12.5-12.9 | 16 | 20 | 104 | 125.0 | 48 | 2.76 | 12 | |
| **130-134-16T3/T0-8D** | 13.0-13.4 | 16 | 20 | 108 | 129.8 | 48 | 2.91 | 13 | |
| **135-139-16T3/T0-8D** | 13.5-13.9 | 16 | 20 | 112 | 134.1 | 48 | 2.93 | 13 | |
| **140-144-16T3/T0-8D** | 14.0-14.4 | 16 | 20 | 116 | 138.9 | 48 | 3.17 | 14 | K 3ED D14-D15 |
| **145-149-16T3/T0-8D** | 14.5-14.9 | 16 | 20 | 120 | 143.2 | 48 | 3.19 | 14 | |
| **150-159-20T3/T0-8D** | 15.0-15.9 | 20 | 25 | 124 | 148.9 | 50 | 3.31 | 15 | |
| **160-169-20T3/T0-8D** | 16.0-16.9 | 20 | 25 | 132 | 159.0 | 50 | 3.70 | 16 | K 3ED D16-D17 |
| **170-179-20T3/T0-8D** | 17.0-17.9 | 20 | 25 | 140 | 169.0 | 50 | 3.88 | 17 | |
| **180-189-25T2/T0-8D** | 18.0-18.9 | 25 | 32 | 148 | 180.1 | 56 | 4.07 | 18 | K 3ED D18-D19 |
| **190-199-25T2/T0-8D** | 19.0-19.9 | 25 | 32 | 156 | 189.7 | 56 | 4.26 | 19 | |
| **200-209-25T2/T0-8D** | 20.0-20.9 | 25 | 32 | 164 | 199.3 | 56 | 4.44 | 20 | K 3ED D20-D21 |
| **210-219-25T2/T0-8D** | 21.0-21.9 | 25 | 32 | 172 | 208.8 | 56 | 4.62 | 21 | |
| **220-229-25T2/T0-8D** | 22.0-22.9 | 25 | 32 | 180 | 218.4 | 56 | 4.78 | 22 | K 3ED D22-D23 |
| **230-239-32T2/T0-8D** | 23.0-23.9 | 32 | 42 | 188 | 227.8 | 60 | 5.02 | 23 | |
| **240-249-32T2/T0-8D** | 24.0-24.9 | 32 | 42 | 196 | 237.4 | 60 | 5.18 | 24 | K 3ED D24-D25 |
| **250-259-32T2/T0-8D** | 25.0-25.9 | 32 | 42 | 204 | 247.0 | 60 | 5.29 | 25 | |

D184-D187

Cutting Condition D240

- OAL: LPR+LS
- SSC: Seat size code

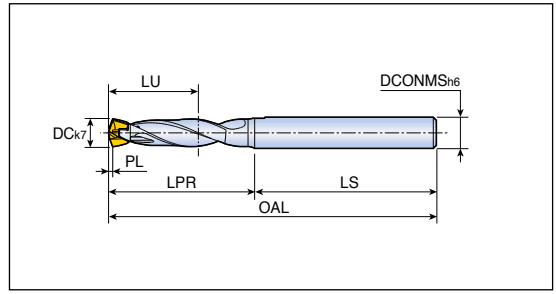
# TCD...-3D

**Head changeable drill holders - Cylindrical type shank**



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| **TCD 040-044-06A0-3D** | 4.0-4.4 | 6 | 13 | 22.7 | 35 | 0.62 | 4 | K TCD D040-D049 |
| **045-049-06A0-3D** | 4.5-4.9 | 6 | 14 | 24.7 | 35 | 0.66 | 4.5 | |
| **050-054-06A0-3D** | 5.0-5.4 | 6 | 16 | 26.3 | 35 | 0.73 | 5 | K TCD D050-D059 |
| **055-059-06A0-3D** | 5.5-5.9 | 6 | 17 | 28.2 | 35 | 0.81 | 5.5 | |







- OAL: LPR+LS
- SSC: Seat size code

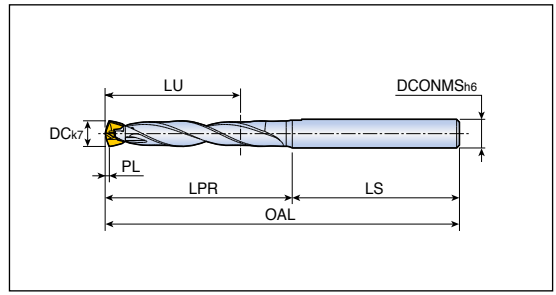
# TCD...-5D

**Head changeable drill holders - Cylindrical type shank**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| **TCD 040-044-06A0-5D** | 4.0-4.4 | 6 | 21 | 30.7 | 35 | 0.62 | 4 | K TCD D040-D049 |
| **045-049-06A0-5D** | 4.5-4.9 | 6 | 23 | 33.7 | 35 | 0.66 | 4.5 | |
| **050-054-06A0-5D** | 5.0-5.4 | 6 | 26 | 36.3 | 35 | 0.73 | 5 | K TCD D050-D059 |
| **055-059-06A0-5D** | 5.5-5.9 | 6 | 28 | 39.2 | 35 | 0.81 | 5.5 | |







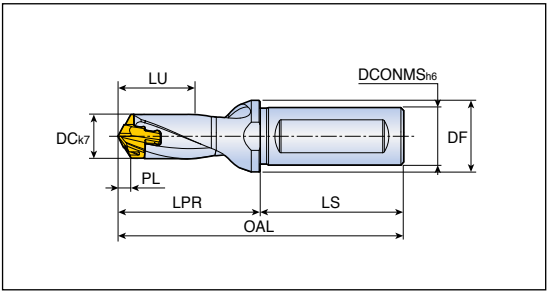
- OAL: LPR+LS
- SSC: Seat size code

# TCD...T...-1.5D

**Head changeable drill holders - Weldon type shank**



• Drilling depth: 1.5xdiameter




| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC | |
| **TCD 060-064-12T3-1.5D** | 6.0-6.4 | 12 | 16 | 10 | 23.0 | 45 | 0.96 | 6 | K TCD D060-D099 |
| **065-069-12T3-1.5D** | 6.5-6.9 | 12 | 16 | 11 | 24.1 | 45 | 1.18 | 6.5 | |
| **070-074-12T3-1.5D** | 7.0-7.4 | 12 | 16 | 12 | 25.1 | 45 | 1.01 | 7 | |
| **075-079-12T3-1.5D** | 7.5-7.9 | 12 | 16 | 12 | 25.9 | 45 | 1.10 | 7 | |
| **080-089-12T3-1.5D** | 8.0-8.9 | 12 | 16 | 13 | 27.4 | 45 | 1.20 | 8 | |
| **090-099-12T3-1.5D** | 9.0-9.9 | 12 | 16 | 15 | 29.3 | 45 | 1.35 | 9 | |
| **100-109-16T3-1.5D** | 10.0-10.9 | 16 | 20 | 17 | 31.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| **110-119-16T3-1.5D** | 11.0-11.9 | 16 | 20 | 19 | 33.1 | 48 | 1.67 | 11 | |
| **120-129-16T3-1.5D** | 12.0-12.9 | 16 | 20 | 20 | 35.0 | 48 | 1.82 | 12 | |
| **130-139-16T3-1.5D** | 13.0-13.9 | 16 | 20 | 22 | 37.1 | 48 | 1.96 | 13 | |
| **140-149-16T3-1.5D** | 14.0-14.9 | 16 | 20 | 23 | 41.1 | 48 | 2.12 | 14 | |
| **150-159-20T3-1.5D** | 15.0-15.9 | 20 | 25 | 25 | 46.2 | 50 | 2.27 | 15 | |
| **160-169-20T3-1.5D** | 16.0-16.9 | 20 | 25 | 26 | 49.3 | 50 | 2.42 | 16 | |
| **170-179-20T3-1.5D** | 17.0-17.9 | 20 | 25 | 29 | 52.4 | 50 | 2.59 | 17 | |
| **180-189-25T2-1.5D** | 18.0-18.9 | 25 | 32 | 30 | 55.5 | 56 | 2.73 | 18 | |
| **190-199-25T2-1.5D** | 19.0-19.9 | 25 | 32 | 32 | 58.5 | 56 | 2.88 | 19 | |
| **200-209-25T2-1.5D** | 20.0-20.9 | 25 | 32 | 33 | 61.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| **210-219-25T2-1.5D** | 21.0-21.9 | 25 | 32 | 35 | 64.7 | 56 | 3.18 | 21 | |
| **220-229-25T2-1.5D** | 22.0-22.9 | 25 | 32 | 36 | 67.8 | 56 | 3.24 | 22 | |
| **230-239-32T2-1.5D** | 23.0-23.9 | 32 | 42 | 38 | 70.8 | 60 | 3.46 | 23 | |
| **240-249-32T2-1.5D** | 24.0-24.9 | 32 | 42 | 40 | 73.9 | 60 | 3.62 | 24 | |
| **250-259-32T2-1.5D** | 25.0-25.9 | 32 | 42 | 42 | 77.0 | 60 | 3.80 | 25 | |

D189-D202 | Sleeve D109 | Cutting Condition D242

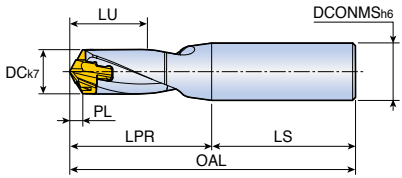
- OAL: LPR+LS
- SSC: Seat size code

# TCD...S0-1.5D

DRILLRUSH

## Head changeable drill holders - Cylindrical type shank






• Drilling depth: 1.5xdiameter

| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| TCD 060-064-12S0-1.5D | 6.0-6.4 | 12 | 10 | 23.0 | 45 | 0.96 | 6 | K TCD D060-D099 |
| 065-069-12S0-1.5D | 6.5-6.9 | 12 | 11 | 24.1 | 45 | 1.18 | 6.5 | |
| 070-074-12S0-1.5D | 7.0-7.4 | 12 | 12 | 25.1 | 45 | 1.01 | 7 | |
| 075-079-12S0-1.5D | 7.5-7.9 | 12 | 12 | 25.9 | 45 | 1.10 | 7 | |
| 080-089-12S0-1.5D | 8.0-8.9 | 12 | 13 | 27.4 | 45 | 1.20 | 8 | |
| 090-099-12S0-1.5D | 9.0-9.9 | 12 | 15 | 29.3 | 45 | 1.35 | 9 | |
| 100-109-16S0-1.5D | 10.0-10.9 | 16 | 17 | 31.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| 110-119-16S0-1.5D | 11.0-11.9 | 16 | 19 | 33.1 | 48 | 1.67 | 11 | |
| 120-129-16S0-1.5D | 12.0-12.9 | 16 | 20 | 35.0 | 48 | 1.82 | 12 | |
| 130-139-16S0-1.5D | 13.0-13.9 | 16 | 22 | 37.1 | 48 | 1.96 | 13 | |
| 140-149-16S0-1.5D | 14.0-14.9 | 16 | 23 | 41.1 | 48 | 2.12 | 14 | |
| 150-159-20S0-1.5D | 15.0-15.9 | 20 | 25 | 46.2 | 50 | 2.27 | 15 | |
| 160-169-20S0-1.5D | 16.0-16.9 | 20 | 26 | 49.3 | 50 | 2.42 | 16 | |
| 170-179-20S0-1.5D | 17.0-17.9 | 20 | 29 | 52.4 | 50 | 2.59 | 17 | |
| 180-189-25S0-1.5D | 18.0-18.9 | 25 | 30 | 55.5 | 56 | 2.73 | 18 | |
| 190-199-25S0-1.5D | 19.0-19.9 | 25 | 32 | 58.5 | 56 | 2.88 | 19 | |
| 200-209-25S0-1.5D | 20.0-20.9 | 25 | 33 | 61.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| 210-219-25S0-1.5D | 21.0-21.9 | 25 | 35 | 64.7 | 56 | 3.18 | 21 | |
| 220-229-25S0-1.5D | 22.0-22.9 | 25 | 36 | 67.8 | 56 | 3.24 | 22 | |
| 230-239-32S0-1.5D | 23.0-23.9 | 32 | 38 | 70.8 | 60 | 3.46 | 23 | |
| 240-249-32S0-1.5D | 24.0-24.9 | 32 | 40 | 73.9 | 60 | 3.62 | 24 | |
| 250-259-32S0-1.5D | 25.0-25.9 | 32 | 42 | 77.0 | 60 | 3.80 | 25 | |

D189-D202
Cutting Condition
D242

▸ OAL: LPR+LS
▸ SSC: Seat size code



ADVANCE CUTTING
TaeguTec

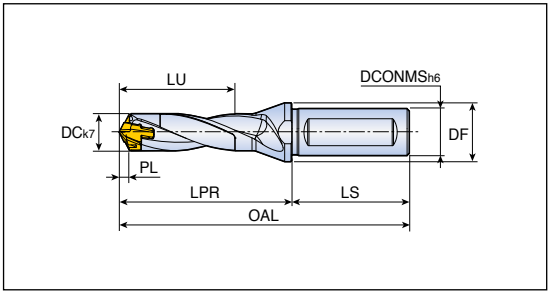
# TCD...T...-3D

## Head changeable drill holders - Weldon type shank



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC | |
| **TCD 060-064-12T3-3D** | 6.0-6.4 | 12 | 16 | 19 | 32.0 | 45 | 0.96 | 6 | K TCD D060-D099 |
| **065-069-12T3-3D** | 6.5-6.9 | 12 | 16 | 21 | 33.8 | 45 | 1.18 | 6.5 | |
| **070-074-12T3-3D** | 7.0-7.4 | 12 | 16 | 22 | 35.6 | 45 | 1.01 | 7 | |
| **075-079-12T3-3D** | 7.5-7.9 | 12 | 16 | 24 | 37.1 | 45 | 1.10 | 7 | |
| **080-084-12T3-3D** | 8.0-8.4 | 12 | 16 | 25 | 39.4 | 45 | 1.20 | 8 | |
| **085-089-12T3-3D** | 8.5-8.9 | 12 | 16 | 27 | 40.9 | 45 | 1.29 | 8 | |
| **090-094-12T3-3D** | 9.0-9.4 | 12 | 16 | 28 | 42.8 | 45 | 1.35 | 9 | |
| **095-099-12T3-3D** | 9.5-9.9 | 12 | 16 | 30 | 44.3 | 45 | 1.44 | 9 | |
| **100-104-16T3-3D** | 10.0-10.4 | 16 | 20 | 32 | 46.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| **105-109-16T3-3D** | 10.5-10.9 | 16 | 20 | 34 | 47.7 | 48 | 1.59 | 10 | |
| **110-114-16T3-3D** | 11.0-11.4 | 16 | 20 | 35 | 49.6 | 48 | 1.67 | 11 | |
| **115-119-16T3-3D** | 11.5-11.9 | 16 | 20 | 37 | 51.1 | 48 | 1.76 | 11 | |
| **120-124-16T3-3D** | 12.0-12.4 | 16 | 20 | 38 | 53.0 | 48 | 1.82 | 12 | |
| **125-129-16T3-3D** | 12.5-12.9 | 16 | 20 | 39 | 54.5 | 48 | 1.91 | 12 | |
| **130-134-16T3-3D** | 13.0-13.4 | 16 | 20 | 41 | 56.6 | 48 | 1.96 | 13 | |
| **135-139-16T3-3D** | 13.5-13.9 | 16 | 20 | 43 | 58.1 | 48 | 2.05 | 13 | |
| **140-144-16T3-3D** | 14.0-14.4 | 16 | 20 | 44 | 62.2 | 48 | 2.12 | 14 | |
| **145-149-16T3-3D** | 14.5-14.9 | 16 | 20 | 46 | 63.7 | 48 | 2.21 | 14 | |
| **150-159-20T3-3D** | 15.0-15.9 | 20 | 25 | 47 | 68.7 | 50 | 2.27 | 15 | |
| **160-169-20T3-3D** | 16.0-16.9 | 20 | 25 | 50 | 73.3 | 50 | 2.42 | 16 | |
| **170-179-20T3-3D** | 17.0-17.9 | 20 | 25 | 54 | 77.9 | 50 | 2.59 | 17 | |
| **180-189-25T2-3D** | 18.0-18.9 | 25 | 32 | 57 | 82.5 | 56 | 2.73 | 18 | |
| **190-199-25T2-3D** | 19.0-19.9 | 25 | 32 | 60 | 87.0 | 56 | 2.88 | 19 | |
| **200-209-25T2-3D** | 20.0-20.9 | 25 | 32 | 63 | 91.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| **210-219-25T2-3D** | 21.0-21.9 | 25 | 32 | 66 | 96.2 | 56 | 3.18 | 21 | |
| **220-229-25T2-3D** | 22.0-22.9 | 25 | 32 | 69 | 100.8 | 56 | 3.24 | 22 | |
| **230-239-32T2-3D** | 23.0-23.9 | 32 | 42 | 72 | 105.3 | 60 | 3.46 | 23 | |
| **240-249-32T2-3D** | 24.0-24.9 | 32 | 42 | 76 | 109.9 | 60 | 3.62 | 24 | |
| **250-259-32T2-3D** | 25.0-25.9 | 32 | 42 | 79 | 114.5 | 60 | 3.80 | 25 | |










- OAL: LPR+LS
- SSC: Seat size code

# TCD...S0-3D

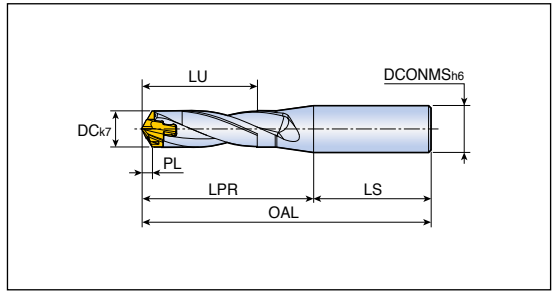
DRILLRUSH

## Head changeable drill holders - Cylindrical type shank



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| TCD 060-064-12S0-3D | 6.0-6.4 | 12 | 19 | 32.0 | 45 | 0.96 | 6 | K TCD D060-D099 |
| 065-069-12S0-3D | 6.5-6.9 | 12 | 21 | 33.8 | 45 | 1.18 | 6.5 | |
| 070-074-12S0-3D | 7.0-7.4 | 12 | 22 | 35.6 | 45 | 1.01 | 7 | |
| 075-079-12S0-3D | 7.5-7.9 | 12 | 24 | 37.1 | 45 | 1.10 | 7 | |
| 080-084-12S0-3D | 8.0-8.4 | 12 | 25 | 39.4 | 45 | 1.20 | 8 | |
| 085-089-12S0-3D | 8.5-8.9 | 12 | 27 | 40.9 | 45 | 1.29 | 8 | |
| 090-094-12S0-3D | 9.0-9.4 | 12 | 28 | 42.8 | 45 | 1.35 | 9 | |
| 095-099-12S0-3D | 9.5-9.9 | 12 | 30 | 44.3 | 45 | 1.44 | 9 | |
| 100-104-16S0-3D | 10.0-10.4 | 16 | 32 | 46.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| 105-109-16S0-3D | 10.5-10.9 | 16 | 34 | 47.7 | 48 | 1.59 | 10 | |
| 110-114-16S0-3D | 11.0-11.4 | 16 | 35 | 49.6 | 48 | 1.67 | 11 | |
| 115-119-16S0-3D | 11.5-11.9 | 16 | 37 | 51.1 | 48 | 1.76 | 11 | |
| 120-124-16S0-3D | 12.0-12.4 | 16 | 38 | 53.0 | 48 | 1.82 | 12 | |
| 125-129-16S0-3D | 12.5-12.9 | 16 | 39 | 54.5 | 48 | 1.91 | 12 | |
| 130-134-16S0-3D | 13.0-13.4 | 16 | 41 | 56.6 | 48 | 1.96 | 13 | |
| 135-139-16S0-3D | 13.5-13.9 | 16 | 43 | 58.1 | 48 | 2.05 | 13 | |
| 140-144-16S0-3D | 14.0-14.4 | 16 | 44 | 62.1 | 48 | 2.12 | 14 | |
| 145-149-16S0-3D | 14.5-14.9 | 16 | 46 | 63.7 | 48 | 2.21 | 14 | |
| 150-159-20S0-3D | 15.0-15.9 | 20 | 47 | 68.7 | 50 | 2.27 | 15 | |
| 160-169-20S0-3D | 16.0-16.9 | 20 | 50 | 73.3 | 50 | 2.42 | 16 | |
| 170-179-20S0-3D | 17.0-17.9 | 20 | 54 | 77.9 | 50 | 2.59 | 17 | |
| 180-189-25S0-3D | 18.0-18.9 | 25 | 57 | 82.5 | 56 | 2.73 | 18 | |
| 190-199-25S0-3D | 19.0-19.9 | 25 | 60 | 87.0 | 56 | 2.88 | 19 | |
| 200-209-25S0-3D | 20.0-20.9 | 25 | 63 | 91.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| 210-219-25S0-3D | 21.0-21.9 | 25 | 66 | 96.2 | 56 | 3.18 | 21 | |
| 220-229-25S0-3D | 22.0-22.9 | 25 | 69 | 100.8 | 56 | 3.24 | 22 | |
| 230-239-32S0-3D | 23.0-23.9 | 32 | 72 | 105.3 | 60 | 3.46 | 23 | |
| 240-249-32S0-3D | 24.0-24.9 | 32 | 76 | 109.9 | 60 | 3.62 | 24 | |
| 250-259-32S0-3D | 25.0-25.9 | 32 | 79 | 114.5 | 60 | 3.80 | 25 | |

D189-D202

Cutting Condition

D242

- OAL: LPR+LS
- SSC: Seat size code



ADVANCE CUTTING
TaeguTec

# TCD...T...-5D

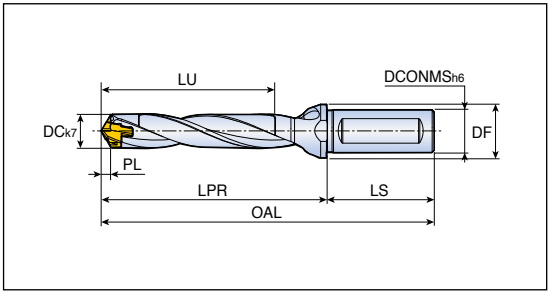
DRILLRUSH

## Head changeable drill holders - Weldon type shank



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC | |
| **TCD 060-064-12T3-5D** | 6.0-6.4 | 12 | 16 | 31 | 44.0 | 45 | 0.96 | 6 | K TCD D060-D099 |
| **065-069-12T3-5D** | 6.5-6.9 | 12 | 16 | 34 | 46.8 | 45 | 1.18 | 6.5 | |
| **070-074-12T3-5D** | 7.0-7.4 | 12 | 16 | 36 | 49.6 | 45 | 1.01 | 7 | |
| **075-079-12T3-5D** | 7.5-7.9 | 12 | 16 | 39 | 52.1 | 45 | 1.10 | 7 | |
| **080-084-12T3-5D** | 8.0-8.4 | 12 | 16 | 41 | 55.4 | 45 | 1.20 | 8 | |
| **085-089-12T3-5D** | 8.5-8.9 | 12 | 16 | 44 | 57.9 | 45 | 1.29 | 8 | |
| **090-094-12T3-5D** | 9.0-9.4 | 12 | 16 | 46 | 60.8 | 45 | 1.35 | 9 | |
| **095-099-12T3-5D** | 9.5-9.9 | 12 | 16 | 49 | 63.3 | 45 | 1.44 | 9 | |
| **100-104-16T3-5D** | 10.0-10.4 | 16 | 20 | 52 | 66.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| **105-109-16T3-5D** | 10.5-10.9 | 16 | 20 | 55 | 68.7 | 48 | 1.59 | 10 | |
| **110-114-16T3-5D** | 11.0-11.4 | 16 | 20 | 57 | 71.6 | 48 | 1.67 | 11 | |
| **115-119-16T3-5D** | 11.5-11.9 | 16 | 20 | 60 | 74.1 | 48 | 1.76 | 11 | |
| **120-124-16T3-5D** | 12.0-12.4 | 16 | 20 | 62 | 77.0 | 48 | 1.82 | 12 | |
| **125-129-16T3-5D** | 12.5-12.9 | 16 | 20 | 64 | 79.5 | 48 | 1.91 | 12 | |
| **130-134-16T3-5D** | 13.0-13.4 | 16 | 20 | 67 | 82.6 | 48 | 1.96 | 13 | |
| **135-139-16T3-5D** | 13.5-13.9 | 16 | 20 | 70 | 85.1 | 48 | 2.05 | 13 | |
| **140-144-16T3-5D** | 14.0-14.4 | 16 | 20 | 72 | 90.2 | 48 | 2.12 | 14 | |
| **145-149-16T3-5D** | 14.5-14.9 | 16 | 20 | 75 | 92.7 | 48 | 2.21 | 14 | |
| **150-159-20T3-5D** | 15.0-15.9 | 20 | 25 | 77 | 98.7 | 50 | 2.27 | 15 | |
| **160-169-20T3-5D** | 16.0-16.9 | 20 | 25 | 82 | 105.3 | 50 | 2.42 | 16 | |
| **170-179-20T3-5D** | 17.0-17.9 | 20 | 25 | 88 | 111.9 | 50 | 2.59 | 17 | |
| **180-189-25T2-5D** | 18.0-18.9 | 25 | 32 | 93 | 118.5 | 56 | 2.73 | 18 | |
| **190-199-25T2-5D** | 19.0-19.9 | 25 | 32 | 98 | 125.0 | 56 | 2.88 | 19 | |
| **200-209-25T2-5D** | 20.0-20.9 | 25 | 32 | 103 | 131.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| **210-219-25T2-5D** | 21.0-21.9 | 25 | 32 | 108 | 138.2 | 56 | 3.18 | 21 | |
| **220-229-25T2-5D** | 22.0-22.9 | 25 | 32 | 113 | 144.8 | 56 | 3.24 | 22 | |
| **230-239-32T2-5D** | 23.0-23.9 | 32 | 42 | 118 | 151.3 | 60 | 3.46 | 23 | |
| **240-249-32T2-5D** | 24.0-24.9 | 32 | 42 | 124 | 157.9 | 60 | 3.62 | 24 | |
| **250-259-32T2-5D** | 25.0-25.9 | 32 | 42 | 129 | 164.5 | 60 | 3.80 | 25 | |

D189-D202 | Sleeve D109 | Cutting Condition D242

- OAL: LPR+LS
- SSC: Seat size code

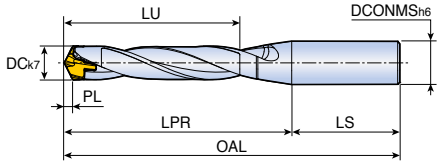
# TCD...S0-5D

**Head changeable drill holders - Cylindrical type shank**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| TCD 060-064-12S0-5D | 6.0-6.4 | 12 | 31 | 44.0 | 45 | 0.96 | 6 | K TCD D060-D099 |
| 065-069-12S0-5D | 6.5-6.9 | 12 | 34 | 46.8 | 45 | 1.18 | 6.5 | |
| 070-074-12S0-5D | 7.0-7.4 | 12 | 36 | 49.6 | 45 | 1.01 | 7 | |
| 075-079-12S0-5D | 7.5-7.9 | 12 | 39 | 52.1 | 45 | 1.10 | 7 | |
| 080-084-12S0-5D | 8.0-8.4 | 12 | 41 | 55.4 | 45 | 1.20 | 8 | |
| 085-089-12S0-5D | 8.5-8.9 | 12 | 44 | 57.9 | 45 | 1.29 | 8 | |
| 090-094-12S0-5D | 9.0-9.4 | 12 | 46 | 60.8 | 45 | 1.35 | 9 | |
| 095-099-12S0-5D | 9.5-9.9 | 12 | 49 | 63.3 | 45 | 1.44 | 9 | |
| 100-104-16S0-5D | 10.0-10.4 | 16 | 52 | 66.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| 105-109-16S0-5D | 10.5-10.9 | 16 | 55 | 68.7 | 48 | 1.59 | 10 | |
| 110-114-16S0-5D | 11.0-11.4 | 16 | 57 | 71.6 | 48 | 1.67 | 11 | |
| 115-119-16S0-5D | 11.5-11.9 | 16 | 60 | 74.1 | 48 | 1.76 | 11 | |
| 120-124-16S0-5D | 12.0-12.4 | 16 | 62 | 77.0 | 48 | 1.82 | 12 | |
| 125-129-16S0-5D | 12.5-12.9 | 16 | 64 | 79.5 | 48 | 1.91 | 12 | |
| 130-134-16S0-5D | 13.0-13.4 | 16 | 67 | 82.6 | 48 | 1.96 | 13 | |
| 135-139-16S0-5D | 13.5-13.9 | 16 | 70 | 85.1 | 48 | 2.05 | 13 | |
| 140-144-16S0-5D | 14.0-14.4 | 16 | 72 | 90.2 | 48 | 2.12 | 14 | |
| 145-149-16S0-5D | 14.5-14.9 | 16 | 75 | 92.7 | 48 | 2.21 | 14 | |
| 150-159-20S0-5D | 15.0-15.9 | 20 | 77 | 98.7 | 50 | 2.27 | 15 | |
| 160-169-20S0-5D | 16.0-16.9 | 20 | 82 | 105.3 | 50 | 2.42 | 16 | |
| 170-179-20S0-5D | 17.0-17.9 | 20 | 88 | 111.9 | 50 | 2.59 | 17 | |
| 180-189-25S0-5D | 18.0-18.9 | 25 | 93 | 118.5 | 56 | 2.73 | 18 | |
| 190-199-25S0-5D | 19.0-19.9 | 25 | 98 | 125.0 | 56 | 2.88 | 19 | |
| 200-209-25S0-5D | 20.0-20.9 | 25 | 103 | 131.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| 210-219-25S0-5D | 21.0-21.9 | 25 | 108 | 138.2 | 56 | 3.18 | 21 | |
| 220-229-25S0-5D | 22.0-22.9 | 25 | 113 | 144.8 | 56 | 3.24 | 22 | |
| 230-239-32S0-5D | 23.0-23.9 | 32 | 118 | 151.3 | 60 | 3.46 | 23 | |
| 240-249-32S0-5D | 24.0-24.9 | 32 | 124 | 157.9 | 60 | 3.62 | 24 | |
| 250-259-32S0-5D | 25.0-25.9 | 32 | 129 | 164.5 | 60 | 3.80 | 25 | |

D189-202
Cutting Condition
D242

- OAL: LPR+LS
- SSC: Seat size code



ADVANCE CUTTING
TaeguTec

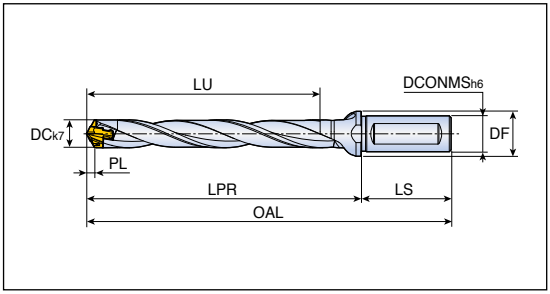
# TCD...T...-8D

**Head changeable drill holders - Weldon type shank**



• Drilling depth: 8xdiameter






| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC | |
| TCD 070-074-12T3-8D | 7.0-7.4 | 12 | 16 | 57 | 70.6 | 45 | 1.01 | 7 | K TCD D060-D099 |
| 075-079-12T3-8D | 7.5-7.9 | 12 | 16 | 61 | 74.6 | 45 | 1.10 | 7 | |
| 080-084-12T3-8D | 8.0-8.4 | 12 | 16 | 65 | 79.4 | 45 | 1.20 | 8 | |
| 085-089-12T3-8D | 8.5-8.9 | 12 | 16 | 69 | 83.4 | 45 | 1.29 | 8 | |
| 090-094-12T3-8D | 9.0-9.4 | 12 | 16 | 73 | 87.8 | 45 | 1.35 | 9 | |
| 095-099-12T3-8D | 9.5-9.9 | 12 | 16 | 77 | 91.8 | 45 | 1.44 | 9 | |
| 100-104-16T3-8D | 10.0-10.4 | 16 | 20 | 82 | 96.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| 105-109-16T3-8D | 10.5-10.9 | 16 | 20 | 86 | 100.2 | 48 | 1.59 | 10 | |
| 110-114-16T3-8D | 11.0-11.4 | 16 | 20 | 90 | 104.6 | 48 | 1.67 | 11 | |
| 115-119-16T3-8D | 11.5-11.9 | 16 | 20 | 94 | 108.6 | 48 | 1.76 | 11 | |
| 120-124-16T3-8D | 12.0-12.4 | 16 | 20 | 98 | 113.0 | 48 | 1.82 | 12 | |
| 125-129-16T3-8D | 12.5-12.9 | 16 | 20 | 102 | 117.0 | 48 | 1.91 | 12 | |
| 130-134-16T3-8D | 13.0-13.4 | 16 | 20 | 106 | 121.6 | 48 | 1.96 | 13 | |
| 135-139-16T3-8D | 13.5-13.9 | 16 | 20 | 110 | 125.6 | 48 | 2.05 | 13 | |
| 140-144-16T3-8D | 14.0-14.4 | 16 | 20 | 114 | 132.2 | 48 | 2.12 | 14 | |
| 145-149-16T3-8D | 14.5-14.9 | 16 | 20 | 118 | 136.2 | 48 | 2.21 | 14 | |
| 150-159-20T3-8D | 15.0-15.9 | 20 | 25 | 122 | 143.7 | 50 | 2.27 | 15 | |
| 160-169-20T3-8D | 16.0-16.9 | 20 | 25 | 130 | 153.3 | 50 | 2.42 | 16 | |
| 170-179-20T3-8D | 17.0-17.9 | 20 | 25 | 139 | 162.9 | 50 | 2.59 | 17 | |
| 180-189-25T2-8D | 18.0-18.9 | 25 | 32 | 147 | 172.5 | 56 | 2.73 | 18 | |
| 190-199-25T2-8D | 19.0-19.9 | 25 | 32 | 155 | 182.0 | 56 | 2.88 | 19 | |
| 200-209-25T2-8D | 20.0-20.9 | 25 | 32 | 163 | 191.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| 210-219-25T2-8D | 21.0-21.9 | 25 | 32 | 171 | 201.2 | 56 | 3.18 | 21 | |
| 220-229-25T2-8D | 22.0-22.9 | 25 | 32 | 179 | 210.8 | 56 | 3.24 | 22 | |
| 230-239-32T2-8D | 23.0-23.9 | 32 | 42 | 187 | 220.3 | 60 | 3.46 | 23 | |
| 240-249-32T2-8D | 24.0-24.9 | 32 | 42 | 196 | 229.9 | 60 | 3.62 | 24 | |
| 250-259-32T2-8D | 25.0-25.9 | 32 | 42 | 204 | 239.5 | 60 | 3.80 | 25 | |










- It is recommended to make the pilot hole with a 1.5D holder
- OAL: LPR+LS
- SSC: Seat size code

# TCD...S0-8D

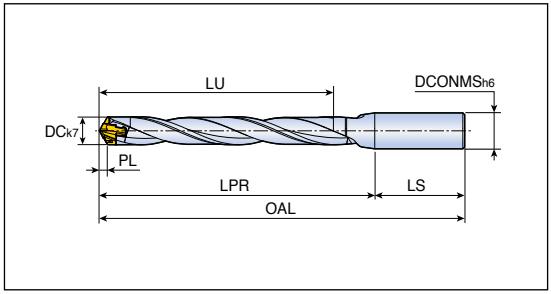
DRILLRUSH

## Head changeable drill holders - Cylindrical type shank



• Drilling depth: 8xdiameter






| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| TCD 060-064-12S0-8D | 6.0-6.4 | 12 | 49 | 62.0 | 45 | 0.96 | 6 | K TCD D060-D099 |
| 065-069-12S0-8D | 6.5-6.9 | 12 | 53 | 66.3 | 45 | 1.18 | 6.5 | |
| 070-074-12S0-8D | 7.0-7.4 | 12 | 57 | 70.6 | 45 | 1.01 | 7 | |
| 075-079-12S0-8D | 7.5-7.9 | 12 | 61 | 74.6 | 45 | 1.10 | 7 | |
| 080-084-12S0-8D | 8.0-8.4 | 12 | 65 | 79.4 | 45 | 1.20 | 8 | |
| 085-089-12S0-8D | 8.5-8.9 | 12 | 69 | 83.4 | 45 | 1.29 | 8 | |
| 090-094-12S0-8D | 9.0-9.4 | 12 | 73 | 87.8 | 45 | 1.35 | 9 | |
| 095-099-12S0-8D | 9.5-9.9 | 12 | 77 | 91.8 | 45 | 1.44 | 9 | |
| 100-104-16S0-8D | 10.0-10.4 | 16 | 82 | 96.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| 105-109-16S0-8D | 10.5-10.9 | 16 | 86 | 100.2 | 48 | 1.59 | 10 | |
| 110-114-16S0-8D | 11.0-11.4 | 16 | 90 | 104.6 | 48 | 1.67 | 11 | |
| 115-119-16S0-8D | 11.5-11.9 | 16 | 94 | 108.6 | 48 | 1.76 | 11 | |
| 120-124-16S0-8D | 12.0-12.4 | 16 | 98 | 113.0 | 48 | 1.82 | 12 | |
| 125-129-16S0-8D | 12.5-12.9 | 16 | 102 | 117.0 | 48 | 1.91 | 12 | |
| 130-134-16S0-8D | 13.0-13.4 | 16 | 106 | 121.6 | 48 | 1.96 | 13 | |
| 135-139-16S0-8D | 13.5-13.9 | 16 | 110 | 125.6 | 48 | 2.05 | 13 | |
| 140-144-16S0-8D | 14.0-14.4 | 16 | 114 | 132.2 | 48 | 2.12 | 14 | |
| 145-149-16S0-8D | 14.5-14.9 | 16 | 118 | 136.2 | 48 | 2.21 | 14 | |
| 150-159-20S0-8D | 15.0-15.9 | 20 | 122 | 143.7 | 50 | 2.27 | 15 | |
| 160-169-20S0-8D | 16.0-16.9 | 20 | 130 | 153.3 | 50 | 2.42 | 16 | |
| 170-179-20S0-8D | 17.0-17.9 | 20 | 139 | 162.9 | 50 | 2.59 | 17 | |
| 180-189-25S0-8D | 18.0-18.9 | 25 | 147 | 172.5 | 56 | 2.73 | 18 | |
| 190-199-25S0-8D | 19.0-19.9 | 25 | 155 | 182.0 | 56 | 2.88 | 19 | |
| 200-209-25S0-8D | 20.0-20.9 | 25 | 163 | 191.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| 210-219-25S0-8D | 21.0-21.9 | 25 | 171 | 201.2 | 56 | 3.18 | 21 | |
| 220-229-25S0-8D | 22.0-22.9 | 25 | 179 | 210.8 | 56 | 3.24 | 22 | |
| 230-239-32S0-8D | 23.0-23.9 | 32 | 187 | 220.3 | 60 | 3.46 | 23 | |
| 240-249-32S0-8D | 24.0-24.9 | 32 | 196 | 229.9 | 60 | 3.62 | 24 | |
| 250-259-32S0-8D | 25.0-25.9 | 32 | 204 | 239.5 | 60 | 3.80 | 25 | |

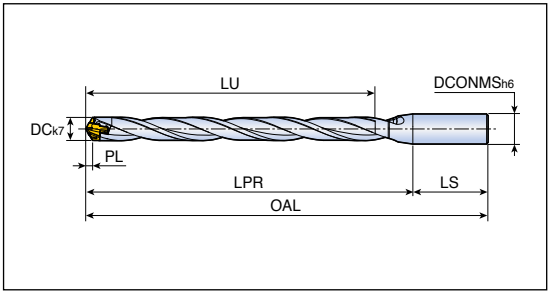
D189-202
Cutting Condition D242

- It is recommended to make the pilot hole with a 1.5D holder
- OAL: LPR+LS
- SSC: Seat size code

# TCD...S0-12D

**Head changeable drill holders - Cylindrical type shank**






• Drilling depth: 12xdiameter

| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| TCD 080-084-12S0-12D | 8.0-8.4 | 12 | 97 | 111.4 | 45 | 1.20 | 8 | K TCD D060-D099 |
| 085-089-12S0-12D | 8.5-8.9 | 12 | 103 | 117.4 | 45 | 1.29 | 8 | |
| 090-094-12S0-12D | 9.0-9.4 | 12 | 109 | 123.8 | 45 | 1.35 | 9 | |
| 095-099-12S0-12D | 9.5-9.9 | 12 | 115 | 129.8 | 45 | 1.44 | 9 | |
| 100-104-16S0-12D | 10.0-10.4 | 16 | 122 | 136.2 | 48 | 1.50 | 10 | K TCD D100-D199 |
| 105-109-16S0-12D | 10.5-10.9 | 16 | 128 | 142.2 | 48 | 1.59 | 10 | |
| 110-114-16S0-12D | 11.0-11.4 | 16 | 134 | 148.6 | 48 | 1.67 | 11 | |
| 115-119-16S0-12D | 11.5-11.9 | 16 | 140 | 154.6 | 48 | 1.76 | 11 | |
| 120-124-16S0-12D | 12.0-12.4 | 16 | 146 | 161.0 | 48 | 1.82 | 12 | |
| 125-129-16S0-12D | 12.5-12.9 | 16 | 152 | 167.0 | 48 | 1.91 | 12 | |
| 130-134-16S0-12D | 13.0-13.4 | 16 | 158 | 173.6 | 48 | 1.96 | 13 | |
| 135-139-16S0-12D | 13.5-13.9 | 16 | 164 | 179.6 | 48 | 2.05 | 13 | |
| 140-144-16S0-12D | 14.0-14.4 | 16 | 170 | 188.2 | 48 | 2.12 | 14 | |
| 145-149-16S0-12D | 14.5-14.9 | 16 | 176 | 194.2 | 48 | 2.21 | 14 | |
| 150-159-20S0-12D | 15.0-15.9 | 20 | 182 | 203.7 | 50 | 2.27 | 15 | |
| 160-169-20S0-12D | 16.0-16.9 | 20 | 194 | 217.3 | 50 | 2.42 | 16 | |
| 170-179-20S0-12D | 17.0-17.9 | 20 | 207 | 230.9 | 50 | 2.59 | 17 | |
| 180-189-25S0-12D | 18.0-18.9 | 25 | 219 | 244.5 | 56 | 2.73 | 18 | |
| 190-199-25S0-12D | 19.0-19.9 | 25 | 221 | 258.0 | 56 | 2.88 | 19 | |
| 200-209-25S0-12D | 20.0-20.9 | 25 | 243 | 271.6 | 56 | 3.02 | 20 | K TCD D200-D269 |
| 210-219-25S0-12D | 21.0-21.9 | 25 | 255 | 285.2 | 56 | 3.18 | 21 | |
| 220-229-25S0-12D | 22.0-22.9 | 25 | 267 | 298.8 | 56 | 3.24 | 22 | |
| 230-239-32S0-12D | 23.0-23.9 | 32 | 289 | 312.3 | 60 | 3.46 | 23 | |
| 240-249-32S0-12D | 24.0-24.9 | 32 | 292 | 325.9 | 60 | 3.62 | 24 | |
| 250-259-32S0-12D | 25.0-25.9 | 32 | 304 | 339.5 | 60 | 3.80 | 25 | |

D189-202

Cutting Condition D242

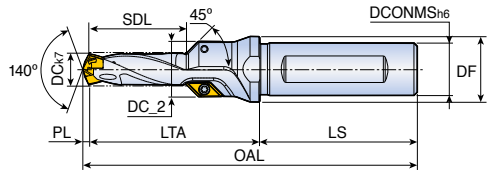
- It is recommended to make the pilot hole with a 1.5D holder
- OAL: LPR+LS
- SSC: Seat size code

# TCD...-M

DRILLRUSH

## Head changeable drill holders for pre-thread hole






| Designation | ISO thread | DC | Dimension (mm) | | | | | | | Drill dia. range | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SDL | LTA | LS | DC_2 | DCONMS | DF | PL | | |
| **TCD 068x21x12T3-M8** | M8 | 6.8 | 21 | 43.77 | 45 | 13.5 | 12 | 16 | 1.23 | 6.5-6.9 | AOMT 06...-C45 |
| **085x26x12T3-M10** | M10 | 8.5 | 26 | 48.71 | 45 | 15.5 | 12 | 16 | 1.29 | 8.5-8.9 | D203 |
| **102x30x16T3-M12** | M12 | 10.2 | 30 | 52.46 | 48 | 17.0 | 16 | 20 | 1.54 | 10.0-10.4 | |
| **120x35x16T3-M14** | M14 | 12.0 | 35 | 59.18 | 48 | 19.0 | 16 | 20 | 1.82 | 12.0-12.4 | |
| **140x39x20T3-M16** | M16 | 14.0 | 39 | 66.88 | 50 | 21.0 | 20 | 25 | 2.12 | 14.0-14.4 | |
| **175x42x20T3-M20** | M20 | 17.5 | 42 | 69.32 | 50 | 24.5 | 20 | 27 | 2.68 | 17.0-17.9 | |
| **210x48x25T2-M24** | M24 | 21.0 | 48 | 76.82 | 56 | 28.0 | 25 | 32 | 3.18 | 21.0-21.9 | |

▸ OAL: LTA+LS+PL

## Spare parts

| Designation | Screw | Wrench | Clamping key | |
|---|---|---|---|---|
| **TCD 068** | TS 22046I | TD 7 | K TCD D060-D099 | |
| **TCD 085** | TS 22046I | TD 7 | K TCD D060-D099 | |
| **TCD 102 - 175** | TS 22046I | TD 7 | K TCD D100-D199 | |
| **TCD 210** | TS 22046I | TD 7 | K TCD D200-D269 | |
| | | | | |
| | | | | |

D189-202 | Sleeve D109 | Cutting Condition D242

## Plug for coolant supply in a stationary machines

TaeguTec supplies special plugs with an internal thread for coolant connections used on lathes that can be pressed into the cavity on the back end of the shank.

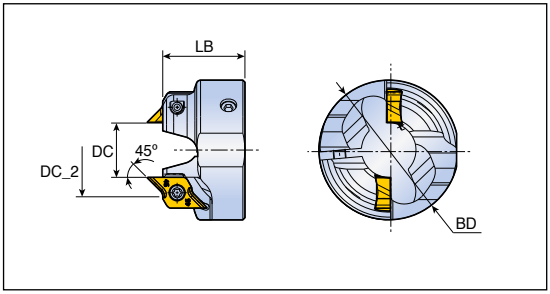
| Description | Shank diameter | Internal thread |
|---|---|---|
| PL-TCD-12 | 12 | G 1/16 |
| PL-TCD-16 | 16 | G 1/16 |
| PL-TCD-20 | 20 | G 1/8 |
| PL-TCD-25 | 25 | G 1/8 |
| PL-TCD-32 | 32 | G 1/8 |



# CFR D...-A45

## Chamfering ring tools






| Designation | Dimension (mm) | | | | Chamfer size | Chamfer insert |
|---|---|---|---|---|---|---|
| | DC | DC_2 | BD | LB | | |
| **CFR D100-A45** | 9.8 | 16.56 | 34 | 20 | 2.5 | CRNG 08...-45CD |
| **D105-A45** | 10.3 | 17.06 | 34 | 20 | 2.5 | D203 |
| **D110-A45** | 10.8 | 17.56 | 34 | 20 | 2.5 | |
| **D115-A45** | 11.3 | 18.06 | 34 | 20 | 2.5 | |
| **D120-A45** | 11.8 | 18.56 | 34 | 20 | 2.5 | |
| **D125-A45** | 12.3 | 19.06 | 34 | 20 | 2.5 | |
| **D130-A45** | 12.8 | 19.56 | 34 | 20 | 2.5 | |
| **D135-A45** | 13.3 | 20.06 | 34 | 20 | 2.5 | |
| **D140-A45** | 13.8 | 20.56 | 38 | 22 | 2.5 | |
| **D145-A45** | 14.3 | 21.06 | 38 | 22 | 2.5 | |
| **D150-A45** | 14.6 | 21.36 | 38 | 22 | 2.5 | |
| **D160-A45** | 15.6 | 22.36 | 42 | 23 | 2.5 | |
| **D170-A45** | 16.6 | 23.36 | 42 | 23 | 2.5 | |
| **D180-A45** | 17.6 | 24.36 | 42 | 23 | 2.5 | |
| **D190-A45** | 18.6 | 25.36 | 42 | 24 | 2.5 | |
| **D200-A45** | 19.6 | 26.36 | 42 | 24 | 2.5 | |
| **D210-A45** | 20.6 | 27.36 | 47 | 24 | 2.5 | |
| **D220-A45** | 21.6 | 28.36 | 47 | 24 | 2.5 | |
| **D230-A45** | 22.6 | 29.36 | 47 | 24 | 2.5 | |
| **D240-A45** | 23.6 | 30.36 | 47 | 24 | 2.5 | |
| **D250-A45** | 24.6 | 31.36 | 47 | 24 | 2.5 | |

## Spare parts

| Designation | Insert screw | Wrench | Clamping screw | L-wrench |
|---|---|---|---|---|
| **CFR D100 - D135** | SO 25065I | TD 7 | SH M3x0.5x10 (1) | L-W2.5 |
| **CFR D140 - D150** | SO 25065I | TD 7 | SH M4x0.7x12 (2) | L-W3 |
| **CFR D160 - D250** | SO 25065I | TD 7 | SH M5x0.8x16 (3) | L-W4 |
| | | | | |
| | | | | |
| | | | | |

Technical Data D272-275

▸ (1) Clamping torque: 2-3 [N•m] (2) Clamping torque: 3.5-4.5 [N•m] (3) Clamping torque: 5-6 [N•m]

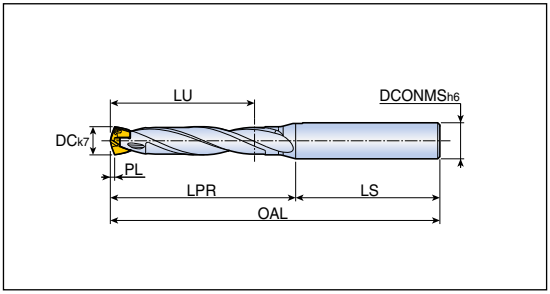
# TCD…A0-3D/5D/8D

DRILLRUSH

## Head changeable drill holders - Cylindrical type shank



• Drilling depth: 3/5/8xdiameter




| Designation | Dimension (mm) | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | LS | PL | SSC | |
| **TCD 060-064-08A0-3D** | 6.0-6.4 | 8 | 19 | 28.0 | 36 | 0.96 | 6 | K TCD D060-D099 |
| **065-069-08A0-3D** | 6.5-6.9 | 8 | 21 | 29.8 | 36 | 1.18 | 6.5 | |
| **070-074-08A0-3D** | 7.0-7.4 | 8 | 22 | 31.6 | 36 | 1.01 | 7 | |
| **075-079-08A0-3D** | 7.5-7.9 | 8 | 24 | 33.1 | 36 | 1.10 | 7.5 | |
| **080-084-10A0-3D** | 8.0-8.4 | 10 | 25 | 35.4 | 40 | 1.20 | 8 | |
| **085-089-10A0-3D** | 8.5-8.9 | 10 | 27 | 36.9 | 40 | 1.29 | 8.5 | |
| **090-094-10A0-3D** | 9.0-9.4 | 10 | 28 | 38.8 | 40 | 1.35 | 9 | |
| **095-099-10A0-3D** | 9.5-9.9 | 10 | 30 | 40.3 | 40 | 1.44 | 9.5 | |
| **TCD 060-064-08A0-5D** | 6.0-6.4 | 8 | 31 | 40.0 | 36 | 0.96 | 6 | K TCD D060-D099 |
| **065-069-08A0-5D** | 6.5-6.9 | 8 | 34 | 42.8 | 36 | 1.18 | 6.5 | |
| **070-074-08A0-5D** | 7.0-7.4 | 8 | 36 | 45.6 | 36 | 1.01 | 7 | |
| **075-079-08A0-5D** | 7.5-7.9 | 8 | 39 | 48.1 | 36 | 1.10 | 7.5 | |
| **080-084-10A0-5D** | 8.0-8.4 | 10 | 41 | 51.4 | 40 | 1.20 | 8 | |
| **085-089-10A0-5D** | 8.5-8.9 | 10 | 44 | 53.9 | 40 | 1.29 | 8.5 | |
| **090-094-10A0-5D** | 9.0-9.4 | 10 | 46 | 56.8 | 40 | 1.35 | 9 | |
| **095-099-10A0-5D** | 9.5-9.9 | 10 | 49 | 59.3 | 40 | 1.44 | 9.5 | |
| **TCD 060-064-08A0-8D** | 6.0-6.4 | 8 | 49 | 58.0 | 36 | 0.96 | 6 | K TCD D060-D099 |
| **065-069-08A0-8D** | 6.5-6.9 | 8 | 53 | 62.3 | 36 | 1.18 | 6.5 | |
| **070-074-08A0-8D** | 7.0-7.4 | 8 | 57 | 66.6 | 36 | 1.01 | 7 | |
| **075-079-08A0-8D** | 7.5-7.9 | 8 | 61 | 70.6 | 36 | 1.10 | 7.5 | |
| **080-084-10A0-8D** | 8.0-8.4 | 10 | 65 | 75.4 | 40 | 1.20 | 8 | |
| **085-089-10A0-8D** | 8.5-8.9 | 10 | 69 | 79.4 | 40 | 1.29 | 8.5 | |
| **090-094-10A0-8D** | 9.0-9.4 | 10 | 73 | 83.8 | 40 | 1.35 | 9 | |
| **095-099-10A0-8D** | 9.5-9.9 | 10 | 77 | 87.8 | 40 | 1.44 | 9.5 | |

D189-202 Cutting Condition D242

▸ OAL: LPR+LS
▸ SSC: Seat size code

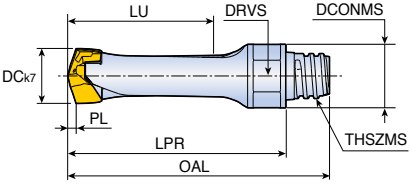
# TCD...-MRS-2D

**Head changeable drill holder with MAXI-RUSH type shank**



• Drilling depth: 2xdiameter






| Designation | Dimension (mm) | | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | PL | OAL | DRVS | THSZMS | SSC | |
| **TCD 060-064-MRS06-2D** | 6.0-6.4 | 9.6 | 13.0 | 28.0 | 1.0 | 34.3 | 8 | S06 | 6 | K TCD D060-D099 |
| **080-084-MRS06-2D** | 8.0-8.4 | 9.6 | 17.2 | 32.9 | 1.2 | 39.2 | 8 | S06 | 8 | |
| **100-104-MRS08-2D** | 10.0-10.4 | 11.6 | 21.5 | 39.8 | 1.5 | 47.3 | 10 | S08 | 10 | K TCD D100-D199 |

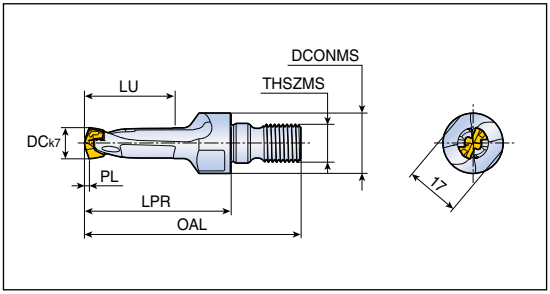
D189-202
Cutting Condition D242

- SSC: Seat size code
- Matched with MAXI-RUSH holder

# TCDM...-M12-2D

**Head changeable drill holder with T-FLEXTEC type shank**






• Drilling depth: 2xdiameter

| Designation | | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | LU | LPR | PL | OAL | THSZMS | SSC | |
| **TCDM** | **100-104-M12-2D** | 10.0-10.4 | 19 | 28.7 | 46.2 | 1.5 | 68.2 | M12 | 10 | K TCD D100-D199 |
| | **105-109-M12-2D** | 10.5-10.9 | 19 | 29.7 | 47.2 | 1.6 | 69.2 | M12 | 10 | |
| | **110-114-M12-2D** | 11.0-11.4 | 19 | 31.1 | 48.6 | 1.7 | 70.6 | M12 | 11 | |
| | **115-119-M12-2D** | 11.5-11.9 | 19 | 32.1 | 49.6 | 1.8 | 71.6 | M12 | 11 | |
| | **120-124-M12-2D** | 12.0-12.4 | 19 | 33.5 | 51.0 | 1.8 | 73.0 | M12 | 12 | |
| | **125-129-M12-2D** | 12.5-12.9 | 19 | 34.5 | 52.0 | 1.9 | 74.0 | M12 | 12 | |
| | **130-134-M12-2D** | 13.0-13.4 | 19 | 36.1 | 53.6 | 2.0 | 75.6 | M12 | 13 | |
| | **135-139-M12-2D** | 13.5-13.9 | 19 | 37.1 | 54.6 | 2.1 | 76.6 | M12 | 13 | |
| | **140-144-M12-2D** | 14.0-14.4 | 19 | 38.7 | 56.2 | 2.1 | 78.2 | M12 | 14 | |
| | **145-149-M12-2D** | 14.5-14.9 | 19 | 39.7 | 57.2 | 2.2 | 79.2 | M12 | 14 | |
| | **150-159-M12-2D** | 15.0-15.9 | 19 | 41.2 | 58.7 | 2.3 | 80.7 | M12 | 15 | |

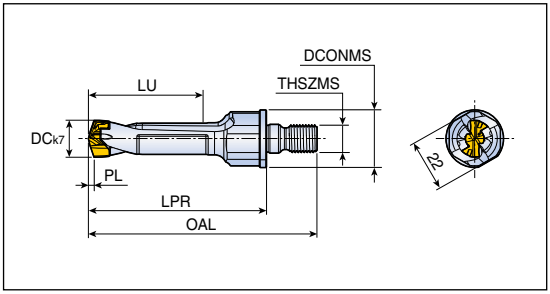
D189-D202
Cutting Condition D242

- SSC: Seat size code
- Matched with T-FLEXTEC holder

# TCDM...-M12-3D

**Head changeable drill holder with T-FLEXTEC type shank**






• Drilling depth: 3xdiameter

| Designation | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | LU | LPR | PL | OAL | THSZMS | SSC | |
| **TCDM 060-064-M12-3D** | 6.0-6.4 | 25 | 19.0 | 42.0 | 1.0 | 64.0 | M12 | 6 | K TCD D060-D099 |
| **065-069-M12-3D** | 6.5-6.9 | 25 | 20.7 | 44.3 | 1.2 | 66.3 | M12 | 6.5 | |
| **070-074-M12-3D** | 7.0-7.4 | 25 | 22.0 | 45.6 | 1.0 | 67.6 | M12 | 7 | |
| **075-079-M12-3D** | 7.5-7.9 | 25 | 23.6 | 47.6 | 1.1 | 69.6 | M12 | 7 | |
| **080-084-M12-3D** | 8.0-8.4 | 25 | 25.2 | 49.4 | 1.2 | 71.4 | M12 | 8 | |
| **085-089-M12-3D** | 8.5-8.9 | 25 | 26.8 | 50.4 | 1.3 | 72.4 | M12 | 8 | |
| **090-094-M12-3D** | 9.0-9.4 | 25 | 28.4 | 52.8 | 1.4 | 74.8 | M12 | 9 | |
| **095-099-M12-3D** | 9.5-9.9 | 25 | 29.9 | 54.8 | 1.4 | 76.8 | M12 | 9 | |
| **100-104-M12-3D** | 10.0-10.4 | 25 | 31.5 | 56.2 | 1.5 | 78.2 | M12 | 10 | K TCD D100-D199 |
| **105-109-M12-3D** | 10.5-10.9 | 25 | 33.1 | 58.2 | 1.6 | 80.2 | M12 | 10 | |
| **110-114-M12-3D** | 11.0-11.4 | 25 | 34.7 | 59.6 | 1.7 | 81.6 | M12 | 11 | |
| **115-119-M12-3D** | 11.5-11.9 | 25 | 36.3 | 61.6 | 1.8 | 83.6 | M12 | 11 | |
| **120-124-M12-3D** | 12.0-12.4 | 25 | 37.8 | 63.0 | 1.8 | 85.0 | M12 | 12 | |
| **125-129-M12-3D** | 12.5-12.9 | 25 | 39.4 | 64.0 | 1.9 | 86.0 | M12 | 12. | |
| **130-134-M12-3D** | 13.0-13.4 | 25 | 41.0 | 66.6 | 2.0 | 88.6 | M12 | 13 | |
| **135-139-M12-3D** | 13.5-13.9 | 25 | 42.6 | 68.6 | 2.1 | 90.6 | M12 | 13 | |
| **140-144-M12-3D** | 14.0-14.4 | 25 | 44.1 | 70.2 | 2.1 | 92.2 | M12 | 14 | |
| **145-149-M12-3D** | 14.5-14.9 | 25 | 45.7 | 72.2 | 2.2 | 94.2 | M12 | 14 | |
| **150-159-M12-3D** | 15.0-15.9 | 25 | 47.3 | 73.7 | 2.3 | 95.7 | M12 | 15 | |
| **160-169-M12-3D** | 16.0-16.9 | 25 | 50.4 | 77.3 | 2.4 | 99.3 | M12 | 16 | |
| **170-179-M12-3D** | 17.0-17.9 | 25 | 53.6 | 80.9 | 2.6 | 102.9 | M12 | 17 | |
| **180-189-M12-3D** | 18.0-18.9 | 25 | 56.7 | 84.5 | 2.7 | 106.5 | M12 | 18 | |
| **190-199-M12-3D** | 19.0-19.9 | 25 | 59.9 | 88.0 | 2.9 | 110.0 | M12 | 19 | |
| **200-209-M12-3D** | 20.0-20.9 | 25 | 63.0 | 91.6 | 3.0 | 113.6 | M12 | 20 | K TCD D200-D269 |

D189-D202
Cutting Condition D242

- SSC: Seat size code
- Matched with T-FLEXTEC holder

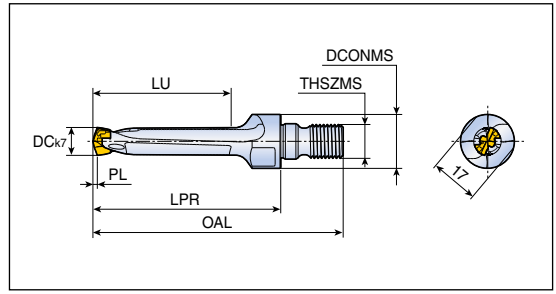
# TCDM...-M12-4D

**Head changeable drill holder with T-FLEXTEC type shank**



• Drilling depth: 4xdiameter






| Designation | | Dimension (mm) | | | | | | | | Clamping key |
|---|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | LU | LPR | PL | OAL | THSZMS | SSC | |
| **TCDM** | **100-104-M12-4D** | 10.0-10.4 | 19 | 48.7 | 66.2 | 1.5 | 88.2 | M12 | 10 | K TCD D100-D199 |
| | **105-109-M12-4D** | 10.5-10.9 | 19 | 50.7 | 68.2 | 1.6 | 90.2 | M12 | 10 | |
| | **110-114-M12-4D** | 11.0-11.4 | 19 | 53.1 | 70.6 | 1.7 | 92.6 | M12 | 11 | |
| | **115-119-M12-4D** | 11.5-11.9 | 19 | 55.1 | 72.6 | 1.8 | 94.6 | M12 | 11 | |
| | **120-124-M12-4D** | 12.0-12.4 | 19 | 57.5 | 75.0 | 1.8 | 97.0 | M12 | 12 | |
| | **125-129-M12-4D** | 12.5-12.9 | 19 | 59.5 | 77.0 | 1.9 | 99.0 | M12 | 12 | |
| | **130-134-M12-4D** | 13.0-13.4 | 19 | 62.1 | 79.6 | 2.0 | 101.6 | M12 | 13 | |
| | **135-139-M12-4D** | 13.5-13.9 | 19 | 64.1 | 81.6 | 2.1 | 103.6 | M12 | 13 | |
| | **140-144-M12-4D** | 14.0-14.4 | 19 | 66.7 | 84.2 | 2.1 | 106.2 | M12 | 14 | |
| | **145-149-M12-4D** | 14.5-14.9 | 19 | 68.7 | 86.2 | 2.2 | 108.2 | M12 | 14 | |
| | **150-159-M12-4D** | 15.0-15.9 | 19 | 71.2 | 88.7 | 2.3 | 110.7 | M12 | 15 | |





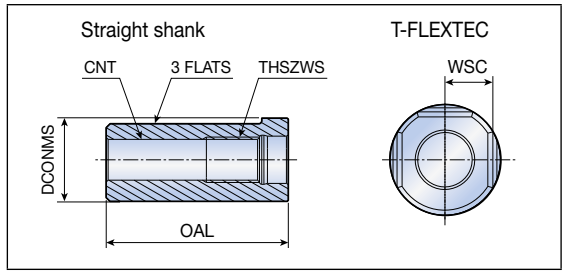


- SSC: Seat size code
- Matched with T-FLEXTEC holder

# TFLEX-TCD-M12

**T-FLEXTEC shank**





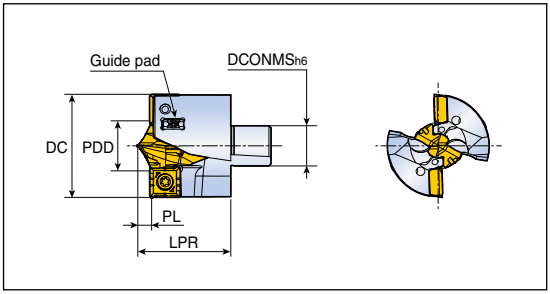

| Designation | | Dimension (mm) | | | | CNT |
|---|---|---|---|---|---|---|
| | | THSZWS | DCONMS | OAL | WSC | |
| **TFLEX** | **160X36-TCD-M12** | M12 | 16 | 36 | 7.5 | UNF 5/16 |
| | **1905X36-TCD-M12** | M12 | 19.05 | 36 | 8.5 | UNF 5/16 |
| | **200X36-TCD-M12** | M12 | 20 | 36 | 8.5 | G 1/8 |
| | **220X48-TCD-M12** | M12 | 22 | 48 | 9.5 | G 1/8 |
| | **250X54-TCD-M12** | M12 | 25 | 54 | 11 | G 1/8 |
| | **254X54-TCD-M12** | M12 | 25.4 | 54 | 11 | G 1/8 |

# TNDH-TP

## Modular drill heads








| Designation | | Dimension (mm) | | | | | Clamping Key | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | LPR | PL | PDD | | Center | Outer |
| **TNDH** | **2600-C26-TP** | 26 | 10.4 | 24.9 | 3.98 | 15.9 | K TCD D15-D16 CO | TCD-159-P-CO+ | SPGX 06...DW |
| | **2700-C26-TP** | 27 | 10.4 | 25.4 | 4.14 | 16.9 | K TCD D15-D16 CO | TCD-169-P-CO+ | D204 |
| | **2800-C28-TP** | 28 | 11.2 | 26.9 | 4.29 | 17.9 | K TCD D17-D19 CO | TCD-179-P-CO+ | |
| | **2900-C28-TP** | 29 | 11.2 | 26.6 | 3.97 | 15.9 | K TCD D15-D16 CO | TCD-159-P-CO+ | SPGX 07...DW |
| | **3000-C30-TP** | 30 | 12.0 | 28.3 | 4.14 | 16.9 | K TCD D15-D16 CO | TCD-169-P-CO+ | D204 |
| | **3100-C30-TP** | 31 | 12.0 | 28.5 | 4.30 | 17.9 | K TCD D17-D19 CO | TCD-179-P-CO+ | |
| | **3200-C32-TP** | 32 | 12.8 | 30.3 | 4.46 | 18.9 | K TCD D17-D19 CO | TCD-189-P-CO+ | |
| | **3300-C32-TP** | 33 | 12.8 | 29.8 | 3.97 | 15.9 | K TCD D15-D16 CO | TCD-159-P-CO+ | SPGX 09...DW |
| | **3400-C34-TP** | 34 | 13.6 | 31.6 | 4.14 | 16.9 | K TCD D15-D16 CO | TCD-169-P-CO+ | D204 |
| | **3500-C34-TP** | 35 | 13.6 | 31.8 | 4.30 | 17.9 | K TCD D17-D19 CO | TCD-179-P-CO+ | |
| | **3600-C36-TP** | 36 | 14.4 | 33.5 | 4.46 | 18.9 | K TCD D17-D19 CO | TCD-189-P-CO+ | |
| | **3700-C36-TP** | 37 | 14.4 | 33.3 | 4.14 | 16.9 | K TCD D15-D16 CO | TCD-169-P-CO+ | SPGX 11...DW |
| | **3800-C38-TP** | 38 | 15.2 | 35.0 | 4.30 | 17.9 | K TCD D17-D19 CO | TCD-179-P-CO+ | D204 |
| | **3900-C38-TP** | 39 | 15.2 | 35.2 | 4.46 | 18.9 | K TCD D17-D19 CO | TCD-189-P-CO+ | |
| | **4000-C40-TP** | 40 | 16.0 | 36.9 | 4.62 | 19.9 | K TCD D17-D19 CO | TCD-199-P-CO+ | |
| | **4100-C40-TP** | 41 | 16.0 | 37.1 | 4.78 | 20.9 | K TCD D20-D21 CO | TCD-209-P-CO+ | |
| | **4200-C42-TP** | 42 | 16.8 | 38.9 | 4.95 | 21.9 | K TCD D20-D21 CO | TCD-219-P-CO+ | |
| | **4300-C42-TP** | 43 | 16.8 | 38.9 | 5.11 | 22.9 | K TCD D22-D23 CO | TCD-229-P-CO+ | |

- DCONMS: Holder connection size
- Guide pad is sold separately from drill head

## Spare parts

| Designation | For double pitch screw | | For SPGX | | For Guide pad | |
|---|---|---|---|---|---|---|
| | Screw1 | Wrench1 | Screw2 | Wrench2 | Screw3 | Wrench3 |
| |  |  |  |  |  |  |
| **TNDH 2600-2800** | TDPS 0512-T7 | TD 7 | TS 22052I/HG | TD 7 | TS 20043I/HG-P | TD 6P |
| **TNDH 2900-3200** | TDPS 0512-T7 | TD 7 | TS 25064I | TD 8 | TS 20043I/HG-P | TD 6P |
| **TNDH 3300-3500** | TDPS 0512-T7 | TD 7 | TS 35088I | TD 10 | TS 20043I/HG-P | TD 6P |
| **TNDH 3600** | TDPS 0618-T8 | TD 8 | TS 35088I | TD 10 | TS 20043I/HG-P | TD 6P |
| **TNDH 3700-4300** | TDPS 0618-T8 | TD 8 | TS 40093I | TD 15 | TS 20043I/HG-P | TD 6P |







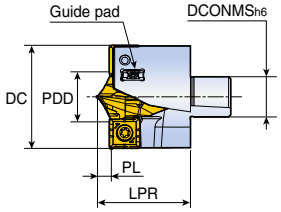



# TNDH-TP

## Modular drill heads








| Designation | | Dimension (mm) | | | | | Clamping Key | Insert | |
|---|---|---|---|---|---|---|---|---|---|
| | | DC | DCONMS | LPR | PL | PDD | | Center | Outer |
| **TNDH** | **4400-C44-TP** | 44 | 17.6 | 40.8 | 5.28 | 23.9 | K TCD D22-D23 CO | TCD-239-P-CO+ | SPGX 11...DW |
| | **4500-C44-TP** | 45 | 17.6 | 41.0 | 5.44 | 24.9 | K TCD D24-D25 CO | TCD-249-P-CO+ | D204 |
| | **4600-C46-TP** | 46 | 18.4 | 42.2 | 4.95 | 21.9 | K TCD D20-D21 CO | TCD-219-P-CO+ | SPGX 14...DW |
| | **4700-C46-TP** | 47 | 18.4 | 42.3 | 5.11 | 22.9 | K TCD D22-D23 CO | TCD-229-P-CO+ | D204 |
| | **4800-C48-TP** | 48 | 19.2 | 44.0 | 5.28 | 23.9 | K TCD D22-D23 CO | TCD-239-P-CO+ | |
| | **4900-C48-TP** | 49 | 19.2 | 44.3 | 5.44 | 24.9 | K TCD D24-D25 CO | TCD-249-P-CO+ | |
| | **5000-C48-TP** | 50 | 19.2 | 46.0 | 5.61 | 25.9 | K TCD D24-D25 CO | TCD-259-P-CO+ | |

- DCONMS: Holder connection size
- Guide pad is sold separately from drill head

## Spare parts

| Designation | For double pitch screw | | For SPGX | | For Guide pad | |
|---|---|---|---|---|---|---|
| | Screw1 | Wrench1 | Screw2 | Wrench2 | Screw3 | Wrench3 |
| |  |  |  |  |  |  |
| **TNDH 4400-4500** | TDPS 0722-W3.0 | F-W3.0 | TS 40093I | TD 15 | TS 20043I/HG-P | TD 6P |
| **TNDH 4600-5000** | TDPS 0722-W3.0 | F-W3.0 | SO 50090I | TD 20 | TS 20043I/HG-P | TD 6P |
| | | | | | | |
| | | | | | | |
| | | | | | | |



D204
Guide Pad
D225
Cutting Condition
D244
Technical Data
D276

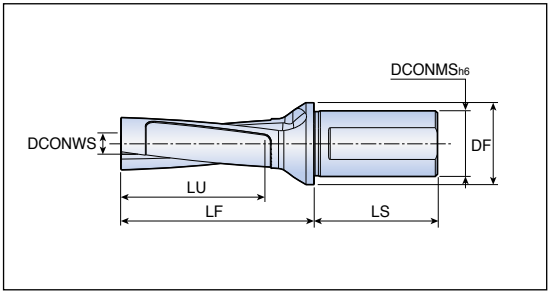
# MDB...T2-3

## Modular drill holders - Weldon type shank



• Drilling depth: 3xdiameter






| Designation | | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | DC | DCONWS | DCONMS | DF | LU | LF | LS |
| MDB | D26/27-081-32T2-C26-3 | 26-27 | 10.4 | 32 | 40 | 60 | 94.3 | 60 |
| | D28/29-087-32T2-C28-3 | 28-29 | 11.2 | 32 | 40 | 64 | 100.5 | 60 |
| | D30/31-093-32T2-C30-3 | 30-31 | 12.0 | 32 | 40 | 69 | 105.5 | 60 |
| | D32/33-099-32T2-C32-3 | 32-33 | 12.8 | 32 | 40 | 73 | 111.7 | 60 |
| | D34/35-105-40T2-C34-3 | 34-35 | 13.6 | 40 | 50 | 78 | 120.2 | 68 |
| | D36/37-111-40T2-C36-3 | 36-37 | 14.4 | 40 | 50 | 82 | 126.5 | 68 |
| | D38/39-117-40T2-C38-3 | 38-39 | 15.2 | 40 | 50 | 86 | 131.4 | 68 |
| | D40/41-123-40T2-C40-3 | 40-41 | 16.0 | 40 | 50 | 91 | 137.6 | 68 |
| | D42/43-129-40T2-C42-3 | 42-43 | 16.8 | 40 | 50 | 95 | 143.8 | 68 |
| | D44/45-135-40T2-C44-3 | 44-45 | 17.6 | 40 | 50 | 99 | 150.0 | 68 |
| | D46/47-141-50T2-C46-3 | 46-47 | 18.4 | 50 | 60 | 104 | 154.5 | 80 |
| | D48/50-150-50T2-C48-3 | 48-50 | 19.2 | 50 | 60 | 111 | 160.9 | 80 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

▸ DC: Cutting diameter range
▸ DCONWS: Modular head connection size
▸ Refer to the Modular head information on page D75-D76

## Spare parts

| Designation | Wrench | Wrench handle | | |
|---|---|---|---|---|
| |  |  | | |
| **MDB D26/27-D34/35-3** | BLD H-W2.5x210 | SW6-T-SH | | |
| **MDB D36/37-D42/43-3** | BLD H-W3.0x225 | SW6-T-SH | | |
| **MDB D44/45-D48/50-3** | BLD H-W4.0x255 | SW6-T-SH | | |
| | | | | |
| | | | | |
| | | | | |

▸ Wrench: Disassemble the modular head from the modular body (Insert from the rear shank)

Cutting Condition D244
Technical Data D276

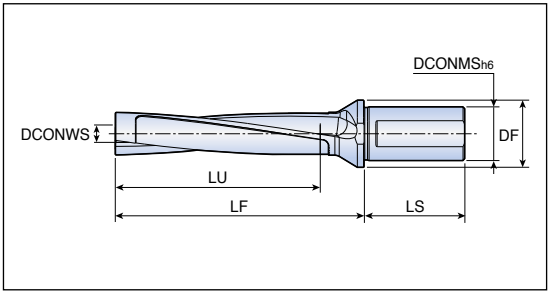
# MDB...T2-5

## Modular drill holders - Weldon type shank



• Drilling depth: 5xdiameter






| Designation | | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | DC | DCONWS | DCONMS | DF | LU | LF | LS |
| MDB | D26/27-135-32T2-C26-5 | 26-27 | 10.4 | 32 | 40 | 114 | 148.3 | 60 |
| | D28/29-145-32T2-C28-5 | 28-29 | 11.2 | 32 | 40 | 122 | 158.5 | 60 |
| | D30/31-155-32T2-C30-5 | 30-31 | 12.0 | 32 | 40 | 131 | 167.5 | 60 |
| | D32/33-165-32T2-C32-5 | 32-33 | 12.8 | 32 | 40 | 139 | 177.7 | 60 |
| | D34/35-175-40T2-C34-5 | 34-35 | 13.6 | 40 | 50 | 148 | 190.2 | 68 |
| | D36/37-185-40T2-C36-5 | 36-37 | 14.4 | 40 | 50 | 156 | 200.5 | 68 |
| | D38/39-195-40T2-C38-5 | 38-39 | 15.2 | 40 | 50 | 164 | 209.4 | 68 |
| | D40/41-205-40T2-C40-5 | 40-41 | 16.0 | 40 | 50 | 173 | 219.6 | 68 |
| | D42/43-215-40T2-C42-5 | 42-43 | 16.8 | 40 | 50 | 181 | 229.8 | 68 |
| | D44/45-225-40T2-C44-5 | 44-45 | 17.6 | 40 | 50 | 189 | 240.0 | 68 |
| | D46/47-235-50T2-C46-5 | 46-47 | 18.4 | 50 | 60 | 198 | 248.5 | 80 |
| | D48/50-250-50T2-C48-5 | 48-50 | 19.2 | 50 | 60 | 211 | 258.9 | 80 |

▸ DC: Cutting diameter range
▸ DCONWS: Modular head connection size
▸ Refer to the Modular head information on page D75-D76

## Spare parts

| Designation | Wrench | Wrench handle | | |
|---|---|---|---|---|
| |  |  | | |
| MDB D26/27-D34/35-5 | BLD H-W2.5x280 | SW6-T-SH | | |
| MDB D36/37-D42/43-5 | BLD H-W3.0x310 | SW6-T-SH | | |
| MDB D44/45-D48/50-5 | BLD H-W4.0x350 | SW6-T-SH | | |
| | | | | |
| | | | | |
| | | | | |

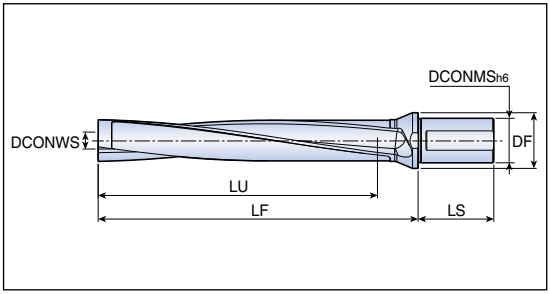
▸ Wrench: Disassemble the modular head from the modular body (Insert from the rear shank)

Cutting Condition D244
Technical Data D276

# MDB...T2-7

## Modular drill holders - Weldon type shank






• Drilling depth: 7xdiameter

| Designation | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|
| | DC | DCONWS | DCONMS | DF | LU | LF | LS |
| **MDB D26/27-189-32T2-C26-7** | 26-27 | 10.4 | 32 | 40 | 168 | 202.3 | 60 |
| **D28/29-203-32T2-C28-7** | 28-29 | 11.2 | 32 | 40 | 180 | 216.5 | 60 |
| **D30/31-217-32T2-C30-7** | 30-31 | 12.0 | 32 | 40 | 193 | 229.5 | 60 |
| **D32/33-231-32T2-C32-7** | 32-33 | 12.8 | 32 | 40 | 205 | 243.7 | 60 |
| **D34/35-245-40T2-C34-7** | 34-35 | 13.6 | 40 | 50 | 218 | 260.2 | 68 |
| **D36/37-259-40T2-C36-7** | 36-37 | 14.4 | 40 | 50 | 230 | 274.5 | 68 |
| **D38/39-273-40T2-C38-7** | 38-39 | 15.2 | 40 | 50 | 242 | 287.4 | 68 |
| **D40/41-287-40T2-C40-7** | 40-41 | 16.0 | 40 | 50 | 255 | 301.6 | 68 |

▸ DC: Cutting diameter range
▸ DCONWS: Modular head connection size
▸ Refer to the Modular head information on page D75-D76

## Spare parts

| Designation | Wrench | Wrench handle | | |
|---|---|---|---|---|
| |  |  | | |
| **MDB D26/27-7** | BLD H-W2.5x280 | SW6-T-SH | | |
| **MDB D28/29-D34/35-7** | BLD H-W2.5x350 | SW6-T-SH | | |
| **MDB D36/37-D40/41-7** | BLD H-W3.0x400 | SW6-T-SH | | |
| | | | | |
| | | | | |
| | | | | |

▸ Wrench: Disassemble the modular head from the modular body (Insert from the rear shank)

Cutting Condition D244
Technical Data D276

# LCD...T2-3D

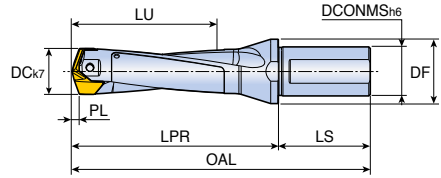
SPADERUSH

## Head changeable drill holders - Weldon type shank



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC |
| **LCD 200-209-25T2-3D** | 20.0-20.9 | 25 | 32 | 63 | 92.1 | 56 | 3.11 | 20 |
| **210-219-25T2-3D** | 21.0-21.9 | 25 | 32 | 66 | 95.3 | 56 | 3.29 | 21 |
| **220-229-25T2-3D** | 22.0-22.9 | 25 | 32 | 69 | 98.4 | 56 | 3.42 | 22 |
| **230-239-25T2-3D** | 23.0-23.9 | 25 | 32 | 73 | 101.6 | 56 | 3.60 | 23 |
| **240-249-32T2-3D** | 24.0-24.9 | 32 | 40 | 76 | 110.7 | 60 | 3.73 | 24 |
| **250-259-32T2-3D** | 25.0-25.9 | 32 | 40 | 79 | 113.9 | 60 | 3.91 | 25 |
| **260-269-32T2-3D** | 26.0-26.9 | 32 | 40 | 82 | 117.0 | 60 | 4.04 | 26 |
| **270-279-32T2-3D** | 27.0-27.9 | 32 | 40 | 85 | 120.2 | 60 | 4.22 | 27 |
| **280-289-32T2-3D** | 28.0-28.9 | 32 | 40 | 88 | 128.4 | 60 | 4.35 | 28 |
| **290-299-32T2-3D** | 29.0-29.9 | 32 | 40 | 92 | 131.5 | 60 | 4.53 | 29 |
| **300-309-32T2-3D** | 30.0-30.9 | 32 | 42 | 95 | 134.7 | 60 | 4.67 | 30 |
| **310-319-32T2-3D** | 31.0-31.9 | 32 | 42 | 98 | 137.9 | 60 | 4.85 | 31 |
| **320-329-40T2-3D** | 32.0-32.9 | 40 | 48 | 101 | 143.0 | 68 | 4.98 | 32 |
| **330-339-40T2-3D** | 33.0-33.9 | 40 | 48 | 104 | 146.2 | 68 | 5.16 | 33 |
| **340-349-40T2-3D** | 34.0-34.9 | 40 | 48 | 107 | 149.3 | 68 | 5.34 | 34 |
| **350-359-40T2-3D** | 35.0-35.9 | 40 | 48 | 110 | 152.4 | 68 | 5.44 | 35 |
| **360-369-40T2-3D** | 36.0-36.9 | 40 | 48 | 114 | 155.6 | 68 | 5.62 | 36 |
| **370-379-40T2-3D** | 37.0-37.9 | 40 | 48 | 117 | 158.8 | 68 | 5.80 | 37 |
| **380-389-40T2-3D** | 38.0-38.9 | 40 | 50 | 120 | 166.9 | 68 | 5.91 | 38 |
| **390-399-40T2-3D** | 39.0-39.9 | 40 | 50 | 123 | 170.1 | 68 | 6.09 | 39 |
| **400-410-40T2-3D** | 40.0-41.0 | 40 | 50 | 126 | 173.3 | 68 | 6.27 | 40 |

▸ OAL: LPR+LS ▸ SSC: Seat size code

## Spare parts

| Designation | Screw | Wrench | Wrench handle | |
|---|---|---|---|---|
| |  |  |  | |
| **LCD 200-219-3D** | TS 40178D25 | BLD T20/S7 | SW6-T-SH | |
| **LCD 220-239-3D** | TS 40198D28 | BLD T20/S7 | SW6-T-SH | |
| **LCD 240-259-3D** | TS 40210D3 | BLD T20/S7 | SW6-T-SH | |
| **LCD 260-279-3D** | TS 50230D3 | BLD T20/S7 | SW6-T-SH | |
| **LCD 280-299-3D** | TS 50250D35 | BLD T25/S7 | SW6-T-SH | |
| **LCD 300-319-3D** | TS 60265D4 | BLD T25/S7 | SW6-T-SH | |
| **LCD 320-349-3D** | TS 60285D42 | BLD T25/S7 | SW6-T-SH | |
| **LCD 350-379-3D** | TS 60320D5 | BLD T25/S7 | SW6-T-SH | |
| **LCD 380-410-3D** | TS 80340D6 | BLD T25/S7 | SW6-T-SH | |




# LCD...T2-5D

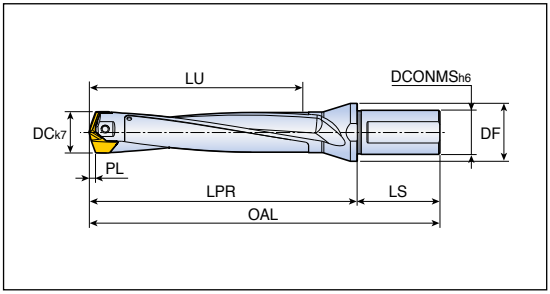
SPADERUSH

## Head changeable drill holders - Weldon type shank



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC |
| **LCD 200-209-25T2-5D** | 20.0-20.9 | 25 | 32 | 103 | 132.1 | 56 | 3.11 | 20 |
| **210-219-25T2-5D** | 21.0-21.9 | 25 | 32 | 108 | 137.3 | 56 | 3.29 | 21 |
| **220-229-25T2-5D** | 22.0-22.9 | 25 | 32 | 113 | 142.4 | 56 | 3.42 | 22 |
| **230-239-25T2-5D** | 23.0-23.9 | 25 | 32 | 119 | 147.6 | 56 | 3.60 | 23 |
| **240-249-32T2-5D** | 24.0-24.9 | 32 | 40 | 124 | 158.7 | 60 | 3.73 | 24 |
| **250-259-32T2-5D** | 25.0-25.9 | 32 | 40 | 129 | 163.9 | 60 | 3.91 | 25 |
| **260-269-32T2-5D** | 26.0-26.9 | 32 | 40 | 134 | 169.0 | 60 | 4.04 | 26 |
| **270-279-32T2-5D** | 27.0-27.9 | 32 | 40 | 139 | 174.2 | 60 | 4.22 | 27 |
| **280-289-32T2-5D** | 28.0-28.9 | 32 | 40 | 144 | 184.4 | 60 | 4.35 | 28 |
| **290-299-32T2-5D** | 29.0-29.9 | 32 | 40 | 150 | 189.5 | 60 | 4.53 | 29 |
| **300-309-32T2-5D** | 30.0-30.9 | 32 | 42 | 155 | 194.7 | 60 | 4.67 | 30 |
| **310-319-32T2-5D** | 31.0-31.9 | 32 | 42 | 160 | 199.9 | 60 | 4.85 | 31 |
| **320-329-40T2-5D** | 32.0-32.9 | 40 | 48 | 165 | 207.0 | 68 | 4.98 | 32 |
| **330-339-40T2-5D** | 33.0-33.9 | 40 | 48 | 170 | 212.2 | 68 | 5.16 | 33 |
| **340-349-40T2-5D** | 34.0-34.9 | 40 | 48 | 175 | 217.3 | 68 | 5.34 | 34 |
| **350-359-40T2-5D** | 35.0-35.9 | 40 | 48 | 180 | 222.4 | 68 | 5.44 | 35 |
| **360-369-40T2-5D** | 36.0-36.9 | 40 | 48 | 186 | 227.6 | 68 | 5.62 | 36 |
| **370-379-40T2-5D** | 37.0-37.9 | 40 | 48 | 191 | 232.8 | 68 | 5.80 | 37 |
| **380-389-40T2-5D** | 38.0-38.9 | 40 | 50 | 196 | 242.9 | 68 | 5.91 | 38 |
| **390-399-40T2-5D** | 39.0-39.9 | 40 | 50 | 201 | 248.1 | 68 | 6.09 | 39 |
| **400-410-40T2-5D** | 40.0-41.0 | 40 | 50 | 206 | 253.3 | 68 | 6.27 | 40 |

▸ OAL: LPR+LS ▸ SSC: Seat size code

## Spare parts

| Designation | Screw | Wrench | Wrench handle | |
|---|---|---|---|---|
| |  |  |  | |
| **LCD 200-219-5D** | TS 40178D25 | BLD T20/S7 | SW6-T-SH | |
| **LCD 220-239-5D** | TS 40198D28 | BLD T20/S7 | SW6-T-SH | |
| **LCD 240-259-5D** | TS 40210D3 | BLD T20/S7 | SW6-T-SH | |
| **LCD 260-279-5D** | TS 50230D3 | BLD T20/S7 | SW6-T-SH | |
| **LCD 280-299-5D** | TS 50250D35 | BLD T25/S7 | SW6-T-SH | |
| **LCD 300-319-5D** | TS 60265D4 | BLD T25/S7 | SW6-T-SH | |
| **LCD 320-349-5D** | TS 60285D42 | BLD T25/S7 | SW6-T-SH | |
| **LCD 350-379-5D** | TS 60320D5 | BLD T25/S7 | SW6-T-SH | |
| **LCD 380-410-5D** | TS 80340D6 | BLD T25/S7 | SW6-T-SH | |

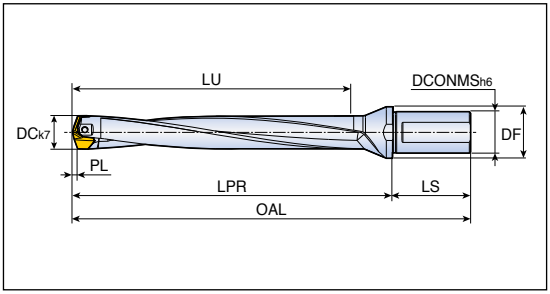





# LCD...T2-8D

**Head changeable drill holders - Weldon type shank**






• Drilling depth: 8xdiameter

| Designation | Dimension (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | DF | LU | LPR | LS | PL | SSC |
| **LCD 200-209-25T2-8D** | 20.0-20.9 | 25 | 32 | 163.1 | 192.1 | 56 | 3.11 | 20 |
| **210-219-25T2-8D** | 21.0-21.9 | 25 | 32 | 171.3 | 200.1 | 56 | 3.29 | 21 |
| **220-229-25T2-8D** | 22.0-22.9 | 25 | 32 | 179.4 | 208.4 | 56 | 3.42 | 22 |
| **230-239-25T2-8D** | 23.0-23.9 | 25 | 32 | 187.6 | 216.4 | 56 | 3.60 | 23 |
| **240-249-32T2-8D** | 24.0-24.9 | 32 | 40 | 195.7 | 230.7 | 60 | 3.73 | 24 |
| **250-259-32T2-8D** | 25.0-25.9 | 32 | 40 | 203.9 | 238.7 | 60 | 3.91 | 25 |
| **260-269-32T2-8D** | 26.0-26.9 | 32 | 40 | 212.0 | 247.0 | 60 | 4.04 | 26 |
| **270-279-32T2-8D** | 27.0-27.9 | 32 | 40 | 220.2 | 255.0 | 60 | 4.22 | 27 |
| **280-289-32T2-8D** | 28.0-28.9 | 32 | 40 | 228.4 | 268.4 | 60 | 4.35 | 28 |
| **290-299-32T2-8D** | 29.0-29.9 | 32 | 40 | 236.5 | 276.4 | 60 | 4.53 | 29 |
| **300-309-32T2-8D** | 30.0-30.9 | 32 | 42 | 244.7 | 284.7 | 60 | 4.67 | 30 |
| **310-319-32T2-8D** | 31.0-31.9 | 32 | 42 | 252.9 | 292.7 | 60 | 4.85 | 31 |
| **320-329-40T2-8D** | 32.0-32.9 | 40 | 48 | 261.0 | 303.0 | 68 | 4.98 | 32 |
| **330-339-40T2-8D** | 33.0-33.9 | 40 | 48 | 269.2 | 311.0 | 68 | 5.16 | 33 |
| **340-349-40T2-8D** | 34.0-34.9 | 40 | 48 | 277.3 | 319.0 | 68 | 5.34 | 34 |
| **350-359-40T2-8D** | 35.0-35.9 | 40 | 48 | 285.4 | 327.4 | 68 | 5.44 | 35 |
| **360-369-40T2-8D** | 36.0-36.9 | 40 | 48 | 293.6 | 335.4 | 68 | 5.62 | 36 |
| **370-379-40T2-8D** | 37.0-37.9 | 40 | 48 | 301.8 | 343.4 | 68 | 5.80 | 37 |
| **380-389-40T2-8D** | 38.0-38.9 | 40 | 50 | 309.9 | 356.9 | 68 | 5.91 | 38 |
| **390-399-40T2-8D** | 39.0-39.9 | 40 | 50 | 318.1 | 364.9 | 68 | 6.09 | 39 |
| **400-410-40T2-8D** | 40.0-41.0 | 40 | 50 | 326.3 | 372.9 | 68 | 6.27 | 40 |

▸ OAL: LPR+LS ▸ SSC: Seat size code ▸ It is recommended to make the pilot hole with a 3D holder

## Spare parts

| Designation | Screw | Wrench | Wrench handle | |
|---|---|---|---|---|
| **LCD 200-219-8D** | TS 40178D25 | BLD T20/S7 | SW6-T-SH | |
| **LCD 220-239-8D** | TS 40198D28 | BLD T20/S7 | SW6-T-SH | |
| **LCD 240-259-8D** | TS 40210D3 | BLD T20/S7 | SW6-T-SH | |
| **LCD 260-279-8D** | TS 50230D3 | BLD T20/S7 | SW6-T-SH | |
| **LCD 280-299-8D** | TS 50250D35 | BLD T25/S7 | SW6-T-SH | |
| **LCD 300-319-8D** | TS 60265D4 | BLD T25/S7 | SW6-T-SH | |
| **LCD 320-349-8D** | TS 60285D42 | BLD T25/S7 | SW6-T-SH | |
| **LCD 350-379-8D** | TS 60320D5 | BLD T25/S7 | SW6-T-SH | |
| **LCD 380-410-8D** | TS 80340D6 | BLD T25/S7 | SW6-T-SH | |

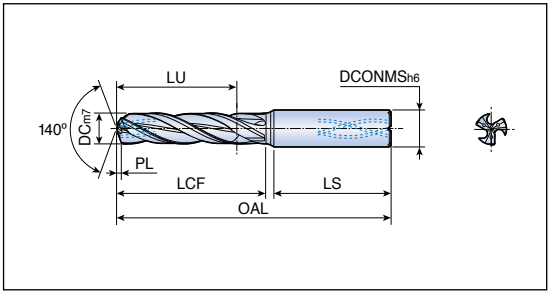
D205-209 Cutting Condition D246

# 3HD...PI3

**3 flute solid carbide drills with oil holes**



• Drilling depth: 3xdiameter




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT5130 |
| **3HD 040-017-06 PI3** | 4.0 | 6 | 66 | 17 | 25 | 35 | 0.82 | ● |
| **045-017-06 PI3** | 4.5 | 6 | 66 | 17 | 25 | 35 | 0.88 | ● |
| **050-020-06 PI3** | 5.0 | 6 | 66 | 20 | 29 | 36 | 0.96 | ● |
| **051-020-06 PI3** | 5.1 | 6 | 66 | 20 | 29 | 36 | 0.98 | ● |
| **055-020-06 PI3** | 5.5 | 6 | 66 | 20 | 29 | 36 | 1.08 | ● |
| **060-020-06 PI3** | 6.0 | 6 | 66 | 20 | 29 | 36 | 1.17 | ● |
| **065-024-08 PI3** | 6.5 | 8 | 79 | 24 | 35 | 36 | 1.26 | ● |
| **068-024-08 PI3** | 6.8 | 8 | 79 | 24 | 35 | 36 | 1.31 | ● |
| **070-024-08 PI3** | 7.0 | 8 | 79 | 24 | 35 | 36 | 1.35 | ● |
| **075-029-08 PI3** | 7.5 | 8 | 79 | 29 | 42 | 36 | 1.40 | ● |
| **080-029-08 PI3** | 8.0 | 8 | 79 | 29 | 42 | 36 | 1.49 | ● |
| **085-035-10 PI3** | 8.5 | 10 | 89 | 35 | 48 | 40 | 1.63 | ● |
| **086-035-10 PI3** | 8.6 | 10 | 89 | 35 | 48 | 40 | 1.65 | ● |
| **090-035-10 PI3** | 9.0 | 10 | 89 | 35 | 48 | 40 | 1.72 | ● |
| **095-035-10 PI3** | 9.5 | 10 | 89 | 35 | 48 | 40 | 1.75 | ● |
| **100-035-10 PI3** | 10.0 | 10 | 89 | 35 | 48 | 40 | 1.85 | ● |
| **103-040-12 PI3** | 10.3 | 12 | 102 | 40 | 55 | 45 | 1.94 | ● |
| **105-040-12 PI3** | 10.5 | 12 | 102 | 40 | 55 | 45 | 1.98 | ● |
| **110-040-12 PI3** | 11.0 | 12 | 102 | 40 | 55 | 45 | 2.07 | ● |
| **115-040-12 PI3** | 11.5 | 12 | 102 | 40 | 56 | 45 | 2.12 | ● |
| **120-040-12 PI3** | 12.0 | 12 | 102 | 40 | 56 | 45 | 2.21 | ● |

Cutting Condition D248

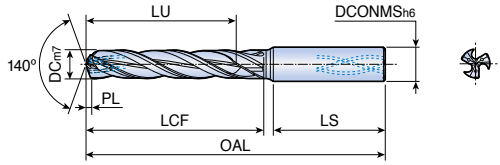
●: Standard items

# 3HD...PI5

SOLID3DRILL

**3 flute solid carbide drills with oil holes**






• Drilling depth: 5xdiameter

| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT5130 |
| **3HD 040-029-06 PI5** | 4.0 | 6 | 74 | 29 | 37 | 35 | 0.82 | ● |
| **045-029-06 PI5** | 4.5 | 6 | 74 | 29 | 37 | 35 | 0.88 | ● |
| **050-035-06 PI5** | 5.0 | 6 | 82 | 35 | 45 | 36 | 0.96 | ● |
| **051-035-06 PI5** | 5.1 | 6 | 82 | 35 | 45 | 36 | 0.98 | ● |
| **055-035-06 PI5** | 5.5 | 6 | 82 | 35 | 45 | 36 | 1.08 | ● |
| **060-035-06 PI5** | 6.0 | 6 | 82 | 35 | 45 | 36 | 1.17 | ● |
| **065-043-08 PI5** | 6.5 | 8 | 91 | 43 | 54 | 36 | 1.26 | ● |
| **068-043-08 PI5** | 6.8 | 8 | 91 | 43 | 54 | 36 | 1.31 | ● |
| **070-043-08 PI5** | 7.0 | 8 | 91 | 43 | 54 | 36 | 1.35 | ● |
| **075-043-08 PI5** | 7.5 | 8 | 91 | 43 | 54 | 36 | 1.40 | ● |
| **080-043-08 PI5** | 8.0 | 8 | 91 | 43 | 54 | 36 | 1.49 | ● |
| **085-049-10 PI5** | 8.5 | 10 | 103 | 49 | 62 | 40 | 1.63 | ● |
| **086-049-10 PI5** | 8.6 | 10 | 103 | 49 | 62 | 40 | 1.65 | ● |
| **090-049-10 PI5** | 9.0 | 10 | 103 | 49 | 62 | 40 | 1.72 | ● |
| **095-049-10 PI5** | 9.5 | 10 | 103 | 49 | 62 | 40 | 1.75 | ● |
| **100-049-10 PI5** | 10.0 | 10 | 103 | 49 | 62 | 40 | 1.85 | ● |
| **103-056-12 PI5** | 10.3 | 12 | 118 | 56 | 71 | 45 | 1.94 | ● |
| **105-056-12 PI5** | 10.5 | 12 | 118 | 56 | 71 | 45 | 1.98 | ● |
| **110-056-12 PI5** | 11.0 | 12 | 118 | 56 | 71 | 45 | 2.07 | ● |
| **115-056-12 PI5** | 11.5 | 12 | 118 | 56 | 72 | 45 | 2.12 | ● |
| **120-056-12 PI5** | 12.0 | 12 | 118 | 56 | 72 | 45 | 2.21 | ● |

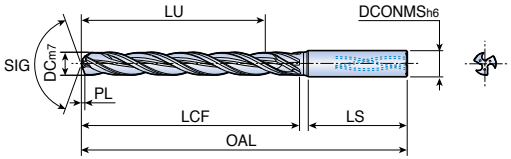
●: Standard items

Cutting Condition D248

# 3HD...PI8

**3 flute solid carbide drills with oil holes**






• Drilling depth: 8xdiameter

| Designation | Dimension (mm) | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | SIG | LU | LCF | LS | PL | TT5130 |
| **3HD 040-036-06 PI8** | 4.0 | 6 | 81 | 140 | 36 | 43 | 35 | 0.82 | ● |
| **045-036-06 PI8** | 4.5 | 6 | 81 | 140 | 36 | 43 | 35 | 0.88 | ● |
| **050-048-06 PI8** | 5.0 | 6 | 95 | 140 | 48 | 57 | 36 | 0.96 | ● |
| **055-048-06 PI8** | 5.5 | 6 | 95 | 140 | 48 | 57 | 36 | 1.08 | ● |
| **060-048-06 PI8** | 6.0 | 6 | 95 | 140 | 48 | 57 | 36 | 1.17 | ● |
| **065-064-08 PI8** | 6.5 | 8 | 114 | 140 | 64 | 76 | 36 | 1.26 | ● |
| **070-064-08 PI8** | 7.0 | 8 | 114 | 140 | 64 | 76 | 36 | 1.35 | ● |
| **075-064-08 PI8** | 7.5 | 8 | 114 | 140 | 64 | 76 | 36 | 1.40 | ● |
| **080-064-08 PI8** | 8.0 | 8 | 114 | 140 | 64 | 76 | 36 | 1.49 | ● |
| **085-080-10 PI8** | 8.5 | 10 | 142 | 130 | 80 | 95 | 40 | 2.04 | ● |
| **090-080-10 PI8** | 9.0 | 10 | 142 | 130 | 80 | 95 | 40 | 2.16 | ● |
| **095-080-10 PI8** | 9.5 | 10 | 142 | 130 | 80 | 95 | 40 | 2.29 | ● |
| **100-080-10 PI8** | 10.0 | 10 | 142 | 130 | 80 | 95 | 40 | 2.33 | ● |
| **105-096-12 PI8** | 10.5 | 12 | 162 | 130 | 96 | 113 | 45 | 2.50 | ● |
| **110-096-12 PI8** | 11.0 | 12 | 162 | 130 | 96 | 113 | 45 | 2.61 | ● |
| **115-096-12 PI8** | 11.5 | 12 | 162 | 130 | 96 | 113 | 45 | 2.67 | ● |
| **120-096-12 PI8** | 12.0 | 12 | 162 | 130 | 96 | 113 | 45 | 2.80 | ● |

Cutting Condition D248

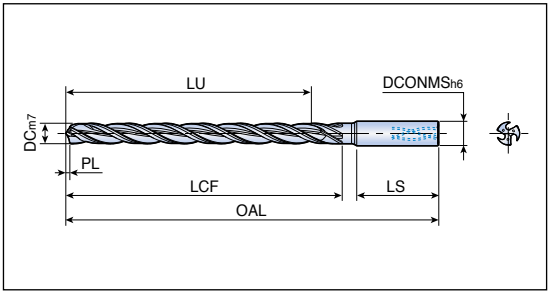
- Ø4.00-Ø8.00: SIG 140°
- Ø8.01-Ø12.00: SIG 130°

●: Standard items

# 3HD…CI12

**3 flute solid carbide drill with oil holes**






• Drilling depth: 12xdiameter

| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT5130 |
| **3HD 060-069-06 CI12** | 6.0 | 6 | 116 | 69 | 78 | 36 | 1.38 | ● |
| **065-096-08 CI12** | 6.5 | 8 | 146 | 96 | 108 | 36 | 1.57 | ● |
| **070-096-08 CI12** | 7.0 | 8 | 146 | 96 | 108 | 36 | 1.60 | ● |
| **075-096-08 CI12** | 7.5 | 8 | 146 | 96 | 108 | 36 | 1.78 | ● |
| **080-096-08 CI12** | 8.0 | 8 | 146 | 96 | 108 | 36 | 1.81 | ● |
| **085-105-10 CI12** | 8.5 | 10 | 162 | 105 | 120 | 40 | 2.07 | ● |
| **090-105-10 CI12** | 9.0 | 10 | 162 | 105 | 120 | 40 | 2.10 | ● |
| **095-105-10 CI12** | 9.5 | 10 | 162 | 105 | 120 | 40 | 2.27 | ● |
| **100-105-10 CI12** | 10.0 | 10 | 162 | 105 | 120 | 40 | 2.30 | ● |
| **105-139-12 CI12** | 10.5 | 12 | 204 | 139 | 156 | 45 | 2.56 | ● |
| **110-139-12 CI12** | 11.0 | 12 | 204 | 139 | 156 | 45 | 2.59 | ● |
| **115-139-12 CI12** | 11.5 | 12 | 204 | 139 | 156 | 45 | 2.76 | ● |
| **120-139-12 CI12** | 12.0 | 12 | 204 | 139 | 156 | 45 | 2.79 | ● |

●: Standard items

Cutting Condition D248

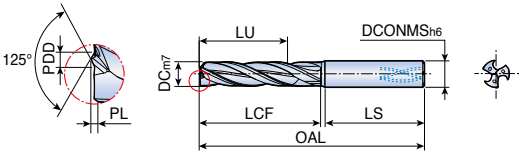


ADVANCE CUTTING TaeguTec

# 3HD...FI3

**3 flute solid carbide drills for flat bottom holes**






• Drilling depth: 3xdiameter

| Designation | Dimension (mm) | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PDD | PL | TT5130 |
| **3HD 040-017-06 FI3** | 4.0 | 6 | 66 | 17 | 25 | 35 | 0.77 | 0.43 | ● |
| **045-017-06 FI3** | 4.5 | 6 | 66 | 17 | 25 | 35 | 0.86 | 0.45 | ● |
| **050-020-06 FI3** | 5.0 | 6 | 66 | 20 | 29 | 36 | 0.97 | 0.47 | ● |
| **055-020-06 FI3** | 5.5 | 6 | 66 | 20 | 29 | 36 | 1.08 | 0.58 | ● |
| **060-020-06 FI3** | 6.0 | 6 | 66 | 20 | 29 | 36 | 1.08 | 0.58 | ● |
| **065-024-08 FI3** | 6.5 | 8 | 79 | 24 | 35 | 36 | 1.26 | 0.62 | ● |
| **070-024-08 FI3** | 7.0 | 8 | 79 | 24 | 35 | 36 | 1.26 | 0.62 | ● |
| **075-029-08 FI3** | 7.5 | 8 | 79 | 29 | 42 | 36 | 1.44 | 0.66 | ● |
| **080-029-08 FI3** | 8.0 | 8 | 79 | 29 | 42 | 36 | 1.44 | 0.66 | ● |
| **085-035-10 FI3** | 8.5 | 10 | 89 | 35 | 48 | 40 | 1.62 | 0.79 | ● |
| **090-035-10 FI3** | 9.0 | 10 | 89 | 35 | 48 | 40 | 1.62 | 0.79 | ● |
| **095-035-10 FI3** | 9.5 | 10 | 89 | 35 | 48 | 40 | 1.80 | 0.82 | ● |
| **100-035-10 FI3** | 10.0 | 10 | 89 | 35 | 48 | 40 | 1.80 | 0.82 | ● |
| **105-040-12 FI3** | 10.5 | 12 | 102 | 40 | 55 | 45 | 1.98 | 0.95 | ● |
| **110-040-12 FI3** | 11.0 | 12 | 102 | 40 | 55 | 45 | 1.98 | 0.95 | ● |
| **115-040-12 FI3** | 11.5 | 12 | 102 | 40 | 56 | 45 | 2.16 | 0.98 | ● |
| **120-040-12 FI3** | 12.0 | 12 | 102 | 40 | 56 | 45 | 2.16 | 0.98 | ● |

Cutting Condition D248

●: Standard items

# 3HD...FI5

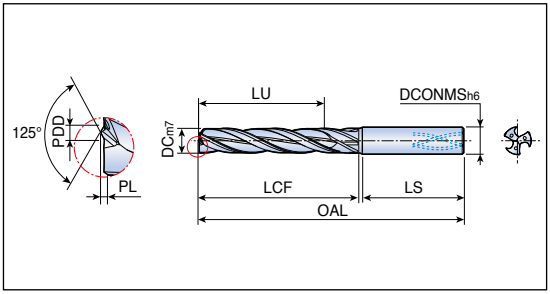
SOLID3DRILL

**3 flute solid carbide drills for flat bottom holes**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PDD | PL | TT5130 |
| **3HD 040-029-06 FI5** | 4.0 | 6 | 74 | 29 | 37 | 35 | 0.77 | 0.43 | ● |
| **045-029-06 FI5** | 4.5 | 6 | 74 | 29 | 37 | 35 | 0.86 | 0.45 | ● |
| **050-035-06 FI5** | 5.0 | 6 | 82 | 35 | 45 | 36 | 0.97 | 0.47 | ● |
| **055-035-06 FI5** | 5.5 | 6 | 82 | 35 | 45 | 36 | 1.08 | 0.58 | ● |
| **060-035-06 FI5** | 6.0 | 6 | 82 | 35 | 45 | 36 | 1.08 | 0.58 | ● |
| **065-043-08 FI5** | 6.5 | 8 | 91 | 43 | 54 | 36 | 1.26 | 0.62 | ● |
| **070-043-08 FI5** | 7.0 | 8 | 91 | 43 | 54 | 36 | 1.26 | 0.62 | ● |
| **075-043-08 FI5** | 7.5 | 8 | 91 | 43 | 54 | 36 | 1.44 | 0.66 | ● |
| **080-043-08 FI5** | 8.0 | 8 | 91 | 43 | 54 | 36 | 1.44 | 0.66 | ● |
| **085-049-10 FI5** | 8.5 | 10 | 103 | 49 | 62 | 40 | 1.62 | 0.79 | ● |
| **090-049-10 FI5** | 9.0 | 10 | 103 | 49 | 62 | 40 | 1.62 | 0.79 | ● |
| **095-049-10 FI5** | 9.5 | 10 | 103 | 49 | 62 | 40 | 1.80 | 0.82 | ● |
| **100-049-10 FI5** | 10.0 | 10 | 103 | 49 | 62 | 40 | 1.80 | 0.82 | ● |
| **105-056-12 FI5** | 10.5 | 12 | 118 | 56 | 71 | 45 | 1.98 | 0.95 | ● |
| **110-056-12 FI5** | 11.0 | 12 | 118 | 56 | 71 | 45 | 1.98 | 0.95 | ● |
| **115-056-12 FI5** | 11.5 | 12 | 118 | 56 | 72 | 45 | 2.16 | 0.98 | ● |
| **120-056-12 FI5** | 12.0 | 12 | 118 | 56 | 72 | 45 | 2.16 | 0.98 | ● |

●: Standard items

Cutting Condition D248



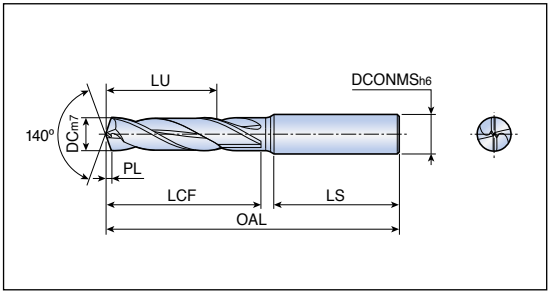
ADVANCE CUTTING TaeguTec

# NHD...PE3

**Solid carbide drills without oil holes**



• Drilling depth: 3xdiameter




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 030-014-06 PE3** | 3.0 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **031-014-06 PE3** | 3.1 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **032-014-06 PE3** | 3.2 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **033-014-06 PE3** | 3.3 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **034-014-06 PE3** | 3.4 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **035-014-06 PE3** | 3.5 | 6 | 62 | 14 | 21 | 34 | 0.6 | ● |
| **036-014-06 PE3** | 3.6 | 6 | 62 | 14 | 21 | 34 | 0.6 | ● |
| **037-014-06 PE3** | 3.7 | 6 | 62 | 14 | 21 | 34 | 0.6 | ● |
| **038-017-06 PE3** | 3.8 | 6 | 66 | 17 | 25 | 35 | 0.6 | ● |
| **039-017-06 PE3** | 3.9 | 6 | 66 | 17 | 25 | 35 | 0.6 | ● |
| **040-017-06 PE3** | 4.0 | 6 | 66 | 17 | 25 | 35 | 0.6 | ● |
| **041-017-06 PE3** | 4.1 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **042-017-06 PE3** | 4.2 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **043-017-06 PE3** | 4.3 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **044-017-06 PE3** | 4.4 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **045-017-06 PE3** | 4.5 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **046-017-06 PE3** | 4.6 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **047-017-06 PE3** | 4.7 | 6 | 66 | 17 | 25 | 35 | 0.8 | ● |
| **048-020-06 PE3** | 4.8 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **049-020-06 PE3** | 4.9 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **050-020-06 PE3** | 5.0 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **051-020-06 PE3** | 5.1 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **052-020-06 PE3** | 5.2 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **053-020-06 PE3** | 5.3 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **054-020-06 PE3** | 5.4 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **055-020-06 PE3** | 5.5 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **056-020-06 PE3** | 5.6 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **057-020-06 PE3** | 5.7 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **058-020-06 PE3** | 5.8 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **059-020-06 PE3** | 5.9 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **060-020-06 PE3** | 6.0 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **061-024-08 PE3** | 6.1 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **062-024-08 PE3** | 6.2 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **063-024-08 PE3** | 6.3 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **064-024-08 PE3** | 6.4 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |

Cutting Condition D250

●: Standard items

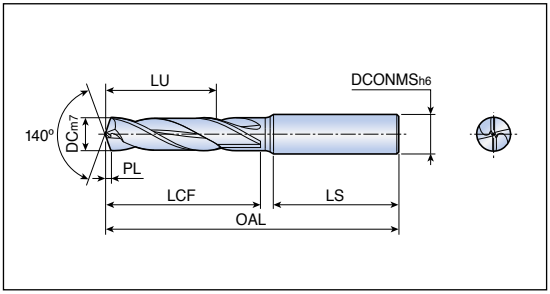
# NHD...PE3

**Solid carbide drills without oil holes**



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 065-024-08 PE3** | 6.5 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **066-024-08 PE3** | 6.6 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **067-024-08 PE3** | 6.7 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **068-024-08 PE3** | 6.8 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **069-024-08 PE3** | 6.9 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **070-024-08 PE3** | 7.0 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **071-029-08 PE3** | 7.1 | 8 | 79 | 29 | 42 | 36 | 1.1 | ● |
| **072-029-08 PE3** | 7.2 | 8 | 79 | 29 | 42 | 36 | 1.1 | ● |
| **073-029-08 PE3** | 7.3 | 8 | 79 | 29 | 42 | 36 | 1.1 | ● |
| **074-029-08 PE3** | 7.4 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **075-029-08 PE3** | 7.5 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **076-029-08 PE3** | 7.6 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **077-029-08 PE3** | 7.7 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **078-029-08 PE3** | 7.8 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **079-029-08 PE3** | 7.9 | 8 | 79 | 29 | 42 | 36 | 1.3 | ● |
| **080-029-08 PE3** | 8.0 | 8 | 79 | 29 | 42 | 36 | 1.3 | ● |
| **081-035-10 PE3** | 8.1 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **082-035-10 PE3** | 8.2 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **083-035-10 PE3** | 8.3 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **084-035-10 PE3** | 8.4 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **085-035-10 PE3** | 8.5 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **086-035-10 PE3** | 8.6 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **087-035-10 PE3** | 8.7 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **088-035-10 PE3** | 8.8 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **089-035-10 PE3** | 8.9 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **090-035-10 PE3** | 9.0 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **091-035-10 PE3** | 9.1 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **092-035-10 PE3** | 9.2 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **093-035-10 PE3** | 9.3 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **094-035-10 PE3** | 9.4 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **095-035-10 PE3** | 9.5 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **096-035-10 PE3** | 9.6 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **097-035-10 PE3** | 9.7 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **098-035-10 PE3** | 9.8 | 10 | 89 | 35 | 48 | 40 | 1.6 | ● |
| **099-035-10 PE3** | 9.9 | 10 | 89 | 35 | 48 | 40 | 1.6 | ● |

Cutting Condition D250

●: Standard items



ADVANCE CUTTING TaeguTec

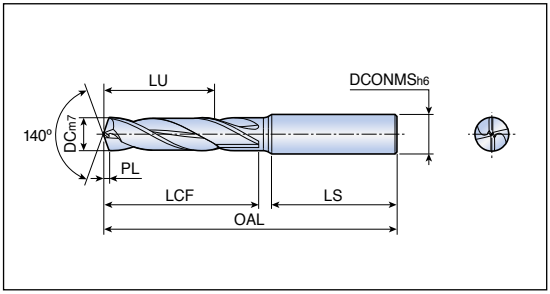
# NHD...PE3

**Solid carbide drills without oil holes**



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 100-035-10 PE3** | 10.0 | 10 | 89 | 35 | 48 | 40 | 1.6 | ● |
| **101-040-12 PE3** | 10.1 | 12 | 101 | 40 | 54 | 45 | 1.6 | ● |
| **102-040-12 PE3** | 10.2 | 12 | 101 | 40 | 54 | 45 | 1.6 | ● |
| **103-040-12 PE3** | 10.3 | 12 | 101 | 40 | 54 | 45 | 1.6 | ● |
| **104-040-12 PE3** | 10.4 | 12 | 101 | 40 | 54 | 45 | 1.6 | ● |
| **105-040-12 PE3** | 10.5 | 12 | 101 | 40 | 54 | 45 | 1.6 | ● |
| **106-040-12 PE3** | 10.6 | 12 | 101 | 40 | 54 | 45 | 1.7 | ● |
| **107-040-12 PE3** | 10.7 | 12 | 101 | 40 | 54 | 45 | 1.7 | ● |
| **108-040-12 PE3** | 10.8 | 12 | 101 | 40 | 54 | 45 | 1.7 | ● |
| **109-040-12 PE3** | 10.9 | 12 | 101 | 40 | 54 | 45 | 1.7 | ● |
| **110-040-12 PE3** | 11.0 | 12 | 101 | 40 | 54 | 45 | 1.7 | ● |
| **111-040-12 PE3** | 11.1 | 12 | 101 | 40 | 55 | 45 | 1.7 | ● |
| **112-040-12 PE3** | 11.2 | 12 | 101 | 40 | 55 | 45 | 1.8 | ● |
| **113-040-12 PE3** | 11.3 | 12 | 101 | 40 | 55 | 45 | 1.8 | ● |
| **114-040-12 PE3** | 11.4 | 12 | 101 | 40 | 55 | 45 | 1.8 | ● |
| **115-040-12 PE3** | 11.5 | 12 | 101 | 40 | 55 | 45 | 1.8 | ● |
| **116-040-12 PE3** | 11.6 | 12 | 101 | 40 | 55 | 45 | 1.8 | ● |
| **117-040-12 PE3** | 11.7 | 12 | 101 | 40 | 55 | 45 | 1.9 | ● |
| **118-040-12 PE3** | 11.8 | 12 | 101 | 40 | 55 | 45 | 1.9 | ● |
| **119-040-12 PE3** | 11.9 | 12 | 101 | 40 | 55 | 45 | 1.9 | ● |
| **120-040-12 PE3** | 12.0 | 12 | 101 | 40 | 55 | 45 | 1.9 | ● |

Cutting Condition D250

●: Standard items

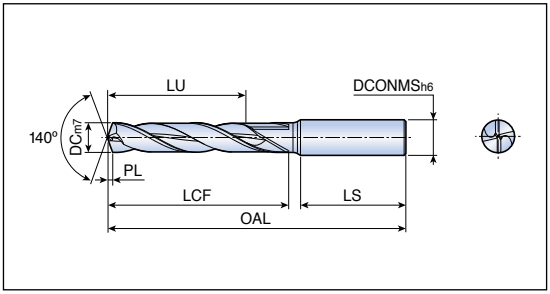
# NHD...PE5

**Solid carbide drills without oil holes**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 030-023-06 PE5** | 3.0 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **031-023-06 PE5** | 3.1 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **032-023-06 PE5** | 3.2 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **033-023-06 PE5** | 3.3 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **034-023-06 PE5** | 3.4 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **035-023-06 PE5** | 3.5 | 6 | 66 | 23 | 29 | 34 | 0.6 | ● |
| **036-023-06 PE5** | 3.6 | 6 | 66 | 23 | 29 | 34 | 0.6 | ● |
| **037-023-06 PE5** | 3.7 | 6 | 66 | 23 | 29 | 34 | 0.6 | ● |
| **038-029-06 PE5** | 3.8 | 6 | 74 | 29 | 37 | 35 | 0.6 | ● |
| **039-029-06 PE5** | 3.9 | 6 | 74 | 29 | 37 | 35 | 0.6 | ● |
| **040-029-06 PE5** | 4.0 | 6 | 74 | 29 | 37 | 35 | 0.6 | ● |
| **041-029-06 PE5** | 4.1 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **042-029-06 PE5** | 4.2 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **043-029-06 PE5** | 4.3 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **044-029-06 PE5** | 4.4 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **045-029-06 PE5** | 4.5 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **046-029-06 PE5** | 4.6 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **047-029-06 PE5** | 4.7 | 6 | 74 | 29 | 37 | 35 | 0.8 | ● |
| **048-035-06 PE5** | 4.8 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **049-035-06 PE5** | 4.9 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **050-035-06 PE5** | 5.0 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **051-035-06 PE5** | 5.1 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **052-035-06 PE5** | 5.2 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **053-035-06 PE5** | 5.3 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **054-035-06 PE5** | 5.4 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **055-035-06 PE5** | 5.5 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **056-035-06 PE5** | 5.6 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **057-035-06 PE5** | 5.7 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **058-035-06 PE5** | 5.8 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **059-035-06 PE5** | 5.9 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **060-035-06 PE5** | 6.0 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **061-043-08 PE5** | 6.1 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **062-043-08 PE5** | 6.2 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **063-043-08 PE5** | 6.3 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **064-043-08 PE5** | 6.4 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |

●: Standard items

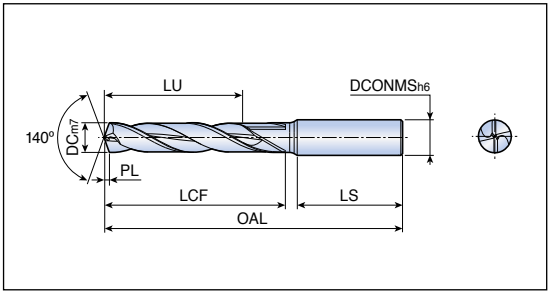
Cutting Condition D250

# NHD...PE5

**Solid carbide drills without oil holes**



• Drilling depth: 5xdiameter




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 065-043-08 PE5** | 6.5 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **066-043-08 PE5** | 6.6 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **067-043-08 PE5** | 6.7 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **068-043-08 PE5** | 6.8 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **069-043-08 PE5** | 6.9 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **070-043-08 PE5** | 7.0 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **071-043-08 PE5** | 7.1 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **072-043-08 PE5** | 7.2 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **073-043-08 PE5** | 7.3 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **074-043-08 PE5** | 7.4 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **075-043-08 PE5** | 7.5 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **076-043-08 PE5** | 7.6 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **077-043-08 PE5** | 7.7 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **078-043-08 PE5** | 7.8 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **079-043-08 PE5** | 7.9 | 8 | 91 | 43 | 54 | 36 | 1.3 | ● |
| **080-043-08 PE5** | 8.0 | 8 | 91 | 43 | 54 | 36 | 1.3 | ● |
| **081-049-10 PE5** | 8.1 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **082-049-10 PE5** | 8.2 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **083-049-10 PE5** | 8.3 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **084-049-10 PE5** | 8.4 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **085-049-10 PE5** | 8.5 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **086-049-10 PE5** | 8.6 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **087-049-10 PE5** | 8.7 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **088-049-10 PE5** | 8.8 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **089-049-10 PE5** | 8.9 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **090-049-10 PE5** | 9.0 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **091-049-10 PE5** | 9.1 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **092-049-10 PE5** | 9.2 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **093-049-10 PE5** | 9.3 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **094-049-10 PE5** | 9.4 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **095-049-10 PE5** | 9.5 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **096-049-10 PE5** | 9.6 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **097-049-10 PE5** | 9.7 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **098-049-10 PE5** | 9.8 | 10 | 103 | 49 | 62 | 40 | 1.6 | ● |
| **099-049-10 PE5** | 9.9 | 10 | 103 | 49 | 62 | 40 | 1.6 | ● |

Cutting Condition D250

●: Standard items

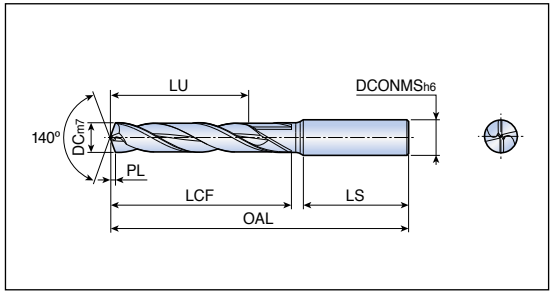
# NHD...PE5

**Solid carbide drills without oil holes**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | PL | LS | TT9030 |
| **NHD 100-049-10 PE5** | 10.0 | 10 | 103 | 49 | 62 | 1.6 | 40 | ● |
| **101-056-12 PE5** | 10.1 | 12 | 118 | 56 | 71 | 1.6 | 45 | ● |
| **102-056-12 PE5** | 10.2 | 12 | 118 | 56 | 71 | 1.6 | 45 | ● |
| **103-056-12 PE5** | 10.3 | 12 | 118 | 56 | 71 | 1.6 | 45 | ● |
| **104-056-12 PE5** | 10.4 | 12 | 118 | 56 | 71 | 1.6 | 45 | ● |
| **105-056-12 PE5** | 10.5 | 12 | 118 | 56 | 71 | 1.6 | 45 | ● |
| **106-056-12 PE5** | 10.6 | 12 | 118 | 56 | 71 | 1.7 | 45 | ● |
| **107-056-12 PE5** | 10.7 | 12 | 118 | 56 | 71 | 1.7 | 45 | ● |
| **108-056-12 PE5** | 10.8 | 12 | 118 | 56 | 71 | 1.7 | 45 | ● |
| **109-056-12 PE5** | 10.9 | 12 | 118 | 56 | 71 | 1.7 | 45 | ● |
| **110-056-12 PE5** | 11.0 | 12 | 118 | 56 | 71 | 1.7 | 45 | ● |
| **111-056-12 PE5** | 11.1 | 12 | 118 | 56 | 72 | 1.7 | 45 | ● |
| **112-056-12 PE5** | 11.2 | 12 | 118 | 56 | 72 | 1.8 | 45 | ● |
| **113-056-12 PE5** | 11.3 | 12 | 118 | 56 | 72 | 1.8 | 45 | ● |
| **114-056-12 PE5** | 11.4 | 12 | 118 | 56 | 72 | 1.8 | 45 | ● |
| **115-056-12 PE5** | 11.5 | 12 | 118 | 56 | 72 | 1.8 | 45 | ● |
| **116-056-12 PE5** | 11.6 | 12 | 118 | 56 | 72 | 1.8 | 45 | ● |
| **117-056-12 PE5** | 11.7 | 12 | 118 | 56 | 72 | 1.9 | 45 | ● |
| **118-056-12 PE5** | 11.8 | 12 | 118 | 56 | 72 | 1.9 | 45 | ● |
| **119-056-12 PE5** | 11.9 | 12 | 118 | 56 | 72 | 1.9 | 45 | ● |
| **120-056-12 PE5** | 12.0 | 12 | 118 | 56 | 72 | 1.9 | 45 | ● |

Cutting Condition D250

●: Standard items



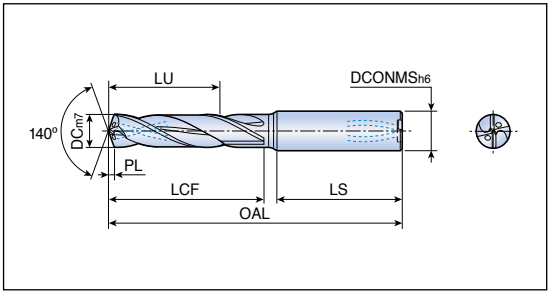
ADVANCE CUTTING TaeguTec

# NHD...PI3

**Solid carbide drills with oil holes**



• Drilling depth: 3xdiameter




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 030-014-06 PI3** | 3.0 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **031-014-06 PI3** | 3.1 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **032-014-06 PI3** | 3.2 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **033-014-06 PI3** | 3.3 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **034-014-06 PI3** | 3.4 | 6 | 62 | 14 | 21 | 34 | 0.5 | ● |
| **035-014-06 PI3** | 3.5 | 6 | 62 | 14 | 21 | 34 | 0.6 | ● |
| **036-014-06 PI3** | 3.6 | 6 | 62 | 14 | 21 | 34 | 0.6 | ● |
| **037-014-06 PI3** | 3.7 | 6 | 62 | 14 | 21 | 34 | 0.6 | ● |
| **038-017-06 PI3** | 3.8 | 6 | 66 | 17 | 25 | 35 | 0.6 | ● |
| **039-017-06 PI3** | 3.9 | 6 | 66 | 17 | 25 | 35 | 0.6 | ● |
| **040-017-06 PI3** | 4.0 | 6 | 66 | 17 | 25 | 35 | 0.6 | ● |
| **041-017-06 PI3** | 4.1 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **042-017-06 PI3** | 4.2 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **043-017-06 PI3** | 4.3 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **044-017-06 PI3** | 4.4 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **045-017-06 PI3** | 4.5 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **046-017-06 PI3** | 4.6 | 6 | 66 | 17 | 25 | 35 | 0.7 | ● |
| **047-017-06 PI3** | 4.7 | 6 | 66 | 17 | 25 | 35 | 0.8 | ● |
| **048-020-06 PI3** | 4.8 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **049-020-06 PI3** | 4.9 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **050-020-06 PI3** | 5.0 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **051-020-06 PI3** | 5.1 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **052-020-06 PI3** | 5.2 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **053-020-06 PI3** | 5.3 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **054-020-06 PI3** | 5.4 | 6 | 66 | 20 | 29 | 36 | 0.8 | ● |
| **055-020-06 PI3** | 5.5 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **056-020-06 PI3** | 5.6 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **057-020-06 PI3** | 5.7 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **058-020-06 PI3** | 5.8 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **059-020-06 PI3** | 5.9 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **060-020-06 PI3** | 6.0 | 6 | 66 | 20 | 29 | 36 | 0.9 | ● |
| **061-024-08 PI3** | 6.1 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **062-024-08 PI3** | 6.2 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **063-024-08 PI3** | 6.3 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **064-024-08 PI3** | 6.4 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |

Cutting Condition D250

●: Standard items

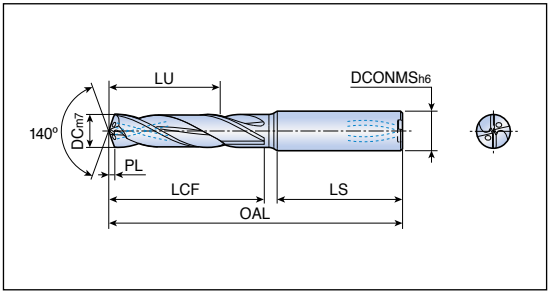
# NHD...PI3

**Solid carbide drills with oil holes**



• Drilling depth: 3xdiameter






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 065-024-08 PI3** | 6.5 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **066-024-08 PI3** | 6.6 | 8 | 79 | 24 | 35 | 36 | 1.0 | ● |
| **067-024-08 PI3** | 6.7 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **068-024-08 PI3** | 6.8 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **069-024-08 PI3** | 6.9 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **070-024-08 PI3** | 7.0 | 8 | 79 | 24 | 35 | 36 | 1.1 | ● |
| **071-029-08 PI3** | 7.1 | 8 | 79 | 29 | 42 | 36 | 1.1 | ● |
| **072-029-08 PI3** | 7.2 | 8 | 79 | 29 | 42 | 36 | 1.1 | ● |
| **073-029-08 PI3** | 7.3 | 8 | 79 | 29 | 42 | 36 | 1.1 | ● |
| **074-029-08 PI3** | 7.4 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **075-029-08 PI3** | 7.5 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **076-029-08 PI3** | 7.6 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **077-029-08 PI3** | 7.7 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **078-029-08 PI3** | 7.8 | 8 | 79 | 29 | 42 | 36 | 1.2 | ● |
| **079-029-08 PI3** | 7.9 | 8 | 79 | 29 | 42 | 36 | 1.3 | ● |
| **080-029-08 PI3** | 8.0 | 8 | 79 | 29 | 42 | 36 | 1.3 | ● |
| **081-035-10 PI3** | 8.1 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **082-035-10 PI3** | 8.2 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **083-035-10 PI3** | 8.3 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **084-035-10 PI3** | 8.4 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **085-035-10 PI3** | 8.5 | 10 | 89 | 35 | 48 | 40 | 1.3 | ● |
| **086-035-10 PI3** | 8.6 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **087-035-10 PI3** | 8.7 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **088-035-10 PI3** | 8.8 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **089-035-10 PI3** | 8.9 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **090-035-10 PI3** | 9.0 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **091-035-10 PI3** | 9.1 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **092-035-10 PI3** | 9.2 | 10 | 89 | 35 | 48 | 40 | 1.4 | ● |
| **093-035-10 PI3** | 9.3 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **094-035-10 PI3** | 9.4 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **095-035-10 PI3** | 9.5 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **096-035-10 PI3** | 9.6 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **097-035-10 PI3** | 9.7 | 10 | 89 | 35 | 48 | 40 | 1.5 | ● |
| **098-035-10 PI3** | 9.8 | 10 | 89 | 35 | 48 | 40 | 1.6 | ● |
| **099-035-10 PI3** | 9.9 | 10 | 89 | 35 | 48 | 40 | 1.6 | ● |

●: Standard items

Cutting Condition D250

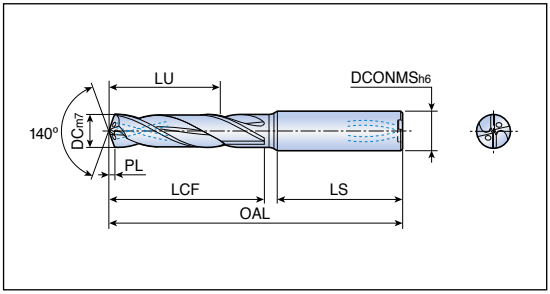


ADVANCE CUTTING TaeguTec

# NHD...PI3

**Solid carbide drills with oil holes**






• Drilling depth: 3xdiameter

| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 100-035-10 PI3** | 10.0 | 10 | 89 | 35 | 48 | 40 | 1.6 | ● |
| **101-040-12 PI3** | 10.1 | 12 | 102 | 40 | 55 | 45 | 1.6 | ● |
| **102-040-12 PI3** | 10.2 | 12 | 102 | 40 | 55 | 45 | 1.6 | ● |
| **103-040-12 PI3** | 10.3 | 12 | 102 | 40 | 55 | 45 | 1.6 | ● |
| **104-040-12 PI3** | 10.4 | 12 | 102 | 40 | 55 | 45 | 1.6 | ● |
| **105-040-12 PI3** | 10.5 | 12 | 102 | 40 | 55 | 45 | 1.6 | ● |
| **106-040-12 PI3** | 10.6 | 12 | 102 | 40 | 55 | 45 | 1.7 | ● |
| **107-040-12 PI3** | 10.7 | 12 | 102 | 40 | 55 | 45 | 1.7 | ● |
| **108-040-12 PI3** | 10.8 | 12 | 102 | 40 | 55 | 45 | 1.7 | ● |
| **109-040-12 PI3** | 10.9 | 12 | 102 | 40 | 55 | 45 | 1.7 | ● |
| **110-040-12 PI3** | 11.0 | 12 | 102 | 40 | 55 | 45 | 1.7 | ● |
| **111-040-12 PI3** | 11.1 | 12 | 102 | 40 | 56 | 45 | 1.7 | ● |
| **112-040-12 PI3** | 11.2 | 12 | 102 | 40 | 56 | 45 | 1.8 | ● |
| **113-040-12 PI3** | 11.3 | 12 | 102 | 40 | 56 | 45 | 1.8 | ● |
| **114-040-12 PI3** | 11.4 | 12 | 102 | 40 | 56 | 45 | 1.8 | ● |
| **115-040-12 PI3** | 11.5 | 12 | 102 | 40 | 56 | 45 | 1.8 | ● |
| **116-040-12 PI3** | 11.6 | 12 | 102 | 40 | 56 | 45 | 1.8 | ● |
| **117-040-12 PI3** | 11.7 | 12 | 102 | 40 | 56 | 45 | 1.9 | ● |
| **118-040-12 PI3** | 11.8 | 12 | 102 | 40 | 56 | 45 | 1.9 | ● |
| **119-040-12 PI3** | 11.9 | 12 | 102 | 40 | 56 | 45 | 1.9 | ● |
| **120-040-12 PI3** | 12.0 | 12 | 102 | 40 | 56 | 45 | 1.9 | ● |

Cutting Condition D250

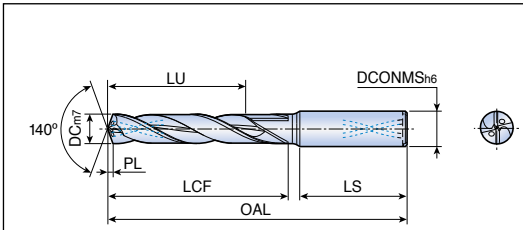
●: Standard items

# NHD...PI5

**Solid carbide drills with oil holes**



• Drilling depth: 5xdiameter




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 030-023-06 PI5** | 3.0 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **031-023-06 PI5** | 3.1 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **032-023-06 PI5** | 3.2 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **033-023-06 PI5** | 3.3 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **034-023-06 PI5** | 3.4 | 6 | 66 | 23 | 29 | 34 | 0.5 | ● |
| **035-023-06 PI5** | 3.5 | 6 | 66 | 23 | 29 | 34 | 0.6 | ● |
| **036-023-06 PI5** | 3.6 | 6 | 66 | 23 | 29 | 34 | 0.6 | ● |
| **037-023-06 PI5** | 3.7 | 6 | 66 | 23 | 29 | 34 | 0.6 | ● |
| **038-029-06 PI5** | 3.8 | 6 | 74 | 29 | 37 | 35 | 0.6 | ● |
| **039-029-06 PI5** | 3.9 | 6 | 74 | 29 | 37 | 35 | 0.6 | ● |
| **040-029-06 PI5** | 4.0 | 6 | 74 | 29 | 37 | 35 | 0.6 | ● |
| **041-029-06 PI5** | 4.1 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **042-029-06 PI5** | 4.2 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **043-029-06 PI5** | 4.3 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **044-029-06 PI5** | 4.4 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **045-029-06 PI5** | 4.5 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **046-029-06 PI5** | 4.6 | 6 | 74 | 29 | 37 | 35 | 0.7 | ● |
| **047-029-06 PI5** | 4.7 | 6 | 74 | 29 | 37 | 35 | 0.8 | ● |
| **048-035-06 PI5** | 4.8 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **049-035-06 PI5** | 4.9 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **050-035-06 PI5** | 5.0 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **051-035-06 PI5** | 5.1 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **052-035-06 PI5** | 5.2 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **053-035-06 PI5** | 5.3 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **054-035-06 PI5** | 5.4 | 6 | 82 | 35 | 45 | 36 | 0.8 | ● |
| **055-035-06 PI5** | 5.5 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **056-035-06 PI5** | 5.6 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **057-035-06 PI5** | 5.7 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **058-035-06 PI5** | 5.8 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **059-035-06 PI5** | 5.9 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **060-035-06 PI5** | 6.0 | 6 | 82 | 35 | 45 | 36 | 0.9 | ● |
| **061-043-08 PI5** | 6.1 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **062-043-08 PI5** | 6.2 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **063-043-08 PI5** | 6.3 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **064-043-08 PI5** | 6.4 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |

●: Standard items

Cutting Condition D250



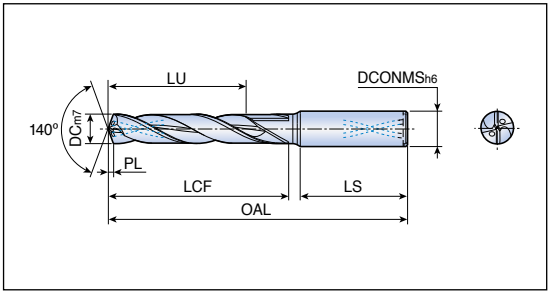
ADVANCE CUTTING TaeguTec

# NHD...PI5

**Solid carbide drills with oil holes**



• Drilling depth: 5xdiameter




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 065-043-08 PI5** | 6.5 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **066-043-08 PI5** | 6.6 | 8 | 91 | 43 | 54 | 36 | 1.0 | ● |
| **067-043-08 PI5** | 6.7 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **068-043-08 PI5** | 6.8 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **069-043-08 PI5** | 6.9 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **070-043-08 PI5** | 7.0 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **071-043-08 PI5** | 7.1 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **072-043-08 PI5** | 7.2 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **073-043-08 PI5** | 7.3 | 8 | 91 | 43 | 54 | 36 | 1.1 | ● |
| **074-043-08 PI5** | 7.4 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **075-043-08 PI5** | 7.5 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **076-043-08 PI5** | 7.6 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **077-043-08 PI5** | 7.7 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **078-043-08 PI5** | 7.8 | 8 | 91 | 43 | 54 | 36 | 1.2 | ● |
| **079-043-08 PI5** | 7.9 | 8 | 91 | 43 | 54 | 36 | 1.3 | ● |
| **080-043-08 PI5** | 8.0 | 8 | 91 | 43 | 54 | 36 | 1.3 | ● |
| **081-049-10 PI5** | 8.1 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **082-049-10 PI5** | 8.2 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **083-049-10 PI5** | 8.3 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **084-049-10 PI5** | 8.4 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **085-049-10 PI5** | 8.5 | 10 | 103 | 49 | 62 | 40 | 1.3 | ● |
| **086-049-10 PI5** | 8.6 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **087-049-10 PI5** | 8.7 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **088-049-10 PI5** | 8.8 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **089-049-10 PI5** | 8.9 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **090-049-10 PI5** | 9.0 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **091-049-10 PI5** | 9.1 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **092-049-10 PI5** | 9.2 | 10 | 103 | 49 | 62 | 40 | 1.4 | ● |
| **093-049-10 PI5** | 9.3 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **094-049-10 PI5** | 9.4 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **095-049-10 PI5** | 9.5 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **096-049-10 PI5** | 9.6 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **097-049-10 PI5** | 9.7 | 10 | 103 | 49 | 62 | 40 | 1.5 | ● |
| **098-049-10 PI5** | 9.8 | 10 | 103 | 49 | 62 | 40 | 1.6 | ● |
| **099-049-10 PI5** | 9.9 | 10 | 103 | 49 | 62 | 40 | 1.6 | ● |

Cutting Condition D250

●: Standard items

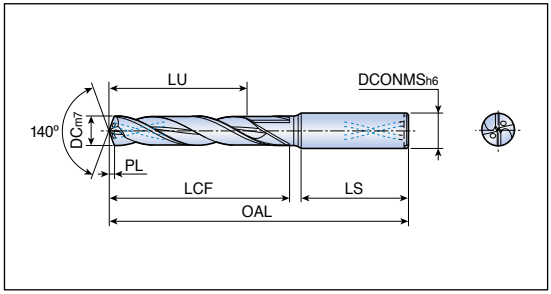
# NHD...PI5

**Solid carbide drills with oil holes**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 100-049-10 PI5** | 10.0 | 10 | 103 | 49 | 62 | 40 | 1.6 | ● |
| **101-056-12 PI5** | 10.1 | 12 | 118 | 56 | 71 | 45 | 1.6 | ● |
| **102-056-12 PI5** | 10.2 | 12 | 118 | 56 | 71 | 45 | 1.6 | ● |
| **103-056-12 PI5** | 10.3 | 12 | 118 | 56 | 71 | 45 | 1.6 | ● |
| **104-056-12 PI5** | 10.4 | 12 | 118 | 56 | 71 | 45 | 1.6 | ● |
| **105-056-12 PI5** | 10.5 | 12 | 118 | 56 | 71 | 45 | 1.6 | ● |
| **106-056-12 PI5** | 10.6 | 12 | 118 | 56 | 71 | 45 | 1.7 | ● |
| **107-056-12 PI5** | 10.7 | 12 | 118 | 56 | 71 | 45 | 1.7 | ● |
| **108-056-12 PI5** | 10.8 | 12 | 118 | 56 | 71 | 45 | 1.7 | ● |
| **109-056-12 PI5** | 10.9 | 12 | 118 | 56 | 71 | 45 | 1.7 | ● |
| **110-056-12 PI5** | 11.0 | 12 | 118 | 56 | 71 | 45 | 1.7 | ● |
| **111-056-12 PI5** | 11.1 | 12 | 118 | 56 | 72 | 45 | 1.7 | ● |
| **112-056-12 PI5** | 11.2 | 12 | 118 | 56 | 72 | 45 | 1.8 | ● |
| **113-056-12 PI5** | 11.3 | 12 | 118 | 56 | 72 | 45 | 1.8 | ● |
| **114-056-12 PI5** | 11.4 | 12 | 118 | 56 | 72 | 45 | 1.8 | ● |
| **115-056-12 PI5** | 11.5 | 12 | 118 | 56 | 72 | 45 | 1.8 | ● |
| **116-056-12 PI5** | 11.6 | 12 | 118 | 56 | 72 | 45 | 1.8 | ● |
| **117-056-12 PI5** | 11.7 | 12 | 118 | 56 | 72 | 45 | 1.9 | ● |
| **118-056-12 PI5** | 11.8 | 12 | 118 | 56 | 72 | 45 | 1.9 | ● |
| **119-056-12 PI5** | 11.9 | 12 | 118 | 56 | 72 | 45 | 1.9 | ● |
| **120-056-12 PI5** | 12.0 | 12 | 118 | 56 | 72 | 45 | 1.9 | ● |

Cutting Condition D250

●: Standard items



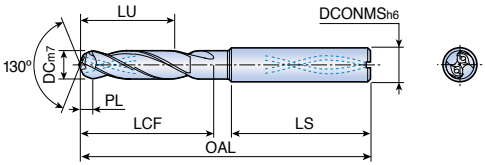
ADVANCE CUTTING TaeguTec

# NHD…KI3

**Solid carbide drills with oil holes for cast iron machining**



• Drilling depth: 3xdiameter




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 030-014-06 KI3** | 3.0 | 6 | 62 | 14 | 20 | 34 | 1.4 | ● |
| **033-014-06 KI3** | 3.3 | 6 | 62 | 14 | 20 | 34 | 1.6 | ● |
| **035-014-06 KI3** | 3.5 | 6 | 62 | 14 | 20 | 34 | 1.7 | ● |
| **040-017-06 KI3** | 4.0 | 6 | 66 | 17 | 24 | 35 | 1.9 | ● |
| **041-017-06 KI3** | 4.1 | 6 | 66 | 17 | 24 | 35 | 2.0 | ● |
| **042-017-06 KI3** | 4.2 | 6 | 66 | 17 | 24 | 35 | 2.0 | ● |
| **045-017-06 KI3** | 4.5 | 6 | 66 | 17 | 24 | 35 | 2.2 | ● |
| **046-017-06 KI3** | 4.6 | 6 | 66 | 17 | 24 | 35 | 2.2 | ● |
| **050-020-06 KI3** | 5.0 | 6 | 66 | 20 | 27 | 36 | 2.4 | ● |
| **051-020-06 KI3** | 5.1 | 6 | 66 | 20 | 27 | 36 | 2.5 | ● |
| **052-020-06 KI3** | 5.2 | 6 | 66 | 20 | 27 | 36 | 2.5 | ● |
| **055-020-06 KI3** | 5.5 | 6 | 66 | 20 | 27 | 36 | 2.6 | ● |
| **060-020-06 KI3** | 6.0 | 6 | 66 | 20 | 27 | 36 | 2.9 | ● |
| **061-024-08 KI3** | 6.1 | 8 | 79 | 24 | 34 | 36 | 2.9 | ● |
| **065-024-08 KI3** | 6.5 | 8 | 79 | 24 | 34 | 36 | 3.1 | ● |
| **067-024-08 KI3** | 6.7 | 8 | 79 | 24 | 34 | 36 | 3.2 | ● |
| **068-024-08 KI3** | 6.8 | 8 | 79 | 24 | 34 | 36 | 3.3 | ● |
| **070-024-08 KI3** | 7.0 | 8 | 79 | 24 | 34 | 36 | 3.4 | ● |
| **075-029-08 KI3** | 7.5 | 8 | 79 | 29 | 40 | 36 | 3.6 | ● |
| **080-029-08 KI3** | 8.0 | 8 | 79 | 29 | 40 | 36 | 3.8 | ● |
| **081-035-10 KI3** | 8.1 | 10 | 89 | 35 | 45 | 40 | 3.9 | ● |
| **085-035-10 KI3** | 8.5 | 10 | 89 | 35 | 45 | 40 | 4.1 | ● |
| **087-035-10 KI3** | 8.7 | 10 | 89 | 35 | 45 | 40 | 4.2 | ● |
| **089-035-10 KI3** | 8.9 | 10 | 89 | 35 | 45 | 40 | 4.3 | ● |
| **090-035-10 KI3** | 9.0 | 10 | 89 | 35 | 45 | 40 | 4.3 | ● |
| **095-035-10 KI3** | 9.5 | 10 | 89 | 35 | 45 | 40 | 4.6 | ● |
| **100-035-10 KI3** | 10.0 | 10 | 89 | 35 | 45 | 40 | 4.8 | ● |
| **103-040-12 KI3** | 10.3 | 12 | 102 | 40 | 53 | 45 | 4.9 | ● |
| **105-040-12 KI3** | 10.5 | 12 | 102 | 40 | 53 | 45 | 5.0 | ● |
| **110-040-12 KI3** | 11.0 | 12 | 102 | 40 | 53 | 45 | 5.3 | ● |
| **115-040-12 KI3** | 11.5 | 12 | 102 | 40 | 53 | 45 | 5.5 | ● |
| **120-040-12 KI3** | 12.0 | 12 | 102 | 40 | 53 | 45 | 5.8 | ● |

Cutting Condition D250

●: Standard items

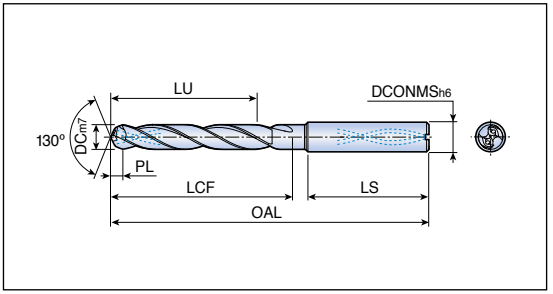
# NHD…KI5

**Solid carbide drills with oil holes for cast iron machining**



• Drilling depth: 5xdiameter






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **NHD 030-023-06 KI5** | 3.0 | 6 | 66 | 23 | 27 | 34 | 1.4 | ● |
| **033-023-06 KI5** | 3.3 | 6 | 66 | 23 | 27 | 34 | 1.6 | ● |
| **035-023-06 KI5** | 3.5 | 6 | 66 | 23 | 27 | 34 | 1.7 | ● |
| **040-029-06 KI5** | 4.0 | 6 | 74 | 29 | 34 | 35 | 1.9 | ● |
| **042-029-06 KI5** | 4.2 | 6 | 74 | 29 | 34 | 35 | 2.0 | ● |
| **045-029-06 KI5** | 4.5 | 6 | 74 | 29 | 35 | 35 | 2.2 | ● |
| **046-029-06 KI5** | 4.6 | 6 | 74 | 29 | 35 | 35 | 2.2 | ● |
| **050-035-06 KI5** | 5.0 | 6 | 82 | 35 | 43 | 36 | 2.4 | ● |
| **052-035-06 KI5** | 5.2 | 6 | 82 | 35 | 43 | 36 | 2.5 | ● |
| **055-035-06 KI5** | 5.5 | 6 | 82 | 35 | 43 | 36 | 2.6 | ● |
| **060-035-06 KI5** | 6.0 | 6 | 82 | 35 | 43 | 36 | 2.9 | ● |
| **065-043-08 KI5** | 6.5 | 8 | 91 | 43 | 52 | 36 | 3.1 | ● |
| **067-043-08 KI5** | 6.7 | 8 | 91 | 43 | 52 | 36 | 3.2 | ● |
| **068-043-08 KI5** | 6.8 | 8 | 91 | 43 | 52 | 36 | 3.3 | ● |
| **070-043-08 KI5** | 7.0 | 8 | 91 | 43 | 52 | 36 | 3.4 | ● |
| **075-043-08 KI5** | 7.5 | 8 | 91 | 43 | 52 | 36 | 3.6 | ● |
| **080-043-08 KI5** | 8.0 | 8 | 91 | 43 | 52 | 36 | 3.8 | ● |
| **081-049-10 KI5** | 8.1 | 10 | 103 | 49 | 59 | 40 | 3.9 | ● |
| **085-049-10 KI5** | 8.5 | 10 | 103 | 49 | 59 | 40 | 4.1 | ● |
| **087-049-10 KI5** | 8.7 | 10 | 103 | 49 | 59 | 40 | 4.2 | ● |
| **089-049-10 KI5** | 8.9 | 10 | 103 | 49 | 59 | 40 | 4.3 | ● |
| **090-049-10 KI5** | 9.0 | 10 | 103 | 49 | 59 | 40 | 4.3 | ● |
| **095-049-10 KI5** | 9.5 | 10 | 103 | 49 | 59 | 40 | 4.6 | ● |
| **100-049-10 KI5** | 10.0 | 10 | 103 | 49 | 59 | 40 | 4.8 | ● |
| **103-056-12 KI5** | 10.3 | 12 | 118 | 56 | 69 | 45 | 4.9 | ● |
| **105-056-12 KI5** | 10.5 | 12 | 118 | 56 | 69 | 45 | 5.0 | ● |
| **110-056-12 KI5** | 11.0 | 12 | 118 | 56 | 69 | 45 | 5.3 | ● |
| **115-056-12 KI5** | 11.5 | 12 | 118 | 56 | 69 | 45 | 5.5 | ● |
| **120-056-12 KI5** | 12.0 | 12 | 118 | 56 | 69 | 45 | 5.8 | ● |

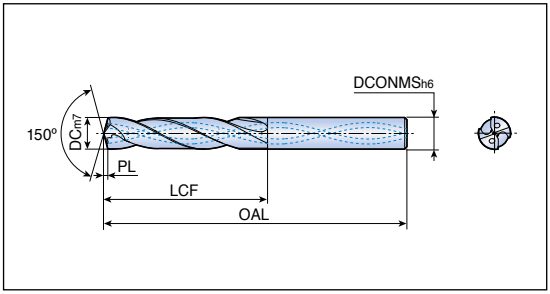
●: Standard items

Cutting Condition D250

# SHO 3...-PH

**Solid pilot drills for solid long drill**






• M.Q.L drilling is available

| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LCF | PL | TT9030 |
| **SHO 30403-PH** | 4.03 | 4 | 66.5 | 24.5 | 0.5 | ● |
| **30503-PH** | 5.03 | 5 | 68.6 | 30.6 | 0.6 | ● |
| **30603-PH** | 6.03 | 6 | 68.7 | 30.7 | 0.7 | ● |
| **30703-PH** | 7.03 | 7 | 73.8 | 35.8 | 0.8 | ● |
| **30803-PH** | 8.03 | 8 | 79.9 | 41.9 | 0.9 | ● |
| **30903-PH** | 9.03 | 9 | 91.0 | 49.0 | 1.0 | ● |
| **31003-PH** | 10.03 | 10 | 91.1 | 49.1 | 1.1 | ● |

Cutting Condition D250

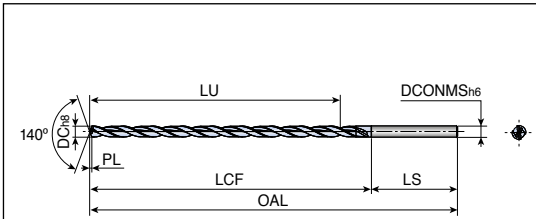
●: Standard items

# SHO 10/15/20

**Solid long drills with oil holes**



- Drilling depth: 10/15/20xdiameter
- M.Q.L drilling is available




| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LU | LCF | LS | PL | TT9030 |
| **SHO 10040** | 4.0 | 4 | 105.6 | 50 | 55.6 | 50 | 0.6 | ● |
| **10050** | 5.0 | 5 | 115.8 | 60 | 65.8 | 50 | 0.8 | ● |
| **10060** | 6.0 | 6 | 131.0 | 76 | 81.0 | 50 | 1.0 | ● |
| **10070** | 7.0 | 7 | 141.1 | 86 | 91.1 | 50 | 1.1 | ● |
| **10080** | 8.0 | 8 | 156.3 | 98 | 106.3 | 50 | 1.3 | ● |
| **10090** | 9.0 | 9 | 171.4 | 108 | 116.4 | 55 | 1.4 | ● |
| **10100** | 10.0 | 10 | 191.6 | 123 | 131.6 | 60 | 1.6 | ● |
| **15040** | 4.0 | 4 | 125.6 | 70 | 75.6 | 50 | 0.6 | ● |
| **15050** | 5.0 | 5 | 140.8 | 85 | 90.8 | 50 | 0.8 | ● |
| **15060** | 6.0 | 6 | 161.0 | 106 | 111.0 | 50 | 1.0 | ● |
| **15070** | 7.0 | 7 | 176.1 | 121 | 126.1 | 50 | 1.1 | ● |
| **15080** | 8.0 | 8 | 196.3 | 138 | 146.3 | 50 | 1.3 | ● |
| **15090** | 9.0 | 9 | 221.4 | 153 | 161.4 | 60 | 1.4 | ● |
| **15100** | 10.0 | 10 | 241.6 | 173 | 181.6 | 60 | 1.6 | ● |
| **20040** | 4.0 | 4 | 140.6 | 85 | 90.6 | 50 | 0.6 | ● |
| **20050** | 5.0 | 5 | 165.8 | 110 | 115.8 | 50 | 0.8 | ● |
| **20060** | 6.0 | 6 | 191.0 | 136 | 141.0 | 50 | 1.0 | ● |
| **20070** | 7.0 | 7 | 211.1 | 156 | 161.1 | 50 | 1.1 | ● |
| **20080** | 8.0 | 8 | 231.3 | 173 | 181.3 | 50 | 1.3 | ● |
| **20090** | 9.0 | 9 | 266.4 | 198 | 206.4 | 60 | 1.4 | ● |
| **20100** | 10.0 | 10 | 286.6 | 218 | 226.6 | 60 | 1.6 | ● |

●: Standard items

Cutting Condition D250

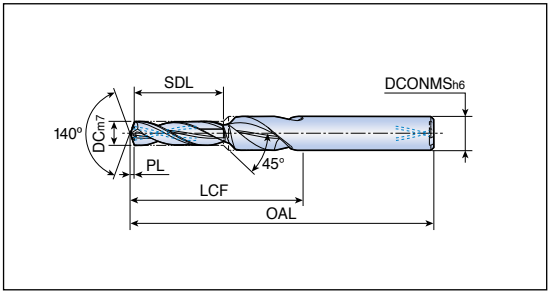


ADVANCE CUTTING TaeguTec

# SHO...-M

**Solid carbide drills for pre-thread holes**






| Designation | ISO thread | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | | DC | OAL | SDL | LCF | DCONMS | PL | TT9030 |
| **SHO 033x12x6-M4** | M4 | 3.3 | 62.5 | 12 | 26.5 | 6 | 0.5 | ● |
| **042x15x6-M5** | M5 | 4.2 | 66.6 | 15 | 28.6 | 6 | 0.6 | ● |
| **050x18x8-M6** | M6 | 5.0 | 79.8 | 18 | 36.8 | 8 | 0.8 | ● |
| **068x24x10-M8** | M8 | 6.8 | 91.0 | 24 | 49.0 | 10 | 1.0 | ● |
| **085x30x12-M10** | M10 | 8.5 | 103.3 | 30 | 56.3 | 12 | 1.3 | ● |

Cutting Condition D250

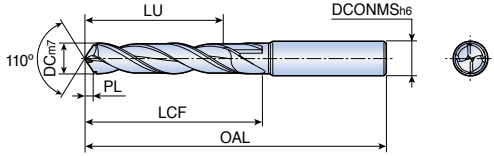
●: Standard items

# CDF

**Solid carbide drills for composite material**








| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC (Metric) | DC (Inch) | DCONMS | OAL | LU | LCF | PL | TTD610 |
| **CDF 030-027-06** | 3 | - | 6 | 72.7 | 28 | 34.7 | 0.7 | ● |
| **040-027-06** | 4 | - | 6 | 73.0 | 28 | 35.0 | 1.0 | ● |
| **0476-034-06** | 4.76 | 3/16 | 6 | 81.3 | 35 | 43.3 | 1.3 | ● |
| **050-034-06** | 5 | - | 6 | 81.3 | 35 | 43.3 | 1.3 | ● |
| **060-034-06** | 6 | - | 6 | 81.7 | 36 | 43.7 | 1.7 | ● |
| **0635-040-08** | 6.35 | - | 8 | 89.7 | 42 | 51.7 | 1.7 | ● |
| **070-040-08** | 7 | - | 8 | 89.9 | 42 | 51.9 | 1.9 | ● |
| **0794-040-08** | 7.94 | 5/16 | 8 | 90.2 | 42 | 52.2 | 2.2 | ● |
| **080-040-08** | 8 | - | 8 | 90.2 | 42 | 52.2 | 2.2 | ● |
| **090-045-10** | 9 | - | 10 | 101.5 | 48 | 59.5 | 2.5 | ● |
| **0952-045-10** | 9.52 | 3/8 | 10 | 101.6 | 48 | 59.6 | 2.6 | ● |
| **100-045-10** | 10 | - | 10 | 101.8 | 48 | 59.8 | 2.8 | ● |
| **110-052-12** | 11 | - | 12 | 117.1 | 55 | 70.1 | 3.1 | ● |
| **1111-052-12** | 11.11 | 7/16 | 12 | 117.1 | 55 | 70.1 | 3.1 | ● |
| **120-052-12** | 12 | - | 12 | 117.4 | 55 | 70.4 | 3.4 | ● |
| **127-055-14** | 12.7 | 1/2 | 14 | 122.6 | 59c | 75.6 | 3.6 | ● |

●: Standard items

Cutting Condition D262

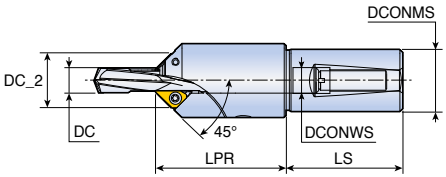


ADVANCE CUTTING TaeguTec

# T-CHAMFER...T1

## Chamfering tools with solid carbide drill






| Designation | DC | Dimension (mm) | | | | | Insert |
|---|---|---|---|---|---|---|---|
| | | DCONWS | DC_2 | DCONMS | LPR | LS | |
| **T-CHAMFER 080-20T1-06** | 7.1-8.0 | 8 | 18.8 | 20 | 47.4 | 50 | XCGT 06...-C.. D210 |
| **090-20T1-06** | 8.1-9.0 | 9 | 19.8 | 20 | 47.4 | 50 | |
| **100-32T1-09** | 9.1-10.0 | 10 | 24.9 | 32 | 67.3 | 60 | XCGT 09...-C.. D210 |
| **110-32T1-09** | 10.1-11.0 | 11 | 25.9 | 32 | 67.3 | 60 | |
| **120-32T1-09** | 11.1-12.0 | 12 | 26.9 | 32 | 67.3 | 60 | |
| **130-32T1-09** | 12.1-13.0 | 13 | 27.9 | 32 | 67.3 | 60 | |
| **140-32T1-09** | 13.1-14.0 | 14 | 28.4 | 32 | 67.3 | 60 | |
| **150-32T1-09** | 14.1-15.0 | 15 | 29.4 | 32 | 67.3 | 60 | |
| **160-32T1-09** | 15.1-16.0 | 16 | 30.4 | 32 | 67.3 | 60 | |
| **170-32T1-09** | 16.1-17.0 | 17 | 31.4 | 32 | 67.3 | 60 | |
| **180-32T1-09** | 17.1-18.0 | 18 | 32.4 | 32 | 67.3 | 60 | |
| **190-32T1-09** | 18.1-19.0 | 19 | 33.4 | 32 | 75.0 | 60 | |
| **200-32T1-09** | 19.1-20.0 | 20 | 34.4 | 32 | 75.0 | 60 | |

## Spare parts

| Designation | Side screw | Back screw | L-wrench | Insert screw | Wrench |
|---|---|---|---|---|---|
| **T-CHAMFER 080 - 090** | SS M6x1x6 | M6x1-SP | L-W 3 | TS 25064I | TD 8 |
| **T-CHAMFER 100 - 200** | SS M10x1.5x10 | M10x1.5-SP | L-W 5 | TS 40093I | TD 15 |

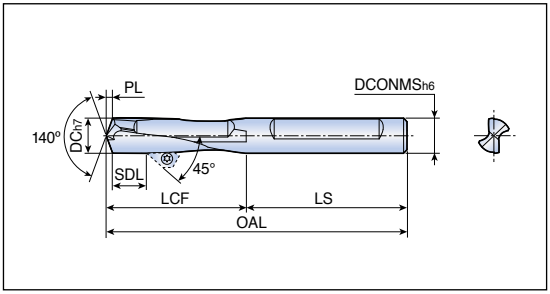
Assembly
D108

# SHD 3...-CF

**Solid carbide drills for T-CHAMFER**








| Designation | Dimension (mm) | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DC | DCONMS | OAL | LCF | LS | SDL min | SDL max | PL | TT9030 |
| **SHD 3080-CF** | 8.0 | 8.0 | 80.3 | 37.3 | 43 | 9.5 | 17.5 | 1.3 | ● |
| **3090-CF** | 9.0 | 9.0 | 85.4 | 42.4 | 43 | 13.0 | 23.5 | 1.4 | ● |
| **3100-CF** | 10.0 | 10.0 | 90.6 | 47.6 | 43 | 15.5 | 25.0 | 1.6 | ● |
| **3110-CF** | 11.0 | 11.0 | 96.8 | 53.8 | 43 | 21.5 | 30.0 | 1.8 | ● |
| **3120-CF** | 12.0 | 12.0 | 103.9 | 60.9 | 43 | 25.5 | 37.0 | 1.9 | ● |
| **3130-CF** | 13.0 | 13.0 | 104.1 | 61.1 | 43 | 25.5 | 35.0 | 2.1 | ● |
| **3150-CF** | 15.0 | 15.0 | 113.4 | 65.4 | 48 | 26.5 | 40.5 | 2.4 | ● |
| **3170-CF** | 17.0 | 17.0 | 121.7 | 71.7 | 50 | 24.5 | 44.0 | 2.7 | ● |
| **3180-CF** | 18.0 | 18.0 | 125.9 | 75.9 | 50 | 26.5 | 48.0 | 2.9 | ● |
| **3190-CF** | 19.0 | 19.0 | 130.0 | 76.0 | 54 | 26.5 | 49.0 | 3.0 | ● |

▸ 'SDL' is factored with a 45° insert positioned in insert pocket
▸ Solid carbide drill with internal coolant holes is available on request

●: Standard items

| Insert | Chamfer angle (°) | Chamfer size |
|---|---|---|
| **XCGT 0603-C30** | 30 | 1.5 |
| **0603-C45** | 45 | 4.5 |
| **0603-C60** | 60 | 2.5 |
| **XCGT 0903-C30** | 30 | 1.5 |
| **0903-C45** | 45 | 6.0 |
| **0903-C60** | 60 | 3.5 |

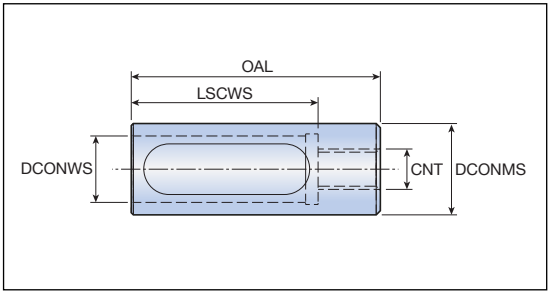
▸ The maximum chamfer size is obtained when using the smallest drill diameter in the drilling range

# TSL-NC

**Drill sleeves for Swiss type automatic lathes (Fixed type, internal coolant)**







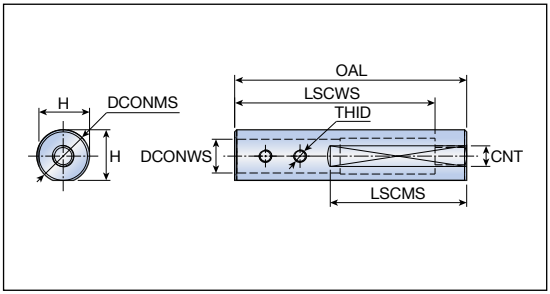

| Designation | | Dimension (mm) | | | | |
|---|---|---|---|---|---|---|
| | | DCONMS | DCONWS | LSCWS | OAL | CNT |
| **TSL-NC** | **19.05-12** | 19.05 | 12.0 | 45 | 60 | Rc 1/8 |
| | **19.05-16** | 19.05 | 16.0 | 45 | 60 | Rc 1/8 |
| | **20-12** | 20.0 | 12.0 | 45 | 60 | Rc 1/8 |
| | **20-16** | 20.0 | 16.0 | 45 | 60 | Rc 1/8 |
| | **22-16** | 22.0 | 16.0 | 45 | 60 | Rc 1/8 |
| | **25-20** | 25.0 | 20.0 | 45 | 60 | Rc 1/8 |
| | **25.4-20** | 25.4 | 20.0 | 45 | 60 | Rc 1/8 |
| | **32-25** | 32.0 | 25.0 | 45 | 60 | Rc 1/8 |

# TSL-SW

**Drill sleeves for Swiss type automatic lathes (Adjustable type, internal coolant)**



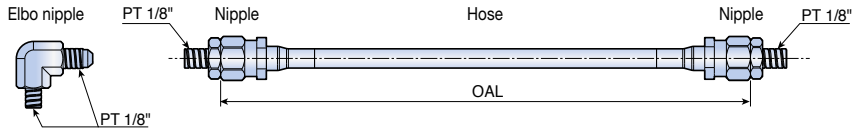





| Designation | | Dimension (mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | DCONMS | DCONWS | LSCWS | LSCMS | OAL | H | THID | CNT |
| **TSL-SW** | **22-12** | 22.0 | 12.0 | 95 | 65 | 110 | 21.0 | M6 | Rc 1/8 |
| | **25-12** | 25.0 | 12.0 | 95 | 65 | 110 | 24.0 | M8 | Rc 1/8 |
| | **25-16** | 25.0 | 16.0 | 95 | 65 | 110 | 24.0 | M6 | Rc 1/8 |
| | **25.4-12** | 25.4 | 12.0 | 95 | 65 | 110 | 24.4 | M8 | Rc 1/8 |
| | **25.4-16** | 25.4 | 16.0 | 95 | 65 | 110 | 24.4 | M6 | Rc 1/8 |
| | **32-12** | 32.0 | 12.0 | 95 | 65 | 110 | 31.0 | M8 | Rc 1/8 |
| | **32-16** | 32.0 | 16.0 | 95 | 65 | 110 | 31.0 | M8 | Rc 1/8 |
| | **32-20** | 32.0 | 20.0 | 95 | 65 | 110 | 31.0 | M8 | Rc 1/8 |

# Accessories

## Hose set




*Hose set components: 1 hose, 2 nipples, 1 elbo nipple

| Designation | | Dimension (mm) | |
|---|---|---|---|
| | | OAL (mm) | Max. pressure (bar) |
| **S-TSL HOSE** | **R1/8-220** | 220 | 100 |
| | **R1/8-350** | 350 | 100 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

▸ Hose set is ordered separately

## Spare parts

| Designation | Mounting screw | Wrench | | |
|---|---|---|---|---|
| |  |  | | |
| **TSL-SW 22-12** | SS M6X1X5 | L-W 3 | | |
| **TSL-SW 25-12** | SS M8X1.25X6 | L-W 4 | | |
| **TSL-SW 25-16** | SS M6X1X5 | L-W 3 | | |
| **TSL-SW 25.4-12** | SS M8X1.25X6 | L-W 4 | | |
| **TSL-SW 25.4-16** | SS M6X1X5 | L-W 3 | | |
| **TSL-SW 32-12** | SS M8X1.25X6 | L-W 4 | | |
| **TSL-SW 32-16** | SS M8X1.25X6 | L-W 4 | | |
| **TSL-SW 32-20** | SS M8X1.25X6 | L-W 4 | | |
| | | | | |

# Reaming Tools



# XR...-3B/5B-S0

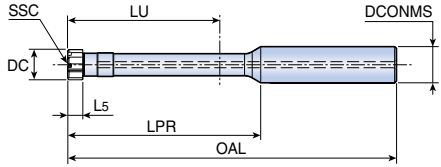
XM-REAM

**Head changeable reamer holders for small diameter blind hole**



• Cylindrical shank

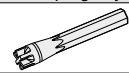





| Designation | DC | SSC | Dimension (mm) | | | | | Overhang |
|---|---|---|---|---|---|---|---|---|
| | | | DCONMS | L5 | OAL | LU | LPR | |
| XR- **D08-3B-10S0** | 8.000-8.999 | 8 | 10 | 4.0 | 81.0 | 28.0 | 36.0 | |
| **D09-3B-10S0** | 9.000-9.999 | 9 | 10 | 4.5 | 85.5 | 31.5 | 40.5 | |
| **D10-3B-12S0** | 10.000-10.999 | 10 | 12 | 5.0 | 89.0 | 35.0 | 44.0 | 3XD |
| **D11-3B-12S0** | 11.000-11.999 | 11 | 12 | 5.5 | 92.5 | 38.5 | 47.5 | |
| **D12-3B-12S0** | 12.000-12.999 | 12 | 12 | 6.0 | 96.0 | 42.0 | 51.0 | |
| XR- **D08-5B-10S0** | 8.000-8.999 | 8 | 10 | 4.0 | 97.0 | 44.0 | 52.0 | |
| **D09-5B-10S0** | 9.000-9.999 | 9 | 10 | 4.5 | 103.5 | 49.5 | 58.5 | |
| **D10-5B-12S0** | 10.000-10.999 | 10 | 12 | 5.0 | 109.0 | 55.0 | 64.0 | 5XD |
| **D11-5B-12S0** | 11.000-11.999 | 11 | 12 | 5.5 | 114.5 | 60.5 | 69.5 | |
| **D12-5B-12S0** | 12.000-12.999 | 12 | 12 | 6.0 | 120.0 | 66.0 | 75.0 | |

▸ SSC: Seat size code
▸ Matched with XR...-AS reamer heads
▸ Reamer head is sold separately from reamer holder

## Spare parts

| Designation | Clamping key | Key handle |
|---|---|---|
| |  |  |
| **XR-D08** | W XR D08-KEY | SW6-T-SH |
| **XR-D09** | W XR D08-KEY | SW6-T-SH |
| **XR-D10** | W XR D10-KEY | SW6-T-SH |
| **XR-D11** | W XR D10-KEY | SW6-T-SH |
| **XR-D12** | W XR D12-KEY | SW6-T-SH |








▸ Clamping key & clamping screw are included



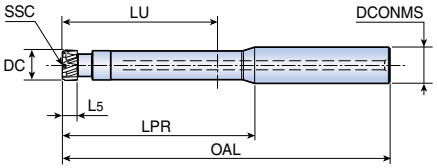
ADVANCE CUTTING TaeguTec

# XR...-3T/5T-S0

XM-REAM

**Head changeable reamer holders for small diameter through hole**





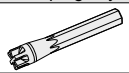

• Cylindrical shank



| Designation | DC | SSC | Dimension (mm) | | | | | Overhang |
|---|---|---|---|---|---|---|---|---|
| | | | DCONMS | L5 | OAL | LU | LPR | |
| **XR- D08-3T-10S0** | 8.000-8.999 | 8 | 10 | 4.0 | 81.0 | 28.0 | 36.0 | |
| **D09-3T-10S0** | 9.000-9.999 | 9 | 10 | 4.5 | 85.5 | 31.5 | 40.5 | |
| **D10-3T-12S0** | 10.000-10.999 | 10 | 12 | 5.0 | 89.0 | 35.0 | 44.0 | 3XD |
| **D11-3T-12S0** | 11.000-11.999 | 11 | 12 | 5.5 | 92.5 | 38.5 | 47.5 | |
| **D12-3T-12S0** | 12.000-12.999 | 12 | 12 | 6.0 | 95.0 | 42.0 | 50.0 | |
| **XR- D08-5T-10S0** | 8.000-8.999 | 8 | 10 | 4.0 | 97.0 | 44.0 | 52.0 | |
| **D09-5T-10S0** | 9.000-9.999 | 9 | 10 | 4.5 | 103.5 | 49.5 | 58.5 | |
| **D10-5T-12S0** | 10.000-10.999 | 10 | 12 | 5.0 | 109.0 | 55.0 | 64.0 | 5XD |
| **D11-5T-12S0** | 11.000-11.999 | 11 | 12 | 5.5 | 114.5 | 60.5 | 69.5 | |
| **D12-5T-12S0** | 12.000-12.999 | 12 | 12 | 6.0 | 119.0 | 66.0 | 74.0 | |

▸ SSC: Seat size code
▸ Matched with XR...-BL reamer heads
▸ Reamer head is sold separately from reamer holder

## Spare parts

| Designation | Clamping key | Key handle |
|---|---|---|
| |  |  |
| **XR-D08** | W XR D08-KEY | SW6-T-SH |
| **XR-D09** | W XR D08-KEY | SW6-T-SH |
| **XR-D10** | W XR D10-KEY | SW6-T-SH |
| **XR-D11** | W XR D10-KEY | SW6-T-SH |
| **XR-D12** | W XR D12-KEY | SW6-T-SH |








▸ Clamping key & clamping screw are included

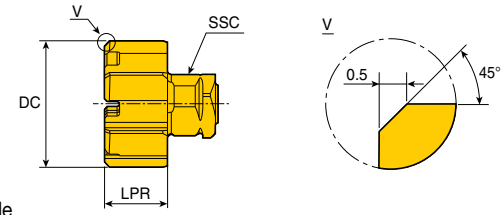


TaeguTec

# XR...-AS

XM-REAM

## Head changeable reamer head




- Straight flute for blind hole
- For H7 hole tolerance

| Head | Designation | Dimension (mm) | | NOF | SSC | Flute type | Edge type | Grade |
|---|---|---|---|---|---|---|---|---|
| | | DC | LPR | | | | | TT9030 |
|  | **XR- 08.000-AS** | 8.000 | 4.0 | 6 | 8 | S | A | ● |
| | **09.000-AS** | 9.000 | 4.5 | 6 | 9 | S | A | ● |
| | **10.000-AS** | 10.000 | 5.0 | 6 | 10 | S | A | ● |
| | **11.000-AS** | 11.000 | 5.5 | 6 | 11 | S | A | ● |
| | **12.000-AS** | 12.000 | 6.0 | 6 | 12 | S | A | ● |

D112 D278

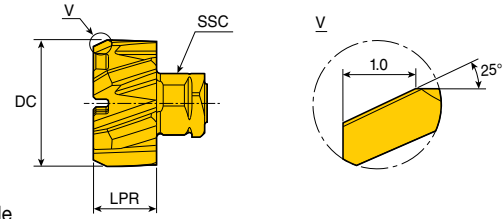
- NOF: Number of flutes
- SSC: Seat size code

●: Standard items

# XR...-BL

XM-REAM

## Head changeable reamer head




- Helical flute for through hole
- For H7 hole tolerance

| Head | Designation | Dimension (mm) | | NOF | SSC | Flute type | Edge type | Grade |
|---|---|---|---|---|---|---|---|---|
| | | DC | LPR | | | | | TT9030 |
|  | **XR- 08.000-BL** | 8.000 | 4.0 | 6 | 8 | L | B | ● |
| | **09.000-BL** | 9.000 | 4.5 | 6 | 9 | L | B | ● |
| | **10.000-BL** | 10.000 | 5.0 | 6 | 10 | L | B | ● |
| | **11.000-BL** | 11.000 | 5.5 | 6 | 11 | L | B | ● |
| | **12.000-BL** | 12.000 | 6.0 | 6 | 12 | L | B | ● |

D113 D278

- NOF: Number of flutes
- SSC: Seat size code

●: Standard items

# TM...-T0

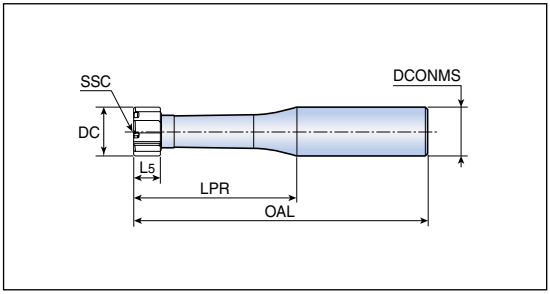
TM-REAM

## Head changeable reamer holders



• Cylindrical shank






| Designation | DC | SSC | Dimension (mm) | | | | Overhang |
|---|---|---|---|---|---|---|---|
| | | | DCONMS | L5 | OAL | LPR | |
| TM-3B5-16T0 | 11.501-13.500 | B5 | 16 | 9.3 | 97.8 | 49.8 | 3XD |
| 3B6-16T0 | 13.501-16.000 | B6 | 16 | 9.4 | 105.4 | 57.4 | |
| 3B7-20T0 | 16.000-20.000 | B7 | 20 | 10.6 | 120.6 | 70.6 | |
| 3B8-20T0 | 20.001-25.400 | B8 | 20 | 12.8 | 137.8 | 87.8 | |
| 3B9-32T0 | 25.401-32.000 | B9 | 32 | 12.8 | 167.1 | 107.1 | |
| 5B5-16T0 | 11.501-13.500 | B5 | 16 | 9.3 | 125.0 | 77.0 | 5XD |
| 5B6-16T0 | 13.501-16.000 | B6 | 16 | 9.4 | 137.4 | 89.4 | |
| 5B7-20T0 | 16.000-20.000 | B7 | 20 | 10.6 | 160.6 | 110.6 | |
| 5B8-20T0 | 20.001-25.400 | B8 | 20 | 12.8 | 187.8 | 137.8 | |
| 5B9-32T0 | 25.401-32.000 | B9 | 32 | 12.8 | 231.1 | 171.1 | |
| 8B5-16T0 | 11.501-13.500 | B5 | 16 | 9.3 | 165.5 | 117.5 | 8XD |
| 8B6-16T0 | 13.501-16.000 | B6 | 16 | 9.4 | 185.4 | 137.4 | |
| 8B7-20T0 | 16.000-20.000 | B7 | 20 | 10.6 | 220.6 | 170.6 | |
| 8B8-20T0 | 20.001-25.400 | B8 | 20 | 12.8 | 262.8 | 212.8 | |
| 8B9-32T0 | 25.401-32.000 | B9 | 32 | 12.8 | 327.1 | 267.1 | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

▸ SSC: Seat size code
▸ Reamer head is sold separately from reamer holder

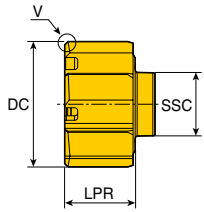
## Spare parts

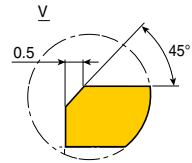
| Designation | Clamping screw | Clamping key |
|---|---|---|
| |  |  |
| TM...B5-16T0 | TM-B5-SCR | TM-B5-KEY |
| TM...B6-16T0 | TM-B6-SCR | TM-B6-KEY |
| TM...B7-20T0 | TM-B7-SCR | TM-B7-KEY |
| TM...B8-20T0 | TM-B8-SCR | TM-B8-KEY |
| TM...B9-32T0 | TM-B9-SCR | TM-B9-KEY |




▸ Clamping key & clamping screw are included

## Head changeable reamer heads




- Straight flute for blind hole
- For H7 hole tolerance

| Head | Designation | Dimension (mm) | | NOF | SSC | Flute type | Edge type | Grade |
|---|---|---|---|---|---|---|---|---|
| | | DC | LPR | | | | | TT9030 |
|  | **TM- 11.501-AS-B5** | 11.501 | 9.5 | 6 | B5 | S | A | ● |
| | **12.000-AS-B5** | 12.000 | 9.5 | 6 | B5 | S | A | ● |
| | **13.000-AS-B5** | 13.000 | 9.5 | 6 | B5 | S | A | ● |
| | **13.500-AS-B5** | 13.500 | 9.5 | 6 | B5 | S | A | ● |
| | **13.501-AS-B6** | 13.501 | 9.5 | 6 | B6 | S | A | ● |
| | **14.000-AS-B6** | 14.000 | 9.5 | 6 | B6 | S | A | ● |
| | **15.000-AS-B6** | 15.000 | 9.5 | 6 | B6 | S | A | ● |
| | **16.000-AS-B6** | 16.000 | 9.5 | 6 | B6 | S | A | ● |
| | **16.001-AS-B7** | 16.001 | 10.7 | 6 | B7 | S | A | ● |
| | **17.000-AS-B7** | 17.000 | 10.7 | 6 | B7 | S | A | ● |
| | **18.000-AS-B7** | 18.000 | 10.7 | 6 | B7 | S | A | ● |
| | **19.000-AS-B7** | 19.000 | 10.7 | 6 | B7 | S | A | ● |
| | **20.000-AS-B7** | 20.000 | 10.7 | 6 | B7 | S | A | ● |
| | **20.001-AS-B8** | 20.001 | 12.9 | 8 | B8 | S | A | ● |
| | **21.000-AS-B8** | 21.000 | 12.9 | 8 | B8 | S | A | ● |
| | **22.000-AS-B8** | 22.000 | 12.9 | 8 | B8 | S | A | ● |
| | **23.000-AS-B8** | 23.000 | 12.9 | 8 | B8 | S | A | ● |
| | **24.000-AS-B8** | 24.000 | 12.9 | 8 | B8 | S | A | ● |
| | **25.000-AS-B8** | 25.000 | 12.9 | 8 | B8 | S | A | ● |
| | **26.000-AS-B9** | 26.000 | 12.9 | 8 | B9 | S | A | ● |
| | **27.000-AS-B9** | 27.000 | 12.9 | 8 | B9 | S | A | ● |
| | **28.000-AS-B9** | 28.000 | 12.9 | 8 | B9 | S | A | ● |
| | **29.000-AS-B9** | 29.000 | 12.9 | 8 | B9 | S | A | ● |
| | **30.000-AS-B9** | 30.000 | 12.9 | 8 | B9 | S | A | ● |
| | **31.000-AS-B9** | 31.000 | 12.9 | 8 | B9 | S | A | ● |
| | **32.000-AS-B9** | 32.000 | 12.9 | 8 | B9 | S | A | ● |



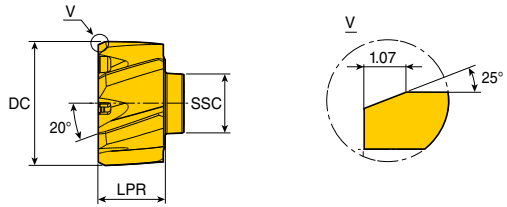

- NOF: Number of flutes
- SSC: Seat size code

●: Standard items

# TM...-BL

TM-REAM

## Head changeable reamer heads




- Helical flute for through hole
- For H7 hole tolerance

| Head | Designation | Dimension (mm) | | NOF | SSC | Flute type | Edge type | Grade |
|---|---|---|---|---|---|---|---|---|
| | | DC | LPR | | | | | TT9030 |
|  | TM - **11.501-BL-B5** | 11.501 | 9.5 | 6 | B5 | L | B | ● |
| | **12.000-BL-B5** | 12.000 | 9.5 | 6 | B5 | L | B | ● |
| | **13.000-BL-B5** | 13.000 | 9.5 | 6 | B5 | L | B | ● |
| | **13.500-BL-B5** | 13.500 | 9.5 | 6 | B5 | L | B | ● |
| | **13.501-BL-B6** | 13.501 | 9.5 | 6 | B6 | L | B | ● |
| | **14.000-BL-B6** | 14.000 | 9.5 | 6 | B6 | L | B | ● |
| | **15.000-BL-B6** | 15.000 | 9.5 | 6 | B6 | L | B | ● |
| | **16.000-BL-B6** | 16.000 | 9.5 | 6 | B6 | L | B | ● |
| | **16.001-BL-B7** | 16.001 | 10.7 | 6 | B7 | L | B | ● |
| | **17.000-BL-B7** | 17.000 | 10.7 | 6 | B7 | L | B | ● |
| | **18.000-BL-B7** | 18.000 | 10.7 | 6 | B7 | L | B | ● |
| | **19.000-BL-B7** | 19.000 | 10.7 | 6 | B7 | L | B | ● |
| | **20.000-BL-B7** | 20.000 | 10.7 | 6 | B7 | L | B | ● |
| | **20.001-BL-B8** | 20.001 | 12.9 | 8 | B8 | L | B | ● |
| | **21.000-BL-B8** | 21.000 | 12.9 | 8 | B8 | L | B | ● |
| | **22.000-BL-B8** | 22.000 | 12.9 | 8 | B8 | L | B | ● |
| | **23.000-BL-B8** | 23.000 | 12.9 | 8 | B8 | L | B | ● |
| | **24.000-BL-B8** | 24.000 | 12.9 | 8 | B8 | L | B | ● |
| | **25.000-BL-B8** | 25.000 | 12.9 | 8 | B8 | L | B | ● |
| | **26.000-BL-B9** | 26.000 | 12.9 | 8 | B9 | L | B | ● |
| | **27.000-BL-B9** | 27.000 | 12.9 | 8 | B9 | L | B | ● |
| | **28.000-BL-B9** | 28.000 | 12.9 | 8 | B9 | L | B | ● |
| | **29.000-BL-B9** | 29.000 | 12.9 | 8 | B9 | L | B | ● |
| | **30.000-BL-B9** | 30.000 | 12.9 | 8 | B9 | L | B | ● |
| | **31.000-BL-B9** | 31.000 | 12.9 | 8 | B9 | L | B | ● |
| | **32.000-BL-B9** | 32.000 | 12.9 | 8 | B9 | L | B | ● |




- NOF: Number of flutes
- SSC: Seat size code

●: Standard items



TaeguTec

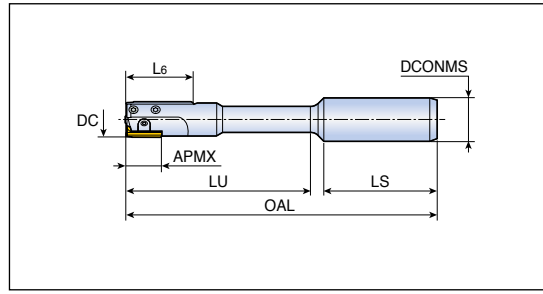
# TB-T...-T0

## Indexable reamer holders

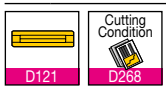


• For through hole






| Designation | Dimension (mm) | | | | | | | SSC |
|---|---|---|---|---|---|---|---|---|
| | DC | APMX | OAL | LU | LS | L6 | DCONMS | |
| TB-T08.000-S-16T0-1B | 8 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 1 |
| T09.000-S-16T0-1B | 9 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 1 |
| T10.000-S-16T0-2B | 10 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 2 |
| T11.000-S-16T0-2B | 11 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 2 |
| T12.000-S-16T0-3B | 12 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| T13.000-S-16T0-3B | 13 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| T14.000-S-16T0-3B | 14 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| T15.000-S-16T0-3B | 15 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| T16.000-S-20T0-3B | 16 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| T17.000-S-20T0-3B | 17 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| T18.000-S-20T0-3B | 18 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| T19.000-S-20T0-3B | 19 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| T20.000-S-25T0-3B | 20 | 17.0 | 171 | 110 | 56 | 30 | 25 | 3 |
| T21.000-S-25T0-3B | 21 | 17.0 | 171 | 110 | 56 | 30 | 25 | 3 |
| T22.000-S-25T0-3B | 22 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| T23.000-S-25T0-3B | 23 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| T24.000-S-25T0-3B | 24 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| T25.000-S-25T0-3B | 25 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| T26.000-S-25T0-4B | 26 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| T27.000-S-25T0-4B | 27 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| T28.000-S-25T0-4B | 28 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| T29.000-S-25T0-4B | 29 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| T30.000-S-25T0-4B | 30 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| T31.000-S-25T0-4B | 31 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| T32.000-S-25T0-4B | 32 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |



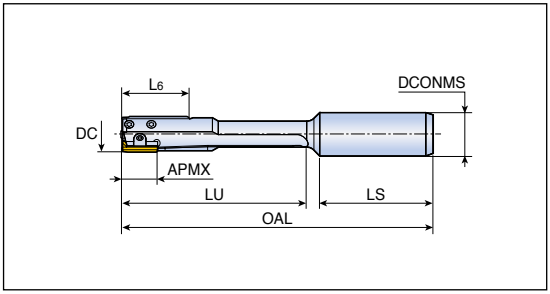

▸ SSC: Seat size code

▸ Available upon request

# TB-B...-T0

**Indexable reamer holders**






• For blind hole



| Designation | Dimension (mm) | | | | | | | SSC |
|---|---|---|---|---|---|---|---|---|
| | DC | APMX | OAL | LU | LS | L6 | DCONMS | |
| TB- B08.000-S-16T0-1B | 8 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 1 |
| B09.000-S-16T0-1B | 9 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 1 |
| B10.000-S-16T0-2B | 10 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 2 |
| B11.000-S-16T0-2B | 11 | 15.5 | 123.5 | 75 | 45 | 30 | 16 | 2 |
| B12.000-S-16T0-3B | 12 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| B13.000-S-16T0-3B | 13 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| B14.000-S-16T0-3B | 14 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| B15.000-S-16T0-3B | 15 | 17.0 | 135 | 85 | 45 | 30 | 16 | 3 |
| B16.000-S-20T0-3B | 16 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| B17.000-S-20T0-3B | 17 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| B18.000-S-20T0-3B | 18 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| B19.000-S-20T0-3B | 19 | 17.0 | 165 | 110 | 50 | 30 | 20 | 3 |
| B20.000-S-25T0-3B | 20 | 17.0 | 171 | 110 | 56 | 30 | 25 | 3 |
| B21.000-S-25T0-3B | 21 | 17.0 | 171 | 110 | 56 | 30 | 25 | 3 |
| B22.000-S-25T0-3B | 22 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| B23.000-S-25T0-3B | 23 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| B24.000-S-25T0-3B | 24 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| B25.000-S-25T0-3B | 25 | 17.0 | 191 | 130 | 56 | 30 | 25 | 3 |
| B26.000-S-25T0-4B | 26 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| B27.000-S-25T0-4B | 27 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| B28.000-S-25T0-4B | 28 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| B29.000-S-25T0-4B | 29 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| B30.000-S-25T0-4B | 30 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| B31.000-S-25T0-4B | 31 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |
| B32.000-S-25T0-4B | 32 | 22.5 | 221 | 160 | 56 | 30 | 25 | 4 |




▸ SSC: Seat size code

▸ Available upon request

## Indexable reamer holders

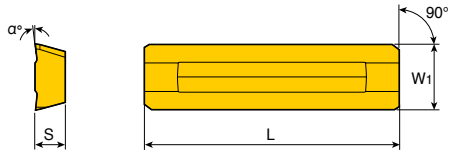
### Spare parts

| DC (mm) | Clamping wedge | Clamping screw | Adjustment screw | Adjustment pin | SSC |
|---|---|---|---|---|---|
| |  |  |  |  | |
| 8 | WDG-TB-1 | SR-CL-TB-1 | SR-ADJ-M3x2.5 | PIN-ADJ-TB-1 | 1 |
| 9 | WDG-TB-1 | SR-CL-TB-1 | SR-ADJ-M3x3 | PIN-ADJ-TB-1 | 1 |
| 10 | WDG-TB-1 | SR-CL-TB-2 | SR-ADJ-M3x3 | PIN-ADJ-TB-2 | 2 |
| 11 | WDG-TB-1 | SR-CL-TB-2 | SR-ADJ-M3x4 | PIN-ADJ-TB-2 | 2 |
| 12 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x4 | PIN-ADJ-TB-3 | 3 |
| 13 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x4 | PIN-ADJ-TB-3 | 3 |
| 14 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x4 | PIN-ADJ-TB-3 | 3 |
| 15 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x6 | PIN-ADJ-TB-3 | 3 |
| 16 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x6 | PIN-ADJ-TB-3 | 3 |
| 17 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x8 | PIN-ADJ-TB-3 | 3 |
| 18 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x8 | PIN-ADJ-TB-3 | 3 |
| 19 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x8 | PIN-ADJ-TB-3 | 3 |
| 20 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x10 | PIN-ADJ-TB-3 | 3 |
| 21 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x10 | PIN-ADJ-TB-3 | 3 |
| 22 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x10 | PIN-ADJ-TB-3 | 3 |
| 23 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x10 | PIN-ADJ-TB-3 | 3 |
| 24 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x10 | PIN-ADJ-TB-3 | 3 |
| 25 | WDG-TB-3 | SR-CL-TB-3 | SR-ADJ-M4x10 | PIN-ADJ-TB-3 | 3 |
| 26 | WDG-TB-4 | SR-CL-TB-4 | SR-ADJ-M4x10 | PIN-ADJ-TB-4 | 4 |
| 27 | WDG-TB-4 | SR-CL-TB-4 | SR-ADJ-M4x10 | PIN-ADJ-TB-4 | 4 |
| 28 | WDG-TB-4 | SR-CL-TB-4 | SR-ADJ-M4x10 | PIN-ADJ-TB-4 | 4 |
| 29 | WDG-TB-4 | SR-CL-TB-4 | SR-ADJ-M4x10 | PIN-ADJ-TB-4 | 4 |
| 30 | WDG-TB-4 | SR-CL-TB-4 | SR-ADJ-M4x10 | PIN-ADJ-TB-4 | 4 |
| 31 | WDG-TB-4 | SR-CL-TB-4 | SR-ADJ-M4x10 | PIN-ADJ-TB-4 | 4 |
| 32 | WDG-TB-4 | SR-CL-TB-4 | SR-ADJ-M4x10 | PIN-ADJ-TB-4 | 4 |

▸ SSC: Seat size code

# TB Blade

## Indexable blades




• For H6 hole tolerance

| Insert | Designation | Dimension (mm) | | | | SSC | Lead type | Grades | |
|---|---|---|---|---|---|---|---|---|---|
| | | Rake angle (α°) | L | W1 | S | | | TT5030 | TT5050 |
|  | TB- 1B06 | 6 | 15.5 | 2.8 | 1.5 | 1 | B | ● | |
| | 1B12 | 12 | 15.5 | 2.8 | 1.5 | 1 | B | ● | |
| | 1A06 | 6 | 15.5 | 2.8 | 1.5 | 1 | A | | ● |
| | 1B06 | 6 | 15.5 | 2.8 | 1.5 | 1 | B | | ● |
| | 2B06 | 6 | 15.5 | 3.6 | 1.5 | 2 | B | ● | |
| | 2B12 | 12 | 15.5 | 3.6 | 1.5 | 2 | B | ● | |
| | 2A06 | 6 | 15.5 | 3.6 | 1.5 | 2 | A | | ● |
| | 2B06 | 6 | 15.5 | 3.6 | 1.5 | 2 | B | | ● |
| | 3B06 | 6 | 17.0 | 4.4 | 2.0 | 3 | B | ● | |
| | 3B12 | 12 | 17.0 | 4.4 | 2.0 | 3 | B | ● | |
| | 3A06 | 6 | 17.0 | 4.4 | 2.0 | 3 | A | | ● |
| | 3B06 | 6 | 17.0 | 4.4 | 2.0 | 3 | B | | ● |
| | 4B06 | 6 | 22.5 | 6.6 | 3.0 | 4 | B | ● | |
| | 4B12 | 12 | 22.5 | 6.6 | 3.0 | 4 | B | ● | |
| | 4A06 | 6 | 22.5 | 6.6 | 3.0 | 4 | A | | ● |
| | 4B06 | 6 | 22.5 | 6.6 | 3.0 | 4 | B | | ● |

D118-119

▸ Grades application
-TT5030: TiAlN coating for steel(P) and stainless steel(M)
-TT5050: TiCN + TiN coating for cast iron(K)

●: Standard items

▸ SSC: Seat size code

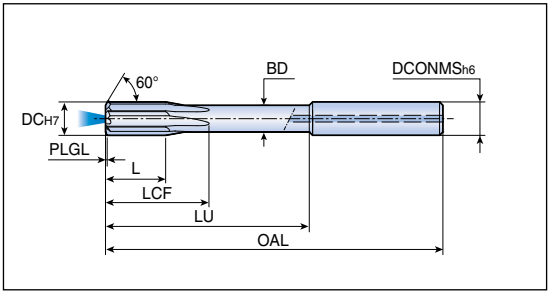
# TS-S...-NS

**Solid reamers for blind hole**



• Straight flute - DIN1420






| Designation | Dimension (mm) | | | | | | | | NOF | Grade |
|---|---|---|---|---|---|---|---|---|---|---|
| | DC | L | PLGL | LCF | BD | LU | OAL | DCONMS | | TT5040 |
| TS- S0300-NS * | 3.0 | 12 | 0.25 | 21 | 2.4 | 31 | 60 | 4.0 | 4 | ● |
| S0400-NS | 4.0 | 12 | 0.3 | 17 | 3.4 | 40 | 68 | 6.0 | 4 | ● |
| S0500-NS | 5.0 | 12 | 0.3 | 17 | 3.8 | 40 | 76 | 6.0 | 4 | ● |
| S0600-NS | 6.0 | 12 | 0.3 | 17 | 4.5 | 40 | 76 | 6.0 | 4 | ● |
| S0700-NS | 7.0 | 15 | 0.4 | 20 | 5.6 | 65 | 101 | 8.0 | 6 | ● |
| S0800-NS | 8.0 | 15 | 0.4 | 20 | 6.4 | 65 | 101 | 8.0 | 6 | ● |
| S0900-NS | 9.0 | 18 | 0.4 | 23 | 7.2 | 61 | 101 | 10.0 | 6 | ● |
| S1000-NS | 10.0 | 18 | 0.5 | 23 | 8.0 | 61 | 101 | 10.0 | 6 | ● |
| S1050-NS | 10.5 | 18 | 0.5 | 23 | 8.4 | 85 | 130 | 12.0 | 6 | ● |
| S1100-NS | 11.0 | 18 | 0.5 | 23 | 8.8 | 85 | 130 | 12.0 | 6 | ● |
| S1150-NS | 11.5 | 18 | 0.5 | 23 | 9.2 | 85 | 130 | 12.0 | 6 | ● |
| S1200-NS | 12.0 | 18 | 0.5 | 23 | 9.6 | 85 | 130 | 12.0 | 6 | ● |

Cutting Condition D270

- Special diameters are available on request
- NOF: Number of flutes
- *: Ø3 reamer does not include a coolant hole

●: Standard items

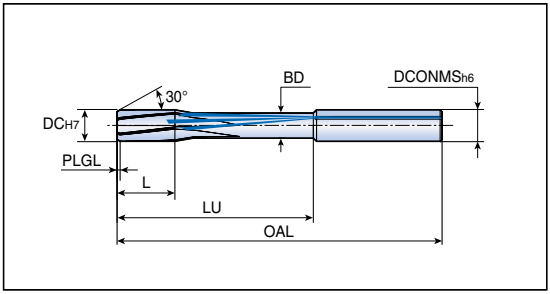
# TS-L...-NS

**Solid reamers for through hole**



• Left flute - DIN1420






| Designation | Dimension (mm) | | | | | | | NOF | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DC | L | PLGL | BD | LU | OAL | DCONMS | | TT5040 |
| **TS-L0300-NS *** | 3.0 | 12 | 0.7 | 2.2 | 31 | 60 | 4.0 | 4 | ● |
| **L0400-NS** | 4.0 | 12 | 0.7 | 3.0 | 40 | 68 | 6.0 | 4 | ● |
| **L0500-NS** | 5.0 | 12 | 0.9 | 3.8 | 40 | 76 | 6.0 | 4 | ● |
| **L0600-NS** | 6.0 | 12 | 0.9 | 4.5 | 40 | 76 | 6.0 | 4 | ● |
| **L0700-NS** | 7.0 | 15 | 0.9 | 5.6 | 65 | 101 | 8.0 | 6 | ● |
| **L0800-NS** | 8.0 | 15 | 0.9 | 6.4 | 65 | 101 | 8.0 | 6 | ● |
| **L0900-NS** | 9.0 | 18 | 0.95 | 7.2 | 61 | 101 | 10.0 | 6 | ● |
| **L1000-NS** | 10.0 | 18 | 0.95 | 8.0 | 61 | 101 | 10.0 | 6 | ● |
| **L1050-NS** | 10.5 | 18 | 1.05 | 8.4 | 85 | 130 | 12.0 | 6 | ● |
| **L1100-NS** | 11.0 | 18 | 1.05 | 8.8 | 85 | 130 | 12.0 | 6 | ● |
| **L1150-NS** | 11.5 | 18 | 1.05 | 9.2 | 85 | 130 | 12.0 | 6 | ● |
| **L1200-NS** | 12.0 | 18 | 1.05 | 9.6 | 85 | 130 | 12.0 | 6 | ● |

Cutting Condition D270

- Special diameters are available on request
- NOF: Number of flutes
- *: Ø3 reamer does not include a coolant hole

●: Standard items

# Deep Drilling Tools



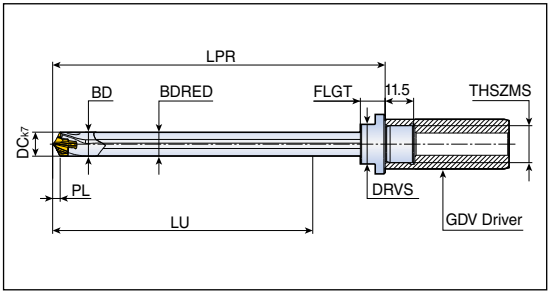
# TCDGN

**DRILL-RUSH head-changeable and modular shank gundrill holders**



• Drilling depth: 16-20xdiameter





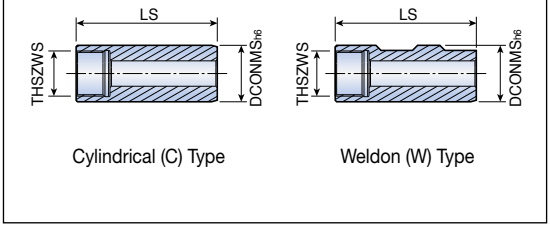

| Designation | | Dimension (mm) | | | | | | | | | | Clamping Key |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DC | LU | LPR | PL | THSZMS | BD | BDRED | FLGT | DRVS | SSC | |
| **TCDGN** | **100X200-MF16X1** | 10.0-10.4 | 200 | 274 | 2.33 | MF16X1 | 9.7 | 9.6 | 10 | 16 | 10 | K TCD D100-D199 |
| | **100X400-MF16X1** | 10.0-10.4 | 400 | 474 | 2.33 | MF16X1 | 9.7 | 9.6 | 10 | 16 | 10 | |
| | **110X200-MF16X1** | 11.0-11.4 | 200 | 275 | 2.50 | MF16X1 | 10.7 | 10.6 | 10 | 16 | 11 | |
| | **110X400-MF16X1** | 11.0-11.4 | 400 | 474 | 2.50 | MF16X1 | 10.7 | 10.6 | 10 | 16 | 11 | |
| | **120X200-MF16X1** | 12.0-12.4 | 200 | 275 | 2.67 | MF16X1 | 11.7 | 11.6 | 10 | 16 | 12 | |
| | **120X400-MF16X1** | 12.0-12.4 | 400 | 475 | 2.67 | MF16X1 | 11.7 | 11.6 | 10 | 16 | 12 | |
| | **130X200-MF16X1** | 13.0-13.4 | 200 | 276 | 2.85 | MF16X1 | 12.7 | 12.6 | 12 | 16 | 13 | |
| | **130X400-MF16X1** | 13.0-13.4 | 400 | 476 | 2.85 | MF16X1 | 12.7 | 12.6 | 12 | 16 | 13 | |
| | **140X250-MF16X1** | 14.0-14.4 | 250 | 326 | 3.02 | MF16X1 | 13.7 | 13.6 | 12 | 16 | 14 | |
| | **140X400-MF16X1** | 14.0-14.4 | 400 | 476 | 3.02 | MF16X1 | 13.7 | 13.6 | 12 | 16 | 14 | |
| | **145X250-MF16X1** | 14.5-14.9 | 250 | 326 | 3.02 | MF16X1 | 14.2 | 14.1 | 12 | 18 | 14 | |
| | **145X400-MF16X1** | 14.5-14.9 | 400 | 476 | 3.02 | MF16X1 | 14.2 | 14.1 | 12 | 18 | 14 | |
| | **150X400-MF16X1** | 15.0-15.9 | 400 | 484 | 3.19 | MF16X1 | 14.7 | 14.6 | 12 | 18 | 15 | |
| | **160X400-MF20X1** | 16.0-16.9 | 400 | 484 | 3.46 | MF20X1 | 15.5 | 15.4 | 12 | 18 | 16 | |
| | **170X400-MF20X1** | 17.0-17.9 | 400 | 485 | 3.63 | MF20X1 | 16.5 | 16.4 | 12 | 22 | 17 | |
| | **180X400-MF20X1** | 18.0-18.9 | 400 | 486 | 3.81 | MF20X1 | 17.5 | 17.4 | 12 | 22 | 18 | |
| | **190X400-MF20X1** | 19.0-19.9 | 400 | 486 | 3.98 | MF20X1 | 18.5 | 18.4 | 12 | 22 | 19 | |
| | **200X400-MF20X1** | 20.0-20.9 | 400 | 487 | 4.15 | MF20X1 | 19.5 | 19.4 | 12 | 22 | 20 | K TCD D200-D269 |
| | **210X400-MF20X1** | 21.0-21.9 | 400 | 503 | 4.32 | MF20X1 | 20.5 | 20.4 | 21 | 28 | 21 | |
| | **220X400-MF20X1** | 22.0-22.9 | 400 | 504 | 4.50 | MF20X1 | 21.5 | 21.4 | 21 | 28 | 22 | |
| | **230X400-MF20X1** | 23.0-23.9 | 400 | 504 | 4.67 | MF20X1 | 22.5 | 22.4 | 21 | 28 | 23 | |
| | **240X400-MF20X1** | 24.0-24.9 | 400 | 505 | 4.84 | MF20X1 | 23.5 | 23.4 | 21 | 28 | 24 | |
| | **250X400-MF20X1** | 25.0-25.9 | 400 | 506 | 5.01 | MF20X1 | 24.5 | 24.4 | 21 | 28 | 25 | |

Assembly D126
D189-D202
Cutting Condition D258

- OAL: LPR+11.5
- Driver is sold separately from drill holder
- SSC: Seat size code

## TCDGN holder drivers






| Designation | | Dimension (mm) | | | | Shank |
|---|---|---|---|---|---|---|
| | | DC | THSZMS | DCONMS | LS | |
| GDV | 10-MF16X1-M-C20-T | 10.0-15.9 | MF16X1 | 20 | 50 | C |
| | 11-MF20X1-M-C25-T | 16.0-25.9 | MF20X1 | 25 | 56 | C |
| | 22-MF16X1-M-W20-T | 10.0-15.9 | MF16X1 | 20 | 50 | W |
| | 23-MF20X1-M-W25-T | 16.0-25.9 | MF20X1 | 25 | 56 | W |

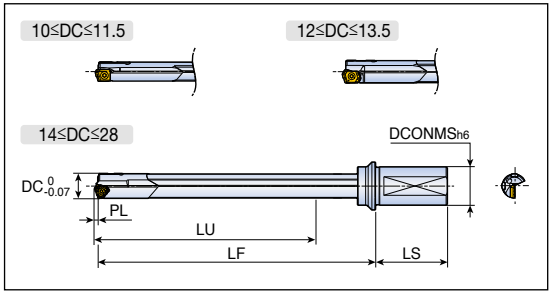
# TRGD

**Standard gundrill holders**



• Drilling depth: 10-25xdiameter






| Designation | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|
| | DC | LU | LF | LS | DCONMS | PL | L/D |
| **TRGD 16.00xM25-10** | 16.0 | 172 | 209 | 56 | 25 | 2.2 | 10 |
| **16.50xM25-10** | 16.5 | 172 | 209 | 56 | 25 | 2.2 | 10 |
| **17.00xM25-10** | 17.0 | 182 | 220 | 56 | 25 | 2.2 | 10 |
| **18.00xM25-10** | 18.0 | 193 | 232 | 56 | 25 | 3.0 | 10 |
| **19.00xM25-10** | 19.0 | 203 | 243 | 56 | 25 | 3.0 | 10 |
| **20.00xM32-10** | 20.0 | 213 | 255 | 60 | 32 | 3.2 | 10 |
| **29.00xFM40-10** | 29.0 | 294.6 | 360 | 69 | 40 | 4.57 | 10 |
| **30.00xFM40-10** | 30.0 | 314.6 | 383 | 69 | 40 | 4.57 | 10 |
| **31.00xFM40-10** | 31.0 | 314.6 | 383 | 69 | 40 | 4.57 | 10 |
| **32.00xFM40-10** | 33.0 | 324.6 | 395 | 69 | 40 | 4.57 | 10 |
| **12.00XM20-15** | 12.0 | 196.8 | 225 | 50 | 20 | 1.8 | 15 |
| **12.50XM20-15** | 12.5 | 196.8 | 226 | 50 | 20 | 1.8 | 15 |
| **13.00XM25-15** | 13.0 | 211.8 | 245 | 56 | 25 | 1.8 | 15 |
| **13.50XM25-15** | 13.5 | 211.8 | 245 | 56 | 25 | 1.8 | 15 |
| **14.00xM25-15** | 14.0 | 227 | 261 | 56 | 25 | 2.0 | 15 |
| **14.50xM25-15** | 14.5 | 227 | 262 | 56 | 25 | 2.0 | 15 |
| **15.00xM25-15** | 15.0 | 242 | 278 | 56 | 25 | 2.0 | 15 |
| **16.00xM25-15** | 16.0 | 257 | 294 | 56 | 25 | 2.2 | 15 |
| **16.50xM25-15** | 16.5 | 257 | 294 | 56 | 25 | 2.2 | 15 |
| **17.00xM25-15** | 17.0 | 272 | 310 | 56 | 25 | 2.2 | 15 |
| **17.50xM25-15** | 17.5 | 272 | 310 | 56 | 25 | 2.2 | 15 |
| **18.00xM25-15** | 18.0 | 288 | 327 | 56 | 25 | 3.0 | 15 |
| **18.50xM25-15** | 18.5 | 288 | 327 | 56 | 25 | 3.0 | 15 |
| **19.00xM25-15** | 19.0 | 303 | 343 | 56 | 25 | 3.0 | 15 |
| **19.50xM25-15** | 19.5 | 303 | 343 | 56 | 25 | 3.0 | 15 |
| **20.00xM32-15** | 20.0 | 318 | 360 | 60 | 32 | 3.2 | 15 |
| **21.00xM32-15** | 21.0 | 333 | 376 | 60 | 32 | 3.2 | 15 |
| **22.00xM32-15** | 22.0 | 348 | 393 | 60 | 32 | 3.4 | 15 |
| **23.00xM32-15** | 23.0 | 363 | 409 | 60 | 32 | 3.4 | 15 |
| **24.00xM32-15** | 24.0 | 378 | 426 | 60 | 32 | 3.4 | 15 |
| **25.00xM32-15** | 25.0 | 394 | 442 | 60 | 32 | 3.6 | 15 |
| **26.00xM40-15** | 26.0 | 409 | 449 | 70 | 40 | 3.6 | 15 |
| **27.00xM40-15** | 27.0 | 424 | 465 | 70 | 40 | 3.6 | 15 |
| **28.00xM40-15** | 28.0 | 424 | 467 | 70 | 40 | 3.6 | 15 |

Assembly D129 | Cutting Condition D260

▸ Guide pad is sold separately from drill body

▸ Available upon request

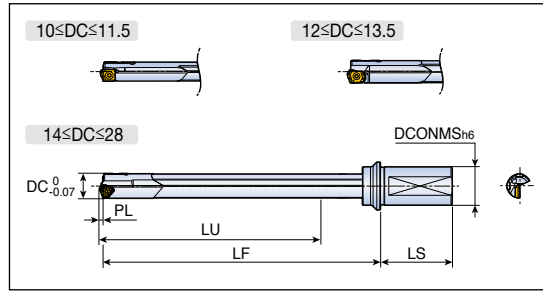
# TRGD

## Standard gundrill holders



• Drilling depth: 10-25xdiameter






| Designation | | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | DC | LU | LF | LS | DCONMS | PL | L/D |
| **TRGD** | **12.00XM20-20** | 12.0 | 261.8 | 290 | 50 | 20 | 1.8 | 20 |
| | **12.50XM20-20** | 12.5 | 261.8 | 291 | 50 | 20 | 1.8 | 20 |
| | **13.00XM25-20** | 13.0 | 281.8 | 315 | 56 | 25 | 1.8 | 20 |
| | **13.50XM25-20** | 13.5 | 281.8 | 315 | 56 | 25 | 1.8 | 20 |
| | **14.00xM25-20** | 14.0 | 302 | 336 | 56 | 25 | 2.0 | 20 |
| | **14.50xM25-20** | 14.5 | 302 | 337 | 56 | 25 | 2.0 | 20 |
| | **15.00xM25-20** | 15.0 | 322 | 358 | 56 | 25 | 2.0 | 20 |
| | **29.00xFM40-20** | 29.0 | 584.6 | 650 | 69 | 40 | 4.57 | 20 |
| | **30.00xFM40-20** | 30.0 | 624.6 | 693 | 69 | 40 | 4.57 | 20 |
| | **31.00xFM40-20** | 31.0 | 624.6 | 693 | 69 | 40 | 4.57 | 20 |
| | **32.00xFM40-20** | 32.0 | 644.6 | 715 | 69 | 40 | 4.57 | 20 |
| | **10.00XM20-25** | 10.0 | 264.5 | 289.5 | 50 | 20 | 1.8 | 25 |
| | **11.00XM20-25** | 11.0 | 301.7 | 329 | 50 | 20 | 1.8 | 25 |
| | **11.50XM20-25** | 11.5 | 301.7 | 329 | 50 | 20 | 1.8 | 25 |
| | **12.00XM20-25** | 12.0 | 326.8 | 355 | 50 | 20 | 1.8 | 25 |
| | **12.50XM20-25** | 12.5 | 326.8 | 356 | 50 | 20 | 1.8 | 25 |
| | **13.00XM25-25** | 13.0 | 351.8 | 385 | 56 | 25 | 1.8 | 25 |
| | **13.50XM25-25** | 13.5 | 351.8 | 385 | 56 | 25 | 1.8 | 25 |
| | **14.00xM25-25** | 14.0 | 377 | 411 | 56 | 25 | 2.0 | 25 |
| | **14.50xM25-25** | 14.5 | 377 | 412 | 56 | 25 | 2.0 | 25 |
| | **15.00xM25-25** | 15.0 | 402 | 438 | 56 | 25 | 2.0 | 25 |
| | **16.00xM25-25** | 16.0 | 427 | 464 | 56 | 25 | 2.2 | 25 |
| | **16.50xM25-25** | 16.5 | 427 | 464 | 56 | 25 | 2.2 | 25 |
| | **17.00xM25-25** | 17.0 | 452 | 490 | 56 | 25 | 2.2 | 25 |
| | **17.50xM25-25** | 17.5 | 452 | 490 | 56 | 25 | 2.2 | 25 |
| | **18.00xM25-25** | 18.0 | 478 | 517 | 56 | 25 | 3.0 | 25 |
| | **18.50xM25-25** | 18.5 | 478 | 517 | 56 | 25 | 3.0 | 25 |
| | **19.00xM25-25** | 19.0 | 503 | 543 | 56 | 25 | 3.0 | 25 |
| | **19.50xM25-25** | 19.5 | 503 | 543 | 56 | 25 | 3.0 | 25 |
| | **20.00xM32-25** | 20.0 | 528 | 570 | 60 | 32 | 3.2 | 25 |
| | **21.00xM32-25** | 21.0 | 553 | 596 | 60 | 32 | 3.2 | 25 |
| | **22.00xM32-25** | 22.0 | 578 | 623 | 60 | 32 | 3.4 | 25 |
| | **23.00xM32-25** | 23.0 | 603 | 649 | 60 | 32 | 3.4 | 25 |
| | **24.00xM32-25** | 24.0 | 628 | 676 | 60 | 32 | 3.4 | 25 |
| | **25.00xM32-25** | 25.0 | 654 | 702 | 60 | 32 | 3.6 | 25 |

Assembly D129 | Cutting Condition D260

▸ Guide pad is sold separately from drill body

▸ Available upon request



ADVANCE CUTTING TaeguTec

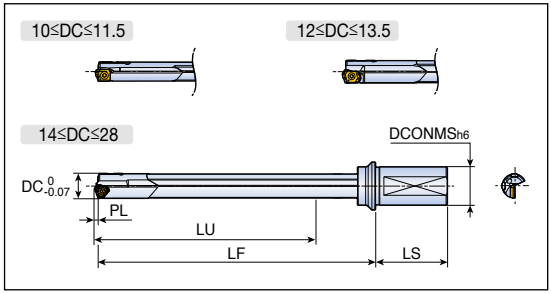
# TRGD

## Standard gundrill holders



• Drilling depth: 10-25xdiameter






| Designation | | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | DC | LU | LF | LS | DCONMS | PL | L/D |
| **TRGD** | **26.00xM40-25** | 26.0 | 679 | 729 | 70 | 40 | 3.6 | 25 |
| | **27.00xM40-25** | 27.0 | 704 | 755 | 70 | 40 | 3.6 | 25 |
| | **28.00xM40-25** | 28.0 | 704 | 757 | 70 | 40 | 3.6 | 25 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

## Insert & guide pad

| Tool dia. (mm) | Insert | | | Guide pad | | |
|---|---|---|---|---|---|---|
| | Insert | Screw | Wrench | Guide pad | Screw | Wrench |
| 10.00-10.99 | ZSGT 060204R-RS | SR-M2.5X0.35L3.8 | T-7F | PAD-GP04-16-045-DC-SB | CSTB-2 | T-6F |
| 11.00-11.99 | LOGT 060204R-RS | SR 10503833L040 | T-7F | PAD-GP04-16-050-DC-SB | CSTB-2 | T-6F |
| 12.00-13.99 | | | | PAD-GP04-16-055-DC-SB | TS 20043I/HG-P | IP-6F |
| 12.00-13.99 | | | | PAD-GP04-16-055-DC-SC | | |
| 14.00-15.99 | TOGT 070304 RS TT9030 | CSTB2.5S* | T-8F | PAD-GP05-18-060-DC-SB<br>PAD-GP05-18-060-DC-SC | SR 34-508 | T-7F |
| 16.00-18.00 | TOGT 080305 RS TT9030 | CSTB2.5S* | T-8F | PAD-GP05-18-075-DC-SB<br>PAD-GP05-18-075-DC-SC | SR 34-508 | T-7F |
| 18.01-20.00 | TOGT 090305 RS TT9030 | CSTB2.5S* | T-8F | PAD-GP06-20-085-DC-SB<br>PAD-GP06-20-085-DC-SC | SR 34-508 | T-7F |
| 20.01-21.00 | TOGT 100305 RS TT9030 | CSTB3S* | T-9F | | | |
| 21.01-21.99 | TOGT 100305 RS TT9030 | CSTB3S* | T-9F | PAD-GP06-20-100-DC-SB<br>PAD-GP06-20-100-DC-SC | SR 34-508 | T-7F |
| 22.00-25.00 | TOGT 110405 RS TT9030 | SR14-571/S | T-10/5 | | | |
| 25.01-28.00 | TOGT 120405 RS TT9030 | CSTB4S | T-15F | PAD-GP06-20-120-DC-SB<br>PAD-GP06-20-120-DC-SC | SR 34-508 | T-7F |
| 28.01-29.99 | TOGT 130408 RS | SR 16-212/L10 | T-20/5 | PAD-GP06-20-120-DC-SB<br>PAD-GP06-20-120-DC-SC | SR 34-508 | T-7F |
| 30.00-32.00 | TOGT 130408 RS | SR 16-212/L10 | T-20/5 | PAD-GP07-20-120-DC-SB<br>PAD-GP07-20-120-DC-SC | CSTB-3S | T-9F |

D217-D218 | Guide Pad D222 | Cutting Condition D260

- Guide pad with "SB" is the first choice in general purpose machining "SC" is a excellent toughness grade used with water-soluble coolant
- Inserts and guide pads must be ordered separately

# TRGD3

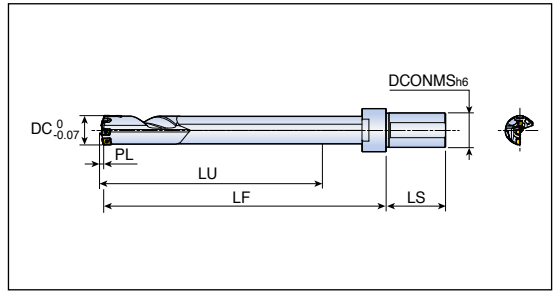
## Standard gundrill holders





• Drilling depth: 10-15xdiameter






| Designation | Dimension (mm) | | | | | | |
|---|---|---|---|---|---|---|---|
| | DC | LU | LF | LS | DCONMS | PL | L/D |
| **TRGD3 29.00xFM40-10** | 29.0 | 293 | 360 | 69 | 40 | 2.6 | 10 |
| **30.00xFM40-10** | 30.0 | 313 | 383 | 69 | 40 | 2.9 | 10 |
| **31.00xFM40-10** | 31.0 | 313 | 383 | 69 | 40 | 2.9 | 10 |
| **32.00xFM40-10** | 32.0 | 323 | 395 | 69 | 40 | 3.0 | 10 |
| **33.00xFM40-10** | 33.0 | 333 | 406 | 69 | 40 | 3.1 | 10 |
| **34.00xFM40-10** | 34.0 | 343 | 418 | 69 | 40 | 3.0 | 10 |
| **35.00xFM40-10** | 35.0 | 353 | 428 | 69 | 40 | 3.1 | 10 |
| **36.00xFM40-10** | 36.0 | 363 | 441 | 69 | 40 | 3.1 | 10 |
| **29.00xFM40-15** | 29.0 | 438 | 505 | 69 | 40 | 2.6 | 15 |
| **30.00xFM40-15** | 30.0 | 468 | 538 | 69 | 40 | 2.9 | 15 |
| **31.00xFM40-15** | 31.0 | 468 | 538 | 69 | 40 | 2.9 | 15 |
| **32.00xFM40-15** | 32.0 | 483 | 555 | 69 | 40 | 3.0 | 15 |
| **33.00xFM40-15** | 33.0 | 498 | 571 | 69 | 40 | 3.1 | 15 |
| **34.00xFM40-15** | 34.0 | 513 | 588 | 69 | 40 | 3.0 | 15 |
| **35.00xFM40-15** | 35.0 | 528 | 603 | 69 | 40 | 3.1 | 15 |
| **36.00xFM40-15** | 36.0 | 543 | 621 | 69 | 40 | 3.1 | 15 |

▸ Guide pad is sold separately from drill body.
▸ Supply up to 40.0mm drill daimeter

▸ Available upon request

## Insert & guide pad

| Parts | | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 29.0-29.99 | 30.0-33.0 | 33.01-35.0 | 35.01-36.0 |
| Insert | Peripheral insert | NPHT 060304R-G-P | NPHT 080404R-G-P | NPHT 080404R-G-P | NPHT 080404R-G-P |
| | Screw | CSTB2.2 | CSTB2.5 | CSTB2.5 | CSTB2.5 |
| | Wrench | T-7F | T-8F | T-8F | T-8F |
| | Inner insert | NPMT 060304R-G-I | NPMT 070404R-G-I | NPMT 070404R-G-I | NPMT 070404R-G-I |
| | Screw | CSTB2.2 | CSTB2.5 | CSTB2.5 | CSTB2.5 |
| | Wrench | T-7F | T-8F | T-8F | T-8F |
| | Center insert | NPMT 070408L-G-C | NPMT 070408L-G-C | NPMT 070408L-G-C | NPMT 080408L-L-C |
| | Screw | CSTB2.5 | CSTB2.5 | CSTB2.5 | CSTB2.5 |
| | Wrench | T-8F | T-8F | T-8F | T-8F |
| Pad | Guide pad | PAD-GP06-20-120-DC-SB | PAD-GP06-20-120-DC-SB | PAD-GP07-20-120-DC-SB | PAD-GP07-20-120-DC-SB |
| | | PAD-GP06-20-120-DC-SC | PAD-GP06-20-120-DC-SC | PAD-GP07-20-120-DC-SC | PAD-GP07-20-120-DC-SC |
| | Screw | SR 34-508 | SR 34-508 | CSTB3S | CSTB3S |
| | Wrench | T-7F | T-7F | T-9F | T-9F |

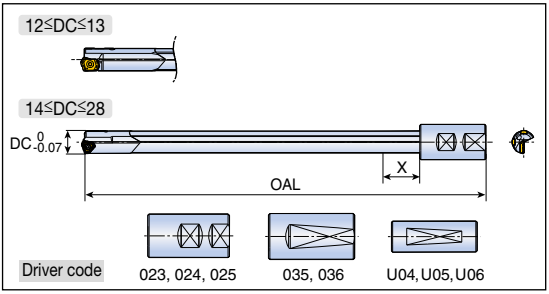
D213-D215 | Guide Pad D222 | Cutting Condition D260

▸ Inserts and guide pads must be ordered separately

# TRGDL

## Standard gundrill holders






| | Designation | Driver code | Dimension (mm) | | |
|---|---|---|---|---|---|
| | | | DC | OAL | X |
| **TRGDL** | **12.00X800-XXX** | U03<br>022 | 12 | 801.8 | 18 |
| | **12.00X800-XXX** | | 12 | 801.8 | 18 |
| | **12.00X1000-XXX** | | 12 | 1001.8 | 18 |
| | **12.00X1000-XXX** | | 12 | 1001.8 | 18 |
| | **12.00X1650-XXX** | | 12 | 1651.8 | 18 |
| | **12.00X1650-XXX** | | 12 | 1651.8 | 18 |
| | **12.70X1219-XXX** | U04 | 12.7 | 1220.8 | 19 |
| | **12.70X1524-XXX** | | 12.7 | 1525.8 | 19 |
| | **13.00X800-XXX** | U04<br>023 | 13 | 801.8 | 20 |
| | **13.00X800-XXX** | | 13 | 801.8 | 20 |
| | **13.00X1000-XXX** | | 13 | 1001.8 | 20 |
| | **13.00X1000-XXX** | | 13 | 1001.8 | 20 |
| | **13.00X1650-XXX** | | 13 | 1651.8 | 20 |
| | **13.00X1650-XXX** | | 13 | 1651.8 | 20 |
| | **13.49X1219-XXX** | U04 | 13.49 | 1220.8 | 20 |
| | **13.49X1527-XXX** | | 13.49 | 1528.8 | 20 |
| | **14.00x800-XXX** | U04<br>023 | 14 | 800 | 21 |
| | **14.00x1000-XXX** | | 14 | 1000 | 21 |
| | **14.00x1650-XXX** | | 14 | 1650 | 21 |
| | **14.50x800-XXX** | | 14.5 | 800 | 22 |
| | **14.50x1000-XXX** | | 14.5 | 1000 | 22 |
| | **14.50x1650-XXX** | | 14.5 | 1650 | 22 |
| | **15.00x800-XXX** | | 15 | 800 | 23 |
| | **15.00x1000-XXX** | | 15 | 1000 | 23 |
| | **15.00x1650-XXX** | | 15 | 1650 | 23 |
| | **16.00x800-XXX** | U04<br>023<br>035 | 16 | 800 | 24 |
| | **16.00x1000-XXX** | | 16 | 1000 | 24 |
| | **16.00x1500-XXX** | | 16 | 1500 | 24 |
| | **17.00x1000-XXX** | | 17 | 1000 | 25 |
| | **17.00x1500-XXX** | | 17 | 1500 | 25 |
| | **18.00x800-XXX** | | 18 | 800 | 27 |
| | **18.00x1000-XXX** | | 18 | 1000 | 27 |
| | **18.00x1500-XXX** | | 18 | 1500 | 27 |
| | **19.00x800-XXX** | | 19 | 800 | 28 |
| | **19.00x1000-XXX** | | 19 | 1000 | 28 |
| | **19.00x1500-XXX** | | 19 | 1500 | 28 |

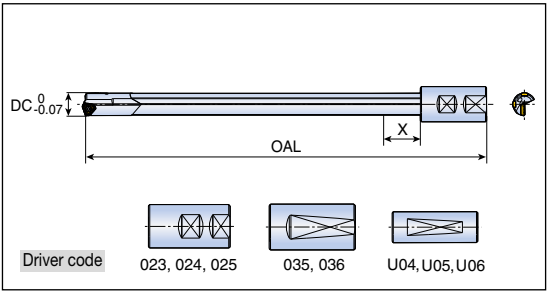
Assembly D133
Cutting Condition D260

- Guide pad is sold separately from drill body
- Available upon request
- Select "XXX" driver code

# TRGDL

## Standard gundrill holders








| Designation | Driver code | Dimension (mm) | | |
|---|---|---|---|---|
| | | DC | OAL | X |
| **TRGDL 20.00x800-XXX** | U05<br>024<br>036 | 20 | 800 | 30 |
| **20.00x1000-XXX** | | 20 | 1000 | 30 |
| **20.00x1500-XXX** | | 20 | 1500 | 30 |
| **21.00x1000-XXX** | | 21 | 1000 | 31 |
| **21.00x1500-XXX** | | 21 | 1500 | 31 |
| **22.00x1000-XXX** | | 22 | 1000 | 33 |
| **22.00x1500-XXX** | | 22 | 1500 | 33 |
| **23.00x1000-XXX** | | 23 | 1000 | 34 |
| **23.00x1500-XXX** | | 23 | 1500 | 34 |
| **24.00x1000-XXX** | | 24 | 1000 | 36 |
| **24.00x1500-XXX** | | 24 | 1500 | 36 |
| **25.00x1000-XXX** | | 25 | 1000 | 37 |
| **25.00x1500-XXX** | | 25 | 1500 | 37 |
| **26.00x1000-XXX** | U06<br>025<br>026<br>036 | 26 | 1000 | 39 |
| **26.00x1500-XXX** | | 26 | 1500 | 39 |
| **27.00x1000-XXX** | | 27 | 1000 | 40 |
| **27.00x1500-XXX** | | 27 | 1500 | 40 |
| **28.00x1000-XXX** | | 28 | 1000 | 42 |
| **28.00x1500-XXX** | | 28 | 1500 | 42 |

Assembly D133 | Cutting Condition D260

- Guide pad is sold separately from drill body
- Available upon request
- Select "XXX" driver code

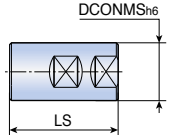
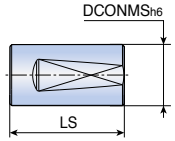
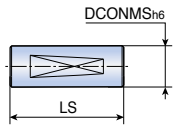
## Insert & guide pad

| Tool dia. (mm) | Insert | | | Guide pad | | |
|---|---|---|---|---|---|---|
| | Insert | Screw | Wrench | Guide pad | Screw | Wrench |
| 12.00-13.99 | LOGT 060204R-RS | SR 10503833L040 | T-7F | PAD-GP04-16-055-DC-SB<br>PAD-GP04-16-055-DC-SC | TS 20043I/HG-P | T-7F |
| 14.00-15.99 | TOGT 070304 RS TT9030 | CSTB2.5S | T-8F | PAD-GP05-18-060-DC-SB<br>PAD-GP05-18-060-DC-SC | SR 34-508 | T-7F |
| 16.00-18.00 | TOGT 080305 RS TT9030 | CSTB2.5S | T-8F | PAD-GP05-18-075-DC-SB<br>PAD-GP05-18-075-DC-SC | SR 34-508 | T-7F |
| 18.01-20.00 | TOGT 090305 RS TT9030 | CSTB2.5S* | T-8F | PAD-GP06-20-085-DC-SB<br>PAD-GP06-20-085-DC-SC | SR 34-508 | T-7F |
| 20.01-21.00 | TOGT 100305 RS TT9030 | CSTB3S* | T-9F | | | |
| 21.01-21.99 | TOGT 100305 RS TT9030 | CSTB3S* | T-9F | PAD-GP06-20-100-DC-SB<br>PAD-GP06-20-100-DC-SC | SR 34-508 | T-7F |
| 22.00-25.00 | TOGT 110405 RS TT9030 | SR14-571/S | T-10/5 | | | |
| 25.01-28.00 | TOGT 120405 RS TT9030 | CSTB4S | T-15F | PAD-GP07-20-120-DC-SB<br>PAD-GP07-20-120-DC-SC | SR 34-508 | T-7F |

D217-D218 Guide Pad D222 Cutting Condition D260

- Guide pad with "SB" is the first choice in general purpose machining "SC" is a excellent toughness grade used with water-soluble coolant
- Inserts and guide pads must be ordered separately

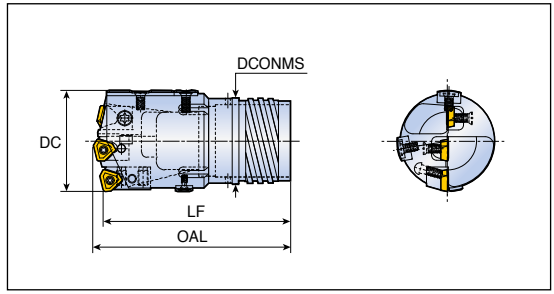
## Driver for TRGDL Type

| Driver | Driver code | Dimension (mm) | |
|---|---|---|---|
| | | LS | DCONMS |
|  | 022 | 50 | 20.00 |
| | 023 | 56 | 25.00 |
| | 024 | 60 | 32.00 |
| | 025 | 70 | 40.00 |
| | 026 | 80 | 50.00 |
|  | 035 | 56 | 25.00 |
| | 036 | 60 | 32.00 |
|  | U03 | 70 | 19.05 |
| | U04 | 70 | 25.40 |
| | U05 | 70 | 31.75 |
| | U06 | 70 | 38.10 |

# TBTA3...SE4

**Single tube system**






• Outer four start thread

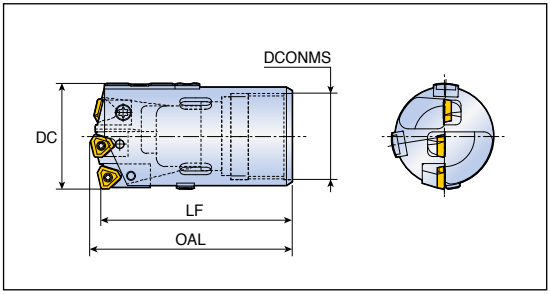
| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA3-xxx.xxSE4-33** | 38.00-39.60 | 85 | 90 | 30 | BTSI 033 | 33 |
| **xxx.xxSE4-36** | 39.61-43.00 | 85 | 91 | 33 | BTSI 036 | 36 |
| **xxx.xxSE4-39** | 43.01-47.00 | 95 | 101 | 36 | BTSI 039 | 39 |
| **xxx.xxSE4-43** | 47.01-51.70 | 95 | 102 | 39 | BTSI 043 | 43 |
| **xxx.xxSE4-47** | 51.71-56.20 | 100 | 107 | 43 | BTSI 047 | 47 |
| **xxx.xxSE4-51** | 56.21-60.60 | 110 | 118 | 47 | BTSI 051 | 51 |
| **xxx.xxSE4-56A** | 60.61-64.99 | 110 | 119 | 51 | BTSI 056A | 56 |
| **xxx.xxSE4-56B** | 65.00-66.99 | 150 | 159 | 52 | BTSI 056B | 56 |
| **xxx.xxSE4-62** | 67.00-72.99 | 150 | 159 | 58 | BTSI 062 | 62 |
| **xxx.xxSE4-68** | 73.00-79.99 | 150 | 160 | 63 | BTSI 068 | 68 |
| **xxx.xxSE4-75** | 80.00-86.99 | 180 | 191 | 70 | BTSI 075 | 75 |
| **xxx.xxSE4-82** | 87.00-99.99 | 180 | 193 | 77 | BTSI 082 | 82 |
| **xxx.xxSE4-94** | 100.00-106.99 | 180 | 193 | 89 | BTSI 094 | 94 |

Assembly D137 | Tube D170-D171 | Cutting Condition D252

# TBTA3...SI1

**Single tube system**






• Inner single start thread

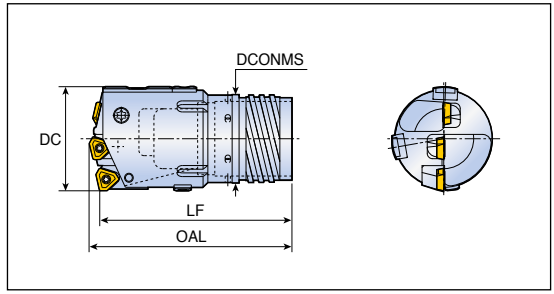
| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA3- xxx.xxSI1-33** | 38.00-39.99 | 80 | 85 | 30 | BTSE 033 | 33 |
| **xxx.xxSI1-36** | 40.00-43.99 | 80 | 86 | 33 | BTSE 036 | 36 |
| **xxx.xxSI1-39** | 44.00-46.99 | 90 | 96 | 37 | BTSE 039 | 39 |
| **xxx.xxSI1-43** | 47.00-51.99 | 90 | 97 | 41 | BTSE 043 | 43 |
| **xxx.xxSI1-47** | 52.00-56.99 | 100 | 107 | 44 | BTSE 047 | 47 |
| **xxx.xxSI1-51** | 57.00-60.99 | 110 | 118 | 49 | BTSE 051 | 51 |
| **xxx.xxSI1-56** | 61.00-67.99 | 110 | 119 | 53 | BTSE 056 | 56 |
| **xxx.xxSI1-62** | 68.00-74.99 | 120 | 129 | 59 | BTSE 062 | 62 |
| **xxx.xxSI1-68** | 75.00-80.99 | 150 | 161 | 65 | BTSE 068 | 68 |
| **xxx.xxSI1-75** | 81.00-90.99 | 150 | 162 | 71 | BTSE 075 | 75 |
| **xxx.xxSI1-82** | 91.00-98.99 | 150 | 162 | 79 | BTSE 082 | 82 |
| **xxx.xxSI1-94** | 99.00-106.99 | 150 | 163 | 90 | BTSE 094 | 94 |


Assembly D137 | Tube D172-D173 | Cutting Condition D252

# TBTA3...DE4

**Double tube system**






• Outer four start thread

| Designation | DC | Dimension (mm) | | | Tube | | |
|---|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Outer tube | Inner tube | Diameter (mm) |
| **TBTA3- xxx.xxDE4-35.5** | 38.00-39.60 | 85 | 90 | 33 | BTDO 035.5 | BTDI 026 | 35.5 |
| **xxx.xxDE4-39** | 39.61-43.00 | 85 | 91 | 36 | BTDO 039 | BTDI 029 | 39.0 |
| **xxx.xxDE4-42.5** | 43.01-47.00 | 95 | 101 | 39 | BTDO 042.5 | BTDI 032 | 42.5 |
| **xxx.xxDE4-46.5** | 47.01-51.70 | 100 | 102 | 43 | BTDO 046.5 | BTDI 035 | 46.5 |
| **xxx.xxDE4-51** | 51.71-56.20 | 100 | 107 | 47 | BTDO 051 | BTDI 039 | 51.0 |
| **xxx.xxDE4-55.5** | 56.21-65.00 | 110 | 119 | 51 | BTDO 055.5 | BTDI 043A | 55.5 |
| **xxx.xxDE4-56** | 65.00-66.99 | 150 | 159 | 52 | BTDO 056 | BTDI 043B | 56.0 |
| **xxx.xxDE4-62** | 67.00-72.99 | 150 | 159 | 58 | BTDO 062 | BTDI 048 | 62.0 |
| **xxx.xxDE4-68** | 73.00-79.99 | 150 | 160 | 63 | BTDO 068 | BTDI 053 | 68.0 |
| **xxx.xxDE4-75** | 80.00-86.99 | 180 | 191 | 70 | BTDO 075 | BTDI 059 | 75.0 |
| **xxx.xxDE4-82** | 87.00-99.99 | 180 | 193 | 77 | BTDO 082 | BTDI 066 | 82.0 |
| **xxx.xxDE4-94** | 100.00-106.99 | 180 | 193 | 89 | BTDO 094 | BTDI 078 | 94.0 |

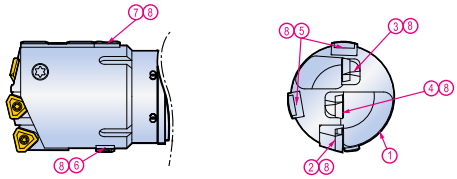
Assembly D137 | Tube D174-D175 | Cutting Condition D252



ADVANCE CUTTING TaeguTec

# TBTA3 Series

## Assembly of TBTA3 series



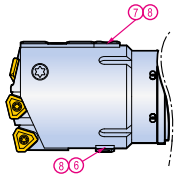
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw

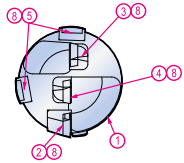
| | Parts | Diameter (mm) | | | | |
|---|---|---|---|---|---|---|
| | | 38.00-39.99 | 40.00-44.99 | 45.00-47.99 | 48.00-51.99 | 52.00-54.99 |
| Cartridge | Outer | PERC 05R | PERC 402-04 | PERC 402-04 | PERC 402-04 | PERC 402-32 |
| | Adjust screw | AS0003-5 | AS0004-8 | AS0004-8 | AS0004-8 | AS0005-10 |
| | Wrench | H1.5 | H2 | H2 | H2 | H2.5 |
| | Screw | LS1803RH | LS1803.5RH | LS1803.5RH | LS1803.5RH | LS1805RH |
| | Wrench | H2 | H2.5 | H2.5 | H2.5 | H3 |
| | Inner | CENC 05R | CENC 05R | CENC 05R | CENC 402-04 | CENC 402-04 |
| | Screw | CSTB3 | CSTB3 | CSTB3 | CSTB3.5 | CSTB3.5 |
| | Wrench | T-9D | T-9D | T-9D | T-15D | T-15D |
| | Center | CENC 05R | CENC 05R | CENC 402-04 | CENC 402-04 | CENC 402-04 |
| | Screw | CSTB3 | CSTB3 | CSTB3.5 | CSTB3.5 | CSTB3.5 |
| | Wrench | T-9D | T-9D | T-15D | T-15D | T-15D |
| Insert | Outer | NPMX 080308R-G | TPMX 140308R-G | TPMX 140308R-G | TPMX 140308R-G | TPMX 170408R-G |
| | Screw | CSTB2.2 | CSTB2.5 | CSTB2.5 | CSTB2.5 | CSTB3.5D |
| | Wrench | T-7D | T-8D | T-8D | T-8D | T-9D |
| | Inner | NPMX 080308R-G | NPMX 080308R-G | NPMX 080308R-G | TPMX 140308R-G | TPMX 140308R-G |
| | Screw | CSTB2.2 | CSTB2.2 | CSTB2.2 | CSTB2.5 | CSTB2.5 |
| | Wrench | T-7D | T-7D | T-7D | T-8D | T-8D |
| | Center | NPMX 080308R-G | NPMX 080308R-G | TPMX 140308R-G | TPMX 140308R-G | TPMX 140308R-G |
| | Screw | CSTB2.2 | CSTB2.2 | CSTB2.5 | CSTB2.5 | CSTB2.5 |
| | Wrench | T-7D | T-7D | T-8D | T-8D | T-8D |
| Pad | Guide pad | PAD-GP08-25-155-DC-SB | PAD-GP08-25-155-DC-SB | PAD-GP10-35-200-DC-SB | PAD-GP10-35-200-DC-SB | PAD-GP10-35-200-DC-SB |
| | | PAD-GP08-25-155-DC-SC | PAD-GP08-25-155-DC-SC | PAD-GP10-35-200-DC-SC | PAD-GP10-35-200-DC-SC | PAD-GP10-35-200-DC-SC |
| | Screw | CSTB3S | CSTB3S | CSTB4S | CSTB4S | CSTB4S |
| | Wrench | T-9D | T-9D | T-15D | T-15D | T-15D |
| | Guide pad protector | PAD-P08 | PAD-P08 | PAD-P10 | PAD-P10 | PAD-P10 |
| | Screw | CSTB3S | CSTB3S | CSTB4S | CSTB4S | CSTB4S |
| | Wrench | T-9D | T-9D | T-15D | T-15D | T-15D |
| | Sub guide pad | PAD-S08 | PAD-S08 | PAD-S08 | PAD-S08 | PAD-S08 |
| | Screw | CSTB3S | CSTB3S | CSTB3S | CSTB3S | CSTB3S |
| | Wrench | T-9D | T-9D | T-9D | T-9D | T-9D |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

D216 Guide Pad D220 Cartridge D224

# TBTA3 Series

## Assembly of TBTA3 series




1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw

| Parts | | Diameter (mm) | | | | |
|---|---|---|---|---|---|---|
| | | 55.00-57.99 | 58.00-59.99 | 60.00-63.99 | 64.00-67.99 | 68.00-77.99 |
| Cartridge | Outer | PERC 402-32 | PERC 402-32 | PERC 402-32 | PERC 402-43 | PERC 402-32 |
| | Adjust screw | AS0005-10 | AS0005-10 | AS0005-10 | AS0005-15 | AS0005-10 |
| | Wrench | H2.5 | H2.5 | H2.5 | H2.5 | H2.5 |
| | Screw | LS1805RH | LS1805RH | LS1805RH | LS1806RH | LS1805RH |
| | Wrench | H3 | H3 | H3 | H4 | H3 |
| | Inner | CENC 402-04 | CENC 402-32 | CENC 402-32 | CENC 402-32 | CENC 402-43 |
| | Screw | CSTB3.5 | CSTA5 | CSTA5 | CSTA5 | LS1206 |
| | Wrench | T-15D | T-15D | T-15D | T-15D | H3 |
| | Center | CENC 402-32 | CENC 402-32 | CENC 402-32 | CENC 402-32 | CENC 402-43 |
| | Screw | CSTA5 | CSTA5 | CSTA5 | CSTA5 | LS1206 |
| | Wrench | T-15D | T-15D | T-15D | T-15D | H3 |
| Insert | Outer | TPMX 170408R-G | TPMX 170408R-G | TPMX 170408R-G | TPMX 240512R-G | TPMX 170408R-G |
| | Screw | CSTB3.5D | CSTB3.5D | CSTB3.5D | CSTB4M | CSTB3.5D |
| | Wrench | T-9D | T-9D | T-9D | T-15D | T-9D |
| | Inner | TPMX 140308R-G | TPMX 170408R-G | TPMX 170408R-G | TPMX 170408R-G | TPMX 240512R-G |
| | Screw | CSTB2.5 | CSTB3.5D | CSTB3.5D | CSTB3.5D | CSTB4M |
| | Wrench | T-8D | T-9D | T-9D | T-9D | T-15D |
| | Center | TPMX 170408R-G | TPMX 170408R-G | TPMX 170408R-G | TPMX 170408R-G | TPMX 240512R-G |
| | Screw | CSTB3.5D | CSTB3.5D | CSTB3.5D | CSTB3.5D | CSTB4M |
| | Wrench | T-9D | T-9D | T-9D | T-9D | T-15D |
| Pad | Guide pad | PAD-GP10-35-200-DC-SB | PAD-GP10-35-200-DC-SB | PAD-GP14-40-250-DC-SB | PAD-GP14-40-250-DC-SB | PAD-GP14-40-250-DC-SB |
| | | PAD-GP10-35-200-DC-SC | PAD-GP10-35-200-DC-SC | PAD-GP14-40-250-DC-SC | PAD-GP14-40-250-DC-SC | PAD-GP14-40-250-DC-SC |
| | Screw | CSTB4S | CSTB4S | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D | T-15D | T-15D |
| | Guide pad protector | PAD-P10 | PAD-P10 | PAD-P14 | PAD-P14 | PAD-P14 |
| | Screw | CSTB4S | CSTB4S | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D | T-15D | T-15D |
| | Sub guide pad | PAD-S08 | PAD-S08 | PAD-S08 | PAD-S10 | PAD-S10 |
| | Screw | CSTB3S | CSTB3S | CSTB3S | CSTB3S | CSTB3S |
| | Wrench | T-9D | T-9D | T-9D | T-9D | T-9D |
| | | | | | | |
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| | | | | | | |
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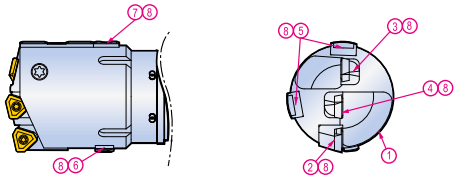
D216


D220


D224

# TBTA3 Series

## Assembly of TBTA3 series



1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw

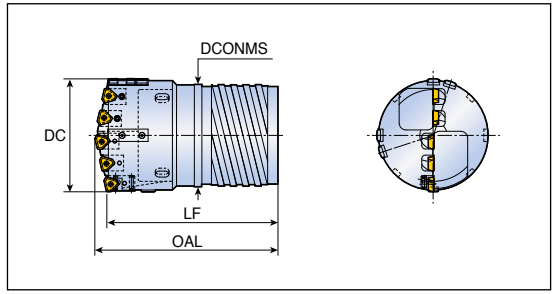
| | Parts | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 78.00-84.99 | 85.00-91.99 | 92.00-98.99 | 99.00-106.99 |
| Cartridge | Outer | PERC 402-43 | PERC 402-63 | PERC 402-43 | PERC 402-63 |
| | Adjust screw | AS0005-15 | AS0006-15 | AS0005-15 | AS0006-15 |
| | Wrench | H2.5 | H3 | H2.5 | H3 |
| | Screw | LS1806RH | LS1806RH | LS1806RH | LS1806RH |
| | Wrench | H4 | H4 | H4 | H4 |
| | Inner | CENC 402-43 | CENC 402-43 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206 | LS1206 | LS1206 | LS1206 |
| | Wrench | H3 | H3 | H3 | H3 |
| | Center | CENC 402-43 | CENC 402-43 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206 | LS1206 | LS1206 | LS1206 |
| | Wrench | H3 | H3 | H3 | H3 |
| Insert | Outer | TPMX 240512R-G | TPMX 280716R-G | TPMX 240512R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB5 | CSTB4M | CSTB5 |
| | Wrench | T-15D | T-20D | T-15D | T-20D |
| | Inner | TPMX 240512R-G | TPMX 240512R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB4M | CSTB5 | CSTB5 |
| | Wrench | T-15D | T-15D | T-20D | T-20D |
| | Center | TPMX 240512R-G | TPMX 240512R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB4M | CSTB5 | CSTB5 |
| | Wrench | T-15D | T-15D | T-20D | T-20D |
| Pad | Guide pad | PAD-GP14-40-250-DC-SB | PAD-GP14-40-250-DC-SB | PAD-GP14-40-250-DC-SB | PAD-GP18-40-300-DC-SB |
| | | PAD-GP14-40-250-DC-SC | PAD-GP14-40-250-DC-SC | PAD-GP14-40-250-DC-SC | PAD-GP18-40-300-DC-SC |
| | Screw | CSTA5S | CSTA5S | CSTA5S | LS1206S |
| | Wrench | T-15D | T-15D | T-15D | H3 |
| | Guide pad protector | PAD-P14 | PAD-P14 | PAD-P14 | PAD-P18 |
| | Screw | CSTA5S | CSTA5S | CSTA5SS | LS1206S |
| | Wrench | T-15D | T-15D | T-15D | H3 |
| | Sub guide pad | PAD-S10 | PAD-S10 | PAD-S10 | PAD-S14 |
| | Screw | CSTB3S | CSTB3S | CSTB3S | CSTA5S |
| | Wrench | T-9D | T-9D | T-9D | T-15D |
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D216 Guide Pad D220 Cartridge D224

# TBTA5...SE4

**Single tube system**





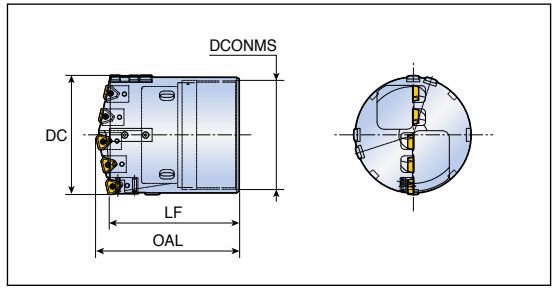

• Outer four start thread

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA5- xxx.xxSE4-094** | 107.00-111.99 | 180 | 197 | 89 | BTSI 094 | 94 |
| **xxx.xxSE4-106** | 112.00-123.99 | 205 | 221 | 101 | BTSI 106 | 106 |
| **xxx.xxSE4-118** | 124.00-135.99 | 205 | 222 | 113 | BTSI 118 | 118 |
| **xxx.xxSE4-130** | 136.00-147.99 | 205 | 223 | 125 | BTSI 130 | 130 |
| **xxx.xxSE4-142** | 148.00-159.99 | 225 | 245 | 137 | BTSI 142 | 142 |
| **xxx.xxSE4-154** | 160.00-168.99 | 225 | 246 | 149 | BTSI 154 | 154 |
| | | | | | | |

# TBTA5...SI1

**Single tube system**






• Inner single start thread

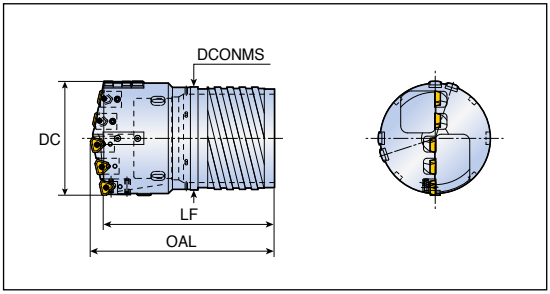
| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA5- xxx.xxSI1-094** | 107.00-110.99 | 150 | 164 | 90 | BTSE 094 | 94 |
| **xxx.xxSI1-106** | 111.00-122.99 | 150 | 165 | 102 | BTSE 106 | 106 |
| **xxx.xxSI1-118** | 123.00-134.99 | 150 | 167 | 114 | BTSE 118 | 118 |
| **xxx.xxSI1-130** | 135.00-148.99 | 150 | 168 | 126 | BTSE 130 | 130 |
| **xxx.xxSI1-142** | 149.00-161.99 | 150 | 170 | 139 | BTSE 142 | 142 |
| **xxx.xxSI1-154** | 162.00-168.99 | 190 | 211 | 151 | BTSE 154 | 154 |
| | | | | | | |

Assembly D142 | Tube D171, D173 | Cutting Condition D252

# TBTA5...DE4

**Double tube system**





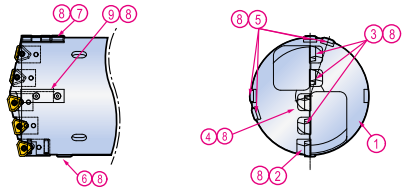

• Outer four start thread

| Designation | DC | Dimension (mm) | | | Tube | | |
|---|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Outer Tube | Inner Tube | Diameter (mm) |
| **TBTA5 - xxx.xxDE4-094** | 107.00-111.99 | 180 | 197 | 89 | BTDO 094 | BTDI 078 | 94 |
| **xxx.xxDE4-106** | 112.00-123.99 | 205 | 221 | 101 | BTDO 106 | BTDI 090 | 106 |
| **xxx.xxDE4-118** | 124.00-135.99 | 205 | 222 | 113 | BTDO 118 | BTDI 092 | 118 |
| **xxx.xxDE4-130** | 136.00-147.99 | 205 | 223 | 125 | BTDO 130 | BTDI 104 | 130 |
| **xxx.xxDE4-142** | 148.00-159.99 | 225 | 245 | 137 | BTDO 142 | BTDI 116 | 142 |
| **xxx.xxDE4-154** | 160.00-168.99 | 225 | 246 | 149 | BTDO 154 | BTDI 128 | 154 |


Assembly D142 | Tube D174 | Cutting Condition D252

# TBTA5 Series

## Assembly of TBTA5 series

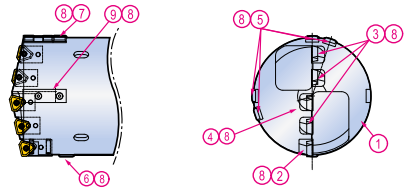


1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

| | Parts | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 107.00-117.99 | 118.00-135.99 | 136.00-144.99 | 145.00-150.99 |
| Cartridge | Outer | PERC 402-43 | PERC 402-43 | PERC 402-43 | PERC 402-43 |
| | Adjust screw | AS0005-15 | AS0005-15 | AS0005-15 | AS0005-15 |
| | Wrench | H2.5 | H2.5 | H2.5 | H2.5 |
| | Screw | LS1806RH | LS1806RH | LS1806RH | LS1806RH |
| | Wrench | H4 | H4 | H4 | H4 |
| | Inner | CENC 402-32 | CENC 402-43 | CENC 402-43 | CENC 402-43 |
| | Screw | CSTA5 | LS1206 | LS1206 | LS1206 |
| | Wrench | T-15D | H3 | H3 | H3 |
| | Center | CENC 402-43 | CENC 402-43 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206 | LS1206 | LS1206 | LS1206 |
| | Wrench | H3 | H3 | H3 | H3 |
| Insert | Outer | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G |
| | Screw | CSTB4M | CSTB4M | CSTB4M | CSTB4M |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
| | Inner | TPMX 170408R-G | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G |
| | Screw | CSTB3.5D | CSTB4M | CSTB4M | CSTB4M |
| | Wrench | T-9D | T-15D | T-15D | T-15D |
| | Center | TPMX 240512R-G | TPMX 240512R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB4M | CSTB5 | CSTB5 |
| | Wrench | T-15D | T-15D | T-20D | T-20D |
| Pad | Guide pad | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB |
| | | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Guide pad protector | PAD-P18 | PAD-P18 | PAD-P18 | PAD-P18 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Sub guide pad | PAD-S14 | PAD-S14 | PAD-S14 | PAD-S14 |
| | Screw | CSTA5S | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
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| | | | | | |

# TBTA5 Series

## Assembly of TBTA5 series



1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

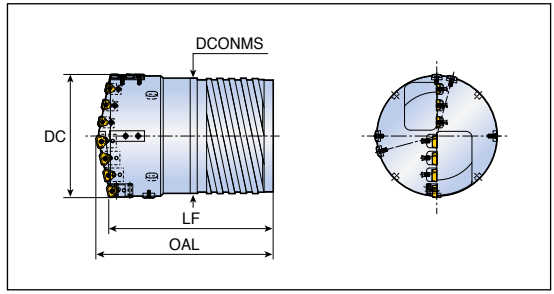
| | Parts | Diameter (mm) | | |
|---|---|---|---|---|
| | | 151.00-156.99 | 157.00-162.99 | 163.00-168.99 |
| Cartridge | Outer | PERC 402-63 | PERC 402-63 | PERC 402-63 |
| | Adjust screw | AS0006-15 | AS0006-15 | AS0006-15 |
| | Wrench | H3 | H3 | H3 |
| | Screw | LS1806RH | LS1806RH | LS1806RH |
| | Wrench | H4 | H4 | H4 |
| | Inner | CENC 402-43 | CENC 402-43 | CENC 402-63 |
| | Screw | LS1206 | LS1206 | LS1206 |
| | Wrench | H3L | H3L | H3L |
| | Center | CENC 402-63 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206S | LS1206S | LS1206S |
| | Wrench | H3L | H3L | H3L |
| Insert | Outer | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D |
| | Inner | TPMX 240512R-G | TPMX 240512R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB4M | CSTB5 |
| | Wrench | T-15D | T-15D | T-20D |
| | Center | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D |
| Pad | Guide pad | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB |
| | | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC |
| | Screw | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3L |
| | Guide pad protector | PAD-P18 | PAD-P18 | PAD-P18 |
| | Screw | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 |
| | Sub guide pad | PAD-S14 | PAD-S14 | PAD-S14 |
| | Screw | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D |
| | | | | |
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D216 Guide Pad D220 Cartridge D224

# TBTA7...SE4

**Single tube system**





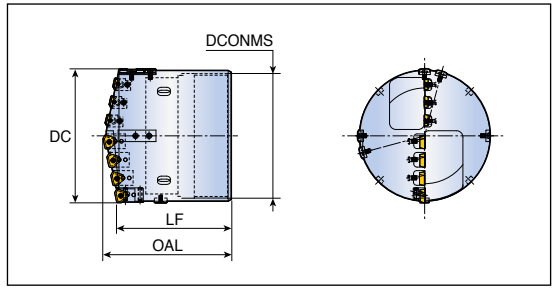

- Outer four start thread
- Double tube system also available on request

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA7- xxx.xxSE4-154** | 169.00-171.99 | 225 | 246 | 149 | BTSI 154 | 154 |
| **xxx.xxSE4-166** | 172.00-183.99 | 225 | 247 | 161 | BTSI 166 | 166 |
| **xxx.xxSE4-178** | 184.00-195.99 | 245 | 267 | 173 | BTSI 178 | 178 |
| **xxx.xxSE4-190** | 196.00-207.99 | 245 | 270 | 185 | BTSI 190 | 190 |
| **xxx.xxSE4-202** | 208.00-219.99 | 245 | 271 | 197 | BTSI 202 | 202 |
| **xxx.xxSE4-214** | 220.00-231.99 | 265 | 293 | 208 | BTSI 214 | 214 |
| **xxx.xxSE4-226** | 232.00-232.99 | 265 | 293 | 220 | BTSI 226 | 226 |

# TBTA7...SI1

**Single tube system**



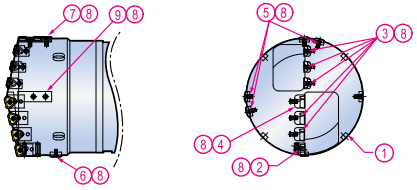



- Inner single start thread

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA7- xxx.xxSI1-154** | 169.00-173.99 | 190 | 211 | 151 | BTSE 154 | 154 |
| **xxx.xxSI1-166** | 174.00-185.99 | 190 | 213 | 163 | BTSE 166 | 166 |
| **xxx.xxSI1-178** | 186.00-197.99 | 190 | 212 | 175 | BTSE 178 | 178 |
| **xxx.xxSI1-190** | 198.00-209.99 | 190 | 215 | 187 | BTSE 190 | 190 |
| **xxx.xxSI1-202** | 210.00-221.99 | 190 | 217 | 199 | BTSE 202 | 202 |
| **xxx.xxSI1-214** | 222.00-232.99 | 190 | 218 | 211 | BTSE 214 | 214 |
| | | | | | | |

# TBTA7 Series

## Assembly of TBTA7 series



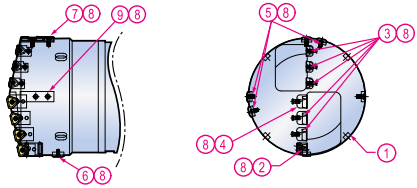

1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

| Parts | | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 169.00-188.99 | 189.00-196.99 | 197.00-202.99 | 203.00-208.99 |
| Cartridge | Outer | PERC 402-43 | PERC 402-43 | PERC 402-43 | PERC 402-43 |
| | Adjust screw | AS0005-15 | AS0005-15 | AS0005-15 | AS0005-15 |
| | Wrench | H2.5 | H2.5 | H2.5 | H2.5 |
| | Screw | LS1806RH | LS1806RH | LS1806RH | LS1806RH |
| | Wrench | H4 | H4 | H4 | H4 |
| | Inner | CENC 402-43 | CENC 402-43 | CENC 402-43 | CENC 402-43 |
| | Screw | LS1206 | LS1206 | LS1206 | LS1206 |
| | Wrench | H3L | H3L | H3L | H3L |
| | Center | CENC 402-43 | CENC 402-63 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206 | LS1206S | LS1206S | LS1206S |
| | Wrench | H3L | H3L | H3L | H3L |
| Insert | Outer | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G |
| | Screw | CSTB4M | CSTB4M | CSTB4M | CSTB4M |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
| | Inner | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G |
| | Screw | CSTB4M | CSTB4M | CSTB4M | CSTB4M |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
| | Center | TPMX 240512R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
| Pad | Guide pad | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB |
| | | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Guide pad protector | PAD-P18 | PAD-P18 | PAD-P18 | PAD-P18 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Sub guide pad | PAD-S14 | PAD-S14 | PAD-S14 | PAD-S14 |
| | Screw | CSTA5S | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D | T-15D |

D216 Guide Pad D220 Cartridge D224

# TBTA7 Series

## Assembly of TBTA7 series



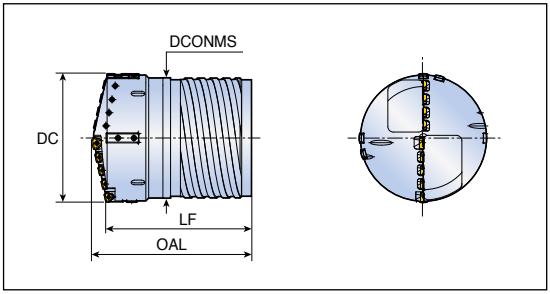

1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

| | Parts | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 209.00-214.99 | 215.00-220.99 | 221.00-226.99 | 227.00-232.99 |
| Cartridge | Outer | PERC 402-63 | PERC 402-63 | PERC 402-63 | PERC 402-63 |
| | Adjust screw | AS0006-15 | AS0006-15 | AS0006-15 | AS0005-15 |
| | Wrench | H3 | H3 | H3 | H3 |
| | Screw | L1806RH | L1806RH | L1806RH | LS1806RH |
| | Wrench | H4 | H4 | H4 | H4 |
| | Inner | CENC 402-43 | CENC 402-43 | CENC 402-43 | CENC 402-63 |
| | Screw | LS1206 | LS1206 | LS1206 | LS1206 |
| | Wrench | H3L | H3L | H3L | H3L |
| | Center | CENC 402-63 | CENC 402-63 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206S | LS1206 | LS1206 | LS1206S |
| | Wrench | H3L | H3L | H3L | H3L |
| Insert | Outer | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D | T-20D |
| | Inner | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB4M | CSTB4M | CSTB5 |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
| | Center | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D | T-20D |
| Pad | Guide pad | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB |
| | | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Guide pad protector | PAD-P18 | PAD-P18 | PAD-P18 | PAD-P18 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Sub guide pad | PAD-S14 | PAD-S14 | PAD-S14 | PAD-S14 |
| | Screw | CSTA5S | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
| | | | | | |
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# TBTA9...SE4

**Single tube system**





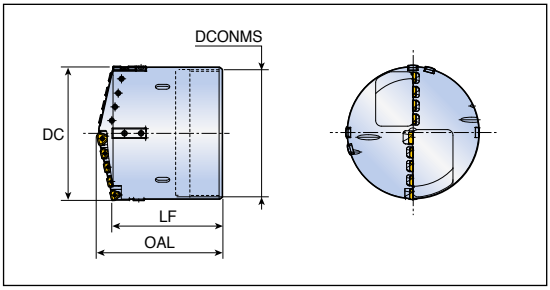

• Outer four start thread

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA9 - xxx.xxSE4-226** | 233.00-243.99 | 265 | 294 | 220 | BTSI 226 | 226 |
| **xxx.xxSE4-238** | 244.00-255.99 | 265 | 294 | 232 | BTSI 238 | 238 |
| **xxx.xxSE4-250** | 256.00-267.99 | 290 | 322 | 244 | BTSI 250 | 250 |
| **xxx.xxSE4-262** | 268.00-279.99 | 290 | 323 | 256 | BTSI 262 | 262 |
| **xxx.xxSE4-274** | 280.00-291.99 | 290 | 325 | 268 | BTSI 274 | 274 |
| | | | | | | |
| | | | | | | |

# TBTA9...SI1

**Single tube system**





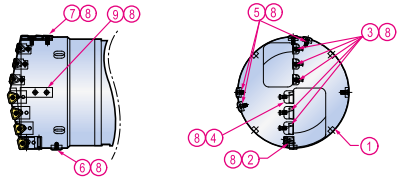

• Inner single start thread

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | Part | Diameter (mm) |
| **TBTA9 - xxx.xxSI1-214** | 233.00-233.99 | 190 | 217 | 211 | BTSE 214 | 214 |
| **xxx.xxSI1-226** | 234.00-245.99 | 190 | 219 | 223 | BTSE 226 | 226 |
| **xxx.xxSI1-238** | 246.00-257.99 | 190 | 221 | 235 | BTSE 238 | 238 |
| **xxx.xxSI1-250** | 258.00-269.99 | 210 | 242 | 245 | BTSE 250 | 250 |
| **xxx.xxSI1-262** | 270.00-281.99 | 210 | 244 | 259 | BTSE 262 | 262 |
| **xxx.xxSI1-274** | 282.00-293.99 | 210 | 245 | 271 | BTSE 274 | 274 |
| | | | | | | |
| | | | | | | |

Assembly D148 | Tube D171, D173 | Cutting Condition D252

# TBTA9 Series

## Assembly of TBTA9 series



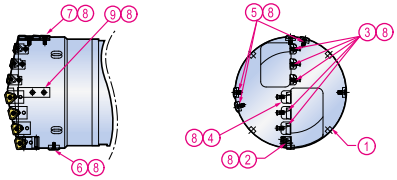
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

| | Parts | Diameter (mm) | | | | |
|---|---|---|---|---|---|---|
| | | 233.00-247.99 | 248.00-253.99 | 254.00-258.99 | 259.00-264.99 | 265.00-271.99 |
| Cartridge | Outer | PERC 402-43 | PERC 402-63 | PERC 402-63 | PERC 402-63 | PERC 402-63 |
| | Adjust screw | AS0005-15 | AS0006-15 | AS0006-15 | AS0006-15 | AS0006-15 |
| | Wrench | H2.5 | H3 | H3 | H3 | H3 |
| | Screw | LS1806RH | L1806RH | L1806RH | L1806RH | L1806RH |
| | Wrench | H4 | H4 | H4 | H4 | H4 |
| | Inner | CENC 402-43 | CENC 402-43 | CENC 402-43 | CENC 402-43 | CENC 402-43 |
| | Screw | LS1206 | LS1206 | LS1206 | LS1206 | LS1206 |
| | Wrench | H3L | H3L | H3L | H3L | H3L |
| | Center | CENC 402-63 | CENC 402-63 | CENC 402-63 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3L | H3L | H3L | H3L | H3L |
| Insert | Outer | TPMX 240512R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB4M | CSTB5 | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-15D | T-20D | T-20D | T-20D | T-20D |
| | Inner | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G | TPMX 240512R-G |
| | Screw | CSTB4M | CSTB4M | CSTB4M | CSTB4M | CSTB4M |
| | Wrench | T-15D | T-15D | T-15D | T-15D | T-15D |
| | Center | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D | T-20D | T-20D |
| Pad | Guide pad | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB |
| | | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 | H3 |
| | Guide pad protector | PAD-P18 | PAD-P18 | PAD-P18 | PAD-P18 | PAD-P18 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 | H3 |
| | Sub guide pad | PAD-S14 | PAD-S14 | PAD-S14 | PAD-S14 | PAD-S14 |
| | Screw | CSTA5S | CSTA5S | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D | T-15D | T-15D |
| | | | | | | |
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| | | | | | | |

D216 Guide Pad D220 Cartridge D224

# TBTA9 Series

## Assembly of TBTA9 series



1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

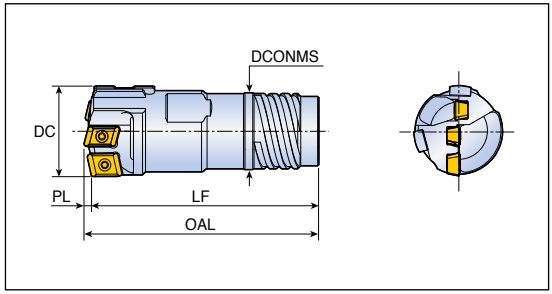
| Parts | | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 272.00-275.99 | 276.00-284.99 | 285.00-289.99 | 290.00-293.99 |
| Cartridge | Outer | PERC 402-63 | PERC 402-63 | PERC 402-63 | PERC 402-63 |
| | Adjust screw | AS0006-15 | AS0006-15 | AS0006-15 | AS0006-15 |
| | Wrench | H3 | H3 | H3 | H3 |
| | Screw | L1806RH | L1806RH | L1806RH | L1806RH |
| | Wrench | H4 | H4 | H4 | H4 |
| | Inner | CENC 402-63 | CENC 402-63 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3L | H3L | H3L | H3L |
| | Center | CENC 402-63 | CENC 402-63 | CENC 402-63 | CENC 402-63 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3L | H3L | H3L | H3L |
| Insert | Outer | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D | T-20D |
| | Inner | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D | T-20D |
| | Center | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G | TPMX 280716R-G |
| | Screw | CSTB5 | CSTB5 | CSTB5 | CSTB5 |
| | Wrench | T-20D | T-20D | T-20D | T-20D |
| Pad | Guide pad | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB | PAD-GP18-40-300-DC-SB |
| | | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC | PAD-GP18-40-300-DC-SC |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Guide pad protector | PAD-P18 | PAD-P18 | PAD-P18 | PAD-P18 |
| | Screw | LS1206S | LS1206S | LS1206S | LS1206S |
| | Wrench | H3 | H3 | H3 | H3 |
| | Sub guide pad | PAD-S14 | PAD-S14 | PAD-S14 | PAD-S14 |
| | Screw | CSTA5S | CSTA5S | CSTA5S | CSTA5S |
| | Wrench | T-15D | T-15D | T-15D | T-15D |
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

D216 Guide Pad D220 Cartridge D224

# TBTA-FB...SE4

**Single tube system**






• Outer four start thread

| Designation | | DC | Dimension (mm) | | | | Tube | |
|---|---|---|---|---|---|---|---|---|
| | | | LF | OAL | DCONMS | PL | Part | Diameter (mm) |
| **TBTA-FB** | **xx.xxSE4-22** | 25.00-26.40 | 70 | 73 | 19.5 | 3 | BTSI 022 | 22 |
| | **xx.xxSE4-24** | 26.41-28.70 | 70 | 73 | 21.0 | 3 | BTSI 024 | 24 |
| | **xx.xxSE4-26** | 28.71-31.00 | 75 | 78 | 23.5 | 3 | BTSI 026 | 26 |
| | **xx.xxSE4-28** | 31.01-33.30 | 75 | 78 | 25.5 | 3 | BTSI 028 | 28 |
| | **xx.xxSE4-30** | 33.31-36.20 | 80 | 83 | 28.0 | 3 | BTSI 030 | 30 |
| | **xx.xxSE4-33** | 36.21-39.60 | 90 | 93 | 30.0 | 3 | BTSI 033 | 33 |
| | **xx.xxSE4-36** | 39.61-43.00 | 95 | 99 | 33.0 | 4 | BTSI 036 | 36 |
| | **xx.xxSE4-39** | 43.01-47.00 | 100 | 104 | 36.0 | 4 | BTSI 039 | 39 |
| | **xx.xxSE4-43** | 47.01-51.70 | 100 | 104 | 39.0 | 4 | BTSI 043 | 43 |
| | **xx.xxSE4-47** | 51.71-56.20 | 110 | 114 | 43.0 | 4 | BTSI 047 | 47 |
| | **xx.xxSE4-51** | 56.21-60.60 | 115 | 120 | 47.0 | 5 | BTSI 051 | 51 |
| | **xx.xxSE4-51** | 60.61-65.00 | 115 | 120 | 47.0 | 5 | BTSI 051 | 51 |
| | **xx.xxSE4-56A** | 60.61-65.00 | 115 | 120 | 51.0 | 5 | BTSI 056A | 56 |
| | **xx.xxSE4-56B** | 65.01-66.99 | 141 | 149 | 52.0 | 8 | BTSI 056B | 56 |
| | **xx.xxSE4-62** | 67.00-72.99 | 141 | 149 | 58.0 | 8 | BTSI 062 | 62 |
| | **xx.xxSE4-68** | 73.00-79.99 | 141 | 150 | 63.0 | 9 | BTSI 068 | 68 |
| | **xx.xxSE4-75** | 80.00-86.99 | 164 | 173 | 70.0 | 9 | BTSI 075 | 75 |
| | **xx.xxSE4-82** | 87.00-89.00 | 164 | 173 | 77.0 | 9 | BTSI 082 | 82 |

Assembly D153 | Tube D170-D171 | Cutting Condition D254

▸ Insert and guide pad are sold separately from drill body

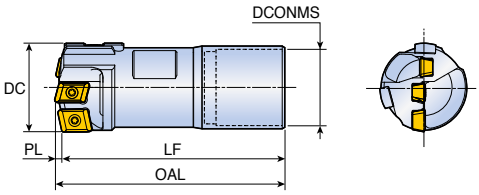


ADVANCE CUTTING TaeguTec

# TBTA-FB...SI1

**Single tube system**






• Inner single start thread

| Designation | DC | Dimension (mm) | | | | Tube | |
|---|---|---|---|---|---|---|---|
| | | LF | OAL | DCONMS | PL | Part | Diameter (mm) |
| **TBTA-FB xx.xxSI1-22** | 25.00-26.99 | 70 | 73 | 20 | 3 | BTSE 022 | 22 |
| **xx.xxSI1-24** | 27.00-29.00 | 70 | 73 | 22 | 3 | BTSE 024 | 24 |
| **xx.xxSI1-24** | 29.01-29.99 | 70 | 73 | 22 | 3 | BTSE 024 | 24 |
| **xx.xxSI1-26** | 30.00-31.99 | 75 | 78 | 24 | 3 | BTSE 026 | 26 |
| **xx.xxSI1-28** | 32.00-33.99 | 75 | 78 | 26 | 3 | BTSE 028 | 28 |
| **xx.xxSI1-30** | 34.00-36.99 | 90 | 93 | 27 | 3 | BTSE 030 | 30 |
| **xx.xxSI1-33** | 37.00-39.99 | 95 | 98 | 30 | 3 | BTSE 033 | 33 |
| **xx.xxSI1-36** | 40.00-43.99 | 100 | 104 | 33 | 4 | BTSE 036 | 36 |
| **xx.xxSI1-39** | 44.00-46.99 | 105 | 109 | 37 | 4 | BTSE 039 | 39 |
| **xx.xxSI1-43** | 47.00-51.99 | 105 | 109 | 41 | 4 | BTSE 043 | 43 |
| **xx.xxSI1-47** | 52.00-56.99 | 110 | 114 | 44 | 4 | BTSE 047 | 47 |
| **xx.xxSI1-51** | 57.00-60.99 | 115 | 120 | 49 | 5 | BTSE 051 | 51 |
| **xx.xxSI1-56** | 61.00-65.00 | 115 | 120 | 53 | 5 | BTSE 056 | 56 |
| **xx.xxSI1-56** | 65.01-67.99 | 104 | 112 | 53 | 8 | BTSE 056 | 56 |
| **xx.xxSI1-62** | 68.00-74.99 | 104 | 113 | 59 | 9 | BTSE 062 | 62 |
| **xx.xxSI1-68** | 75.00-80.99 | 134 | 143 | 65 | 9 | BTSE 068 | 68 |
| **xx.xxSI1-75** | 81.00-89.00 | 134 | 143 | 71 | 9 | BTSE 075 | 75 |

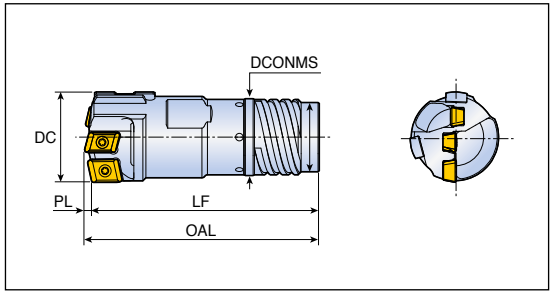
Assembly D153 | Tube D172-D173 | Cutting Condition D254

▸ Insert and guide pad are sold separately from drill body

# TBTA-FB...DE4

**Double tube system**






• Outer four start thread

| Designation | | DC | Dimension (mm) | | | | Tube | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | LF | OAL | DCONMS | PL | Outer tube | Inner tube | Diameter (mm) |
| **TBTA-FB** | **xx.xxDE4-23.5** | 25.00-26.40 | 70 | 73 | 21.0 | 3 | BTDO 023.5 | BTDI 016 | 23.5 |
| | **xx.xxDE4-26** | 26.41-28.70 | 75 | 78 | 23.5 | 3 | BTDO 026 | BTDI 018 | 26.0 |
| | **xx.xxDE4-28** | 28.71-31.00 | 75 | 78 | 25.5 | 3 | BTDO 028 | BTDI 020 | 28.0 |
| | **xx.xxDE4-30.5** | 31.01-33.30 | 80 | 83 | 28.0 | 3 | BTDO 030.5 | BTDI 022 | 30.5 |
| | **xx.xxDE4-33** | 33.31-36.20 | 90 | 93 | 30.0 | 3 | BTDO 033 | BTDI 024 | 33.0 |
| | **xx.xxDE4-35.5** | 36.21-39.60 | 95 | 99 | 33.0 | 4 | BTDO 035.5 | BTDI 026 | 35.5 |
| | **xx.xxDE4-39** | 39.61-43.00 | 100 | 104 | 36.0 | 4 | BTDO 039 | BTDI 029 | 39.0 |
| | **xx.xxDE4-42.5** | 43.01-47.00 | 100 | 104 | 39.0 | 4 | BTDO 042.5 | BTDI 032 | 42.5 |
| | **xx.xxDE4-46.5** | 47.01-51.70 | 110 | 114 | 43.0 | 4 | BTDO 046.5 | BTDI 035 | 46.5 |
| | **xx.xxDE4-51** | 51.71-56.20 | 115 | 120 | 47.5 | 5 | BTDO 051 | BTDI 039 | 51.0 |
| | **xx.xxDE4-55.5** | 56.21-65.00 | 115 | 120 | 51.0 | 5 | BTDO 055.5 | BTDI 043A | 55.5 |

Assembly D153 | Tube D174 | Cutting Condition D254

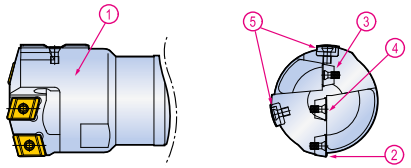
▸ Insert and guide pad are sold separately from drill body



ADVANCE CUTTING TaeguTec

# TBTA-FB Series

## Assembly of TBTA-FB series




1. Head shank
2. Outer insert
3. Inner insert
4. Center insert
5. Guide pad

| | Parts | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 25.00-28.00 | 28.01-29.99 | 30.00-35.00 | 35.01-38.00 |
| Insert | PER | NPHT 060304R-G-P | NPHT 060304R-G-P | NPHT 080404R-G-P | NPHT 080404R-G-P |
| | Screw | CSTB2.2 | CSTB2.2 | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-7F | T-7F | T-8F | T-8F |
| | INT | NPMT 060304R-G-I | NPMT 060304R-G-I | NPMT 070404R-G-I | NPMT 070404R-G-I |
| | Screw | CSTB2.2 | CSTB2.2 | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-7F | T-7F | T-8F | T-8F |
| | CEN | NPMT 060308L-G-C | NPMT 070408L-G-C | NPMT 070408L-G-C | NPMT 080480L-G-C |
| | Screw | CSTB2.2 | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-7F | T-8F | T-8F | T-8F |
| Pad | PAD | PAD-GP06-20-120-DC-SB | PAD-GP06-20-120-DC-SB | PAD-GP07-20-120-DC-SB | PAD-GP07-20-120-DC-SB |
| | | PAD-GP06-20-120-DC-SC | PAD-GP06-20-120-DC-SC | PAD-GP07-20-120-DC-SC | PAD-GP07-20-120-DC-SC |
| | Screw | CSTB2.2S | CSTB2.2S | CSTB3S | CSTB3S |
| | Wrench | T-7F | T-7F | T-9F | T-9F |
| | | | | | |
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| | | | | | |

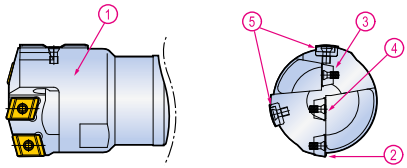
| | Parts | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 38.01-39.00 | 39.01-41.00 | 41.01-44.00 | 44.01-45.00 |
| Insert | PER | NPHT 090404R-G-P | NPHT 090404R-G-P | NPHT 090404R-G-P | NPHT 090404R-G-P |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F | T-8F |
| | INT | NPMT 070404R-G-I | NPMT 070404R-G-I | NPMT 080404R-G-I | NPMT 080404R-G-I |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F | T-8F |
| | CEN | NPMT 080408L-G-C | NPMT 080408L-G-C | NPMT 080408L-G-C | NPMT 100408L-G-C |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F | T-8F |
| Pad | PAD | PAD-GP07-20-120-DC-SB | PAD-GP08-25-155-DC-SB | PAD-GP08-25-155-DC-SB | PAD-GP08-25-155-DC-SB |
| | | PAD-GP07-20-120-DC-SC | PAD-GP08-25-155-DC-SC | PAD-GP08-25-155-DC-SC | PAD-GP08-25-155-DC-SC |
| | Screw | CSTB3S | CSTB3S | CSTB3S | CSTB3S |
| | Wrench | T-9F | T-9F | T-9F | T-9F |
| | | | | | |
| | | | | | |
| | | | | | |

D213-D215 Guide Pad D221

▸ Insert and guide pad are sold separately from drill body

# TBTA-FB Series

## Assembly of TBTA-FB series




1. Head shank
2. Outer insert
3. Inner insert
4. Center insert
5. Guide pad

| | Parts | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 45.01-47.00 | 47.01-51.00 | 51.01-54.00 | 54.01-57.00 |
| Insert | PER | NPHT 090404R-G-P | NPHT 110404R-G-P | NPHT 110404R-G-P | NPHT 110404R-G-P |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F | T-8F |
| | INT | NPMT 080404R-G-I | NPMT 080404R-G-I | NPMT 100404R-G-I | NPMT 100404R-G-I |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F | T-8F |
| | CEN | NPMT 100408L-G-C | NPMT 100408L-G-C | NPMT 100408L-G-C | NPMT 130408L-G-C |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F | T-8F |
| Pad | PAD | PAD-GP10-30-200-DC-SB | PAD-GP10-30-200-DC-SB | PAD-GP10-30-200-DC-SB | PAD-GP10-30-200-DC-SB |
| | | PAD-GP10-30-200-DC-SC | PAD-GP10-30-200-DC-SC | PAD-GP10-30-200-DC-SC | PAD-GP10-30-200-DC-SC |
| | Screw | CSTB3.5 | CSTB3.5 | CSTB3.5 | CSTB3.5 |
| | Wrench | T-15F | T-15F | T-15F | T-15F |
| | | | | | |
| | | | | | |
| | | | | | |

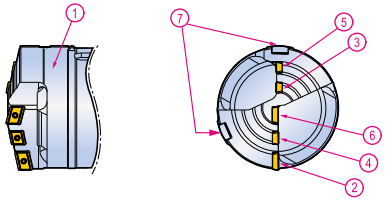
| | Parts | Diameter (mm) | | |
|---|---|---|---|---|
| | | 57.01-60.00 | 60.01-64.00 | 64.01-65.00 |
| Insert | PER | NPHT 110404R-G-P | NPHT 130404R-G-P | NPHT 130404R-G-P |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| | INT | NPMT 100404R-G-I | NPMT 100404R-G-I | NPMT 130404R-G-I |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| | CEN | NPMT 130408L-G-C | NPMT 130408L-G-C | NPMT 130408L-G-C |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| Pad | PAD | PAD-GP12-35-250-DC-SB | PAD-GP12-35-250-DC-SB | PAD-GP12-35-250-DC-SB |
| | | PAD-GP12-35-250-DC-SC | PAD-GP12-35-250-DC-SC | PAD-GP12-35-250-DC-SC |
| | Screw | CSTB3.5 | CSTB3.5 | CSTB3.5 |
| | Wrench | T-15F | T-15F | T-15F |
| | | | | |
| | | | | |
| | | | | |

D213-D215 Guide Pad D221

▸ Insert and guide pad are sold separately from drill body

# TBTA-FB Series

## Assembly of TBTA-FB series



1. Head shank
2. Outer insert
3. Inner insert 1
4. Inner insert 2
5. Inner insert 3
6. Center insert
7. Guide pad

| | Parts | Diameter (mm) | | |
|---|---|---|---|---|
| | | 65.01-71.00 | 71.01-83.00 | 83.01-89.00 |
| Insert | PER | NPHT 110404R-G-P | NPHT 130404R-G-P | NPHT 130404R-G-P |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| | INT | NPMT 080404R-G-I | NPMT 080404R-G-I | NPMT 080404R-G-I |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| | INT2 | NPMT 080404R-G-I | NPMT 080404R-G-I | NPMT 100404R-G-I |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| | INT3 | NPMT 070404R-G-I | NPMT 080404R-G-I | NPMT 080404R-G-I |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| | CEN | NPMT 100408L-G-C | NPMT 100408L-G-C | NPMT 130408L-G-C |
| | Screw | SR 14-560-HG | SR 14-560-HG | SR 14-560-HG |
| | Wrench | T-8F | T-8F | T-8F |
| Pad | PAD | PAD-GP12-35-250-DC-SB | PAD-GP12-35-250-DC-SB | PAD-GP12-35-250-DC-SB |
| | | PAD-GP12-35-250-DC-SC | PAD-GP12-35-250-DC-SC | PAD-GP12-35-250-DC-SC |
| | Screw | CSTB3.5 | CSTB3.5 | CSTB3.5 |
| | Wrench | T-15F | T-15F | T-15F |

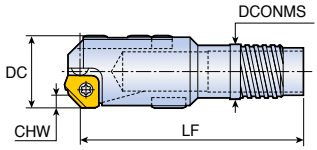
D213-D215 | Guide Pad D221

▸ Insert and guide pad are sold separately from drill body

# TBTA-R...SE4

**Single tube system**






• Outer four start thread

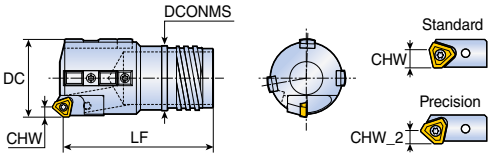
| Designation | DC | CHW | Dimension (mm) | | Tube | |
|---|---|---|---|---|---|---|
| | | | LF | DCONMS | Part | Diameter (mm) |
| **TBTA-R xxx.xxSE4-22** | 25.00-26.40 | 2.8 | 72.5 | 19.5 | BTSI 022 | 22 |
| **xxx.xxSE4-24** | 26.41-28.70 | 2.8 | 72.5 | 21.0 | BTSI 024 | 24 |
| **xxx.xxSE4-26** | 28.71-31.00 | 2.8 | 72.5 | 23.5 | BTSI 026 | 26 |
| **xxx.xxSE4-28** | 31.01-33.30 | 2.8 | 75.5 | 25.5 | BTSI 028 | 28 |
| **xxx.xxSE4-30** | 33.31-36.20 | 2.8 | 75.5 | 28.0 | BTSI 030 | 30 |
| **xxx.xxSE4-33** | 36.21-39.60 | 2.8 | 90.5 | 30.0 | BTSI 033 | 33 |
| **xxx.xxSE4-36** | 39.61-39.99 | 2.8 | 90.5 | 33.0 | BTSI 036 | 36 |

Assembly D159 | Tube D170-D171 | Cutting Condition D252

# TBTA-R...SE4

**Single tube system**






- Outer four start thread

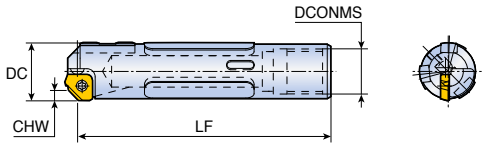
| Designation | DC | CHW (mm) | | Dimension (mm) | | Tube | |
|---|---|---|---|---|---|---|---|
| | | Standard | Precision | LF | DCONMS | Part | Diameter (mm) |
| **TBTA-R xxx.xxSE4-36** | 40.00-43.00 | 6.4 | 4 | 90 | 33.0 | BTSI 036 | 36 |
| **xxx.xxSE4-39** | 43.01-47.00 | 6.4 | 4 | 95 | 36.0 | BTSI 039 | 39 |
| **xxx.xxSE4-43** | 47.01-51.70 | 6.4 | 4 | 95 | 39.0 | BTSI 043 | 43 |
| **xxx.xxSE4-47** | 51.71-56.20 | 6.4/7.2 | 4/4.8 | 100 | 43.0 | BTSI 047 | 47 |
| **xxx.xxSE4-51** | 56.21-60.60 | 7.2 | 4.8 | 110 | 47.0 | BTSI 051 | 51 |
| **xxx.xxSE4-56A** | 60.61-65.00 | 7.2 | 4.8 | 110 | 51.0 | BTSI 056A | 56 |
| **xxx.xxSE4-56B** | 65.00-66.99 | 7.2 | 4.8 | 150 | 52.0 | BTSI 056B | 56 |
| **xxx.xxSE4-62** | 67.00-72.99 | 10.4 | 6.4 | 150 | 58.0 | BTSI 062 | 62 |
| **xxx.xxSE4-68** | 73.00-79.99 | 10.4 | 6.4 | 150 | 63.0 | BTSI 068 | 68 |
| **xxx.xxSE4-75** | 80.00-86.99 | 10.4 | 6.4 | 180 | 70.0 | BTSI 075 | 75 |
| **xxx.xxSE4-82** | 87.00-99.99 | 10.4 | 6.4 | 180 | 77.0 | BTSI 082 | 82 |

Assembly D159 | Tube D170-D171 | Cutting Condition D252

# TBTA-R...SI1

**Single tube system**





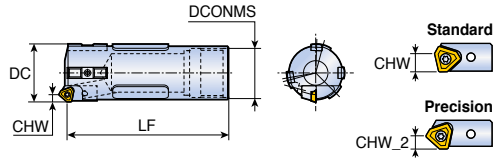

• Inner single start thread

| Designation | | DC | CHW (mm) | Dimension (mm) | | Tube | |
|---|---|---|---|---|---|---|---|
| | | | | LF | DCONMS | Part | Diameter (mm) |
| **TBTA-R-** | **xxx.xxSI1-22** | 25.00-26.99 | 2.8 | 110.5 | 20 | BTSE 022 | 22 |
| | **xxx.xxSI1-24** | 27.00-29.99 | 2.8 | 110.5 | 22 | BTSE 024 | 24 |
| | **xxx.xxSI1-26** | 30.00-31.99 | 2.8 | 110.5 | 24 | BTSE 026 | 26 |
| | **xxx.xxSI1-28** | 32.00-33.99 | 2.8 | 110.5 | 26 | BTSE 028 | 28 |
| | **xxx.xxSI1-30** | 34.00-36.99 | 2.8 | 135.5 | 27 | BTSE 030 | 30 |
| | **xxx.xxSI1-33** | 37.00-39.99 | 2.8 | 135.5 | 30 | BTSE 033 | 33 |

# TBTA-R...SI1

**Single tube system**





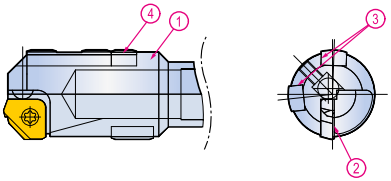

• Inner single start thread

| Designation | | DC | CHW (mm) | | Dimension (mm) | | Tube | |
|---|---|---|---|---|---|---|---|---|
| | | | Standard | Precision | LF | DCONMS | Part | Diameter (mm) |
| **TBTA-R-** | **xxx.xxSI1-36** | 40.00-43.99 | 6.4 | 4 | 135 | 33 | BTSE 036 | 36 |
| | **xxx.xxSI1-39** | 44.00-46.99 | 6.4 | 4 | 135 | 37 | BTSE 039 | 39 |
| | **xxx.xxSI1-43** | 47.00-51.99 | 6.4 | 4 | 145 | 41 | BTSE 043 | 43 |
| | **xxx.xxSI1-47** | 52.00-56.99 | 7.2 | 4.8 | 145 | 44 | BTSE 047 | 47 |
| | **xxx.xxSI1-51** | 57.00-60.99 | 7.2 | 4.8 | 170 | 49 | BTSE 051 | 51 |
| | **xxx.xxSI1-56** | 61.00-67.99 | 7.2/10.4 | 4.8/6.4 | 170 | 53 | BTSE 056 | 56 |
| | **xxx.xxSI1-62** | 68.00-74.99 | 10.4 | 6.4 | 170 | 59 | BTSE 062 | 62 |
| | **xxx.xxSI1-68** | 75.00-80.99 | 10.4 | 6.4 | 205 | 65 | BTSE 068 | 68 |
| | **xxx.xxSI1-75** | 81.00-90.99 | 10.4 | 6.4 | 215 | 71 | BTSE 075 | 75 |
| | **xxx.xxSI1-82** | 91.00-98.99 | 10.4 | 6.4 | 225 | 79 | BTSE 082 | 82 |
| | **xxx.xxSI1-94** | 99.00-110.99 | 10.4 | 6.4 | 235 | 90 | BTSE 094 | 94 |

Assembly D159 | Tube D172-D173 | Cutting Condition D252

# TBTA-R Series

## Assembly of TBTA-R series




1. Head shank
2. Insert
3. Guide pad
4. Guide pad protector

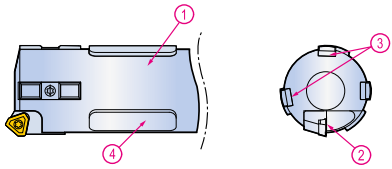
| Parts | | | Diameter (mm) | | | |
|---|---|---|---|---|---|---|
| | | | 25.00-27.99 | 28.00-29.99 | 30.00-37.99 | 38.00-39.99 |
| Close tolerance | Cartridge | Adjust ball | BALL5 | BALL5 | BALL5 | BALL5 |
| | | Adjust screw | AS0005-5 | AS0005-5 | AS0005-5 | AS0005-5 |
| | | Wrench | H2.5 | H2.5 | H2.5 | H2.5 |
| | | Screw | - | - | - | - |
| | | Wrench | - | - | - | - |
| | Insert | Insert | XPMT 16002-45 | XPMT 16002-45 | XPMT 16002-45 | XPMT 16002-45 |
| | | Screw | CSTANO3 | CSTANO3 | CSTANO3 | CSTANO3 |
| | | Wrench | T-9D | T-9D | T-9D | T-9D |
| Normal tolerance | Cartridge | Outer | - | - | - | - |
| | | Adjust screw | - | - | - | - |
| | | Wrench | - | - | - | - |
| | | Screw | - | - | - | - |
| | | Wrench | - | - | - | - |
| | Insert | Insert | XPMT 16002-45 | XPMT 16002-45 | XPMT 16002-45 | XPMT 16002-45 |
| | | Screw | CSTANO3 | CSTANO3 | CSTANO3 | CSTANO3 |
| | | Wrench | T-9D | T-9D | T-9D | T-9D |
| Pad | | Guide pad (A) | PAD-GP06-20-120-DC-SB | PAD-GP06-20-120-DC-SB | PAD-GP07-20-120-DC-SB | PAD-GP08-25-155-DC-SB |
| | | | PAD-GP06-20-120-DC-SC | PAD-GP06-20-120-DC-SC | PAD-GP07-20-120-DC-SC | PAD-GP08-25-155-DC-SC |
| | | Screw | CSTB2.2S | CSTB2.2S | CSTB3S | CSTB3S |
| | | Wrench | T-9D | T-9D | T-9D | T-9D |
| | | Guide pad protector (B) | - | - | - | PAD-P08 |
| | | Screw | - | - | - | CSTB3S |
| | | Wrench | - | - | - | T-9D |
| | | Resin guide pad (C) | PAD-R10 | PAD-R10 | PAD-R12 | PAD-R15 |
| | | Screw | LS0902, 5-6 | LS0902, 5-6 | LS0903-8 | LS0904-10 |
| | | Wrench | - | - | H2 | H2.5 |

D219 Guide Pad D223 Cartridge D225

- A+B is for outer four start thread connection type
- A+C is for inner single start thread connection type

# TBTA-R Series

## Assembly of TBTA-R series




1. Head shank
2. Cartridge & lock screw
3. Guide pad
4. Resin guide pad & lock screw

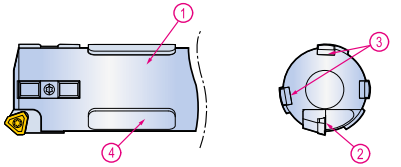
| Parts | | | Diameter (mm) | | | |
|---|---|---|---|---|---|---|
| | | | 40.00-45.99 | 46.00-51.99 | 52.00-56.99 | 57.00-59.99 |
| Close tolerance | Cartridge | Outer | PERC-P 04R | PERC-P 04R | PERC-P 32R | PERC-P 32R |
| | | Adjust screw | AS0004-8 | AS0004-8 | AS0005-10 | AS0005-10 |
| | | Wrench | H2 | H2 | H2.5 | H2.5 |
| | | Screw | LS1803.5RH | LS1803.5RH | LS1805RH | LS1805RH |
| | | Wrench | H2.5 | H2.5 | H3 | H3 |
| | Insert | Insert | TPMX 1403LG | TPMX 1403LG | TPMX 1704LG | TPMX 1704LG |
| | | Screw | CSTB2.5 | CSTB2.5 | CSTB3.5D | CSTB3.5D |
| | | Wrench | T-8D | T-8D | T-8D | T-8D |
| Normal tolerance | Cartridge | Outer | PERC 402-04 | PERC 402-04 | PERC 402-32 | PERC 402-32 |
| | | Adjust screw | AS0004-8 | AS0004-8 | AS0005-10 | AS0005-10 |
| | | Wrench | H2 | H2 | H2.5 | H2.5 |
| | | Screw | LS1803.5RH | LS1803.5RH | LS1805RH | LS1805RH |
| | | Wrench | H2.5 | H2.5 | H3 | H3 |
| | Insert | Insert | TPMX 140308R-G | TPMX 140308R-G | TPMX 170408R-G | TPMX 170408R-G |
| | | Screw | CSTB2.5 | CSTB2.5 | CSTB3.5D | CSTB3.5D |
| | | Wrench | T-8D | T-8D | T-8D | T-8D |
| Pad | | Guide pad (A) | PAD-GP08-25-155-DC-SB | PAD-GP10-35-200-DC-SB | PAD-GP10-35-200-DC-SB | PAD-GP10-35-200-DC-SB |
| | | | PAD-GP08-25-155-DC-SC | PAD-GP10-35-200-DC-SC | PAD-GP10-35-200-DC-SC | PAD-GP10-35-200-DC-SC |
| | | Screw | CSTB3S | CSTB4S | CSTB4S | CSTB4S |
| | | Wrench | T-9D | T-15D | T-15D | T-15D |
| | | Guide pad protector (B) | PAD-P08 | PAD-P10 | PAD-P10 | PAD-P14 |
| | | Screw | CSTB3S | CSTB4S | CSTB4S | CSTB4S |
| | | Wrench | T-9D | T-15D | T-15D | T-15D |
| | | Resin guide pad (C) | PAD-R15 | PAD-R15 | PAD-R15 | PAD-R20 |
| | | Screw | LS0904-10 | LS0904-10 | LS0904-10 | LS0905-12 |
| | | Wrench | H2.5 | H2.5 | H2.5 | H3 |

D216,D219 | Guide Pad D223 | Cartridge D225

- A+B is for outer four start thread connection type
- A+C is for inner single start thread connection type

# TBTA-R Series

## Assembly of TBTA-R series




1. Head shank
2. Cartridge & lock screw
3. Guide pad
4. Resin guide pad & lock screw

| Parts | | | Diameter (mm) | | |
|---|---|---|---|---|---|
| | | | 60.00-66.99 | 67.00-99.99 | 100.00-122.99 |
| Close tolerance | Cartridge | Outer | PERC-P 32R | PERC-P 43R | PERC-P 43R |
| | | Adjust screw | AS0005-10 | AS0005-15 | AS0005-15 |
| | | Wrench | H2.5 | H2.5 | H2.5 |
| | | Screw | LS1805RH | LS1806RH | LS1806RH |
| | | Wrench | H3 | H4 | H4 |
| | Insert | Insert | TPMX 1704LG | TPMX 2405LG | TPMX 2405LG |
| | | Screw | CSTB3.5D | CSTB4M | CSTB4M |
| | | Wrench | T-8D | T-15D | T-15D |
| Normal tolerance | Cartridge | Outer | PERC 402-32 | PERC 402-43 | PERC 402-43 |
| | | Adjust screw | AS0005-10 | AS0005-15 | AS0005-15 |
| | | Wrench | H2.5 | H2.5 | H2.5 |
| | | Screw | LS1805RH | LS1806RH | LS1806RH |
| | | Wrench | H3 | H4 | H4 |
| | Insert | Insert | TPMX 170408R-G | TPMX 240512R-G | TPMX 240512R-G |
| | | Screw | CSTB3.5D | CSTB4M | CSTB4M |
| | | Wrench | T-8D | T-15D | T-15D |
| Pad | | Guide pad (A) | PAD-GP14-40-250-DC-SB | PAD-GP14-40-250-DC-SB | PAD-GP18-40-300-DC-SB |
| | | | PAD-GP14-40-250-DC-SC | PAD-GP14-40-250-DC-SC | PAD-GP18-40-300-DC-SC |
| | | Screw | CSTA5S | CSTA5S | LS1206S |
| | | Wrench | T-15D | T-15D | H3 |
| | | Guide pad protector (B) | PAD-P14 | PAD-P14 | PAD-P18 |
| | | Screw | CSTA5S | CSTA5S | LS1206S |
| | | Wrench | T-15D | T-15D | H3 |
| | | Resin guide pad (C) | PAD-R20 | PAD-R35 | PAD-R35 |
| | | Screw | LS0905-12 | LS0906-15 | LS0906-15 |
| | | Wrench | H3 | H4 | H4 |







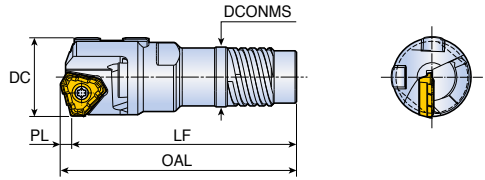



- A+B is for outer four start thread connection type
- A+C is for inner single start thread connection type

# TBTA-TR…SE4

**Single tube system**






• Outer four start thread

| Designation | | DC | Dimension (mm) | | | | Tube | |
|---|---|---|---|---|---|---|---|---|
| | | | LF | OAL | DCONMS | PL | Part | Diameter (mm) |
| **TBTA-** | **TRxx.xxSE4-14** | 16.00-16.70 | 55.0 | 57.2 | 12.6 | 2.2 | BTSI 014 | 14 |
| | **TRxx.xxSE4-15** | 16.71-17.70 | 55.0 | 57.2 | 13.6 | 2.2 | BTSI 015 | 15 |
| | **TRxx.xxSE4-16** | 17.71-18.90 | 56.0 | 59.0 | 14.5 | 3.0 | BTSI 016 | 16 |
| | **TRxx.xxSE4-17** | 18.91-20.00 | 56.0 | 59.0 | 15.5 | 3.0 | BTSI 017 | 17 |
| | **TRxx.xxSE4-18** | 20.01-21.80 | 60.0 | 63.2 | 16.0 | 3.2 | BTSI 018 | 18 |
| | **TRxx.xxSE4-20** | 21.81-21.99 | 63.5 | 66.7 | 18.0 | 3.2 | BTSI 020 | 20 |
| | **TRxx.xxSE4-20** | 22.00-24.10 | 65.5 | 68.9 | 18.0 | 3.4 | BTSI 020 | 20 |
| | **TRxx.xxSE4-22** | 24.11-26.40 | 65.5 | 69.1 | 19.5 | 3.6 | BTSI 022 | 22 |
| | **TRxx.xxSE4-24** | 26.41-28.00 | 65.6 | 69.1 | 21.0 | 3.6 | BTSI 024 | 24 |
| | **TRxx.xxSE4-24** | 28.01-28.70 | 70.0 | 74.6 | 21.0 | 4.6 | BTSI 024 | 24 |
| | **TRxx.xxSE4-26** | 28.71-29.99 | 75.0 | 79.6 | 23.5 | 4.6 | BTSI 026 | 26 |
| | **TRxx.xxSE4-26** | 30.00-31.00 | 75.0 | 79.6 | 23.5 | 4.6 | BTSI 026 | 26 |
| | **TRxx.xxSE4-28** | 31.01-32.00 | 75.0 | 79.6 | 25.5 | 4.6 | BTSI 028 | 28 |
| | **TRxx.xxSE4-28** | 32.01-33.30 | 74.5 | 79.9 | 25.5 | 5.4 | BTSI 028 | 28 |
| | **TRxx.xxSE4-30** | 33.31-36.20 | 79.5 | 84.9 | 28.0 | 5.4 | BTSI 030 | 30 |
| | **TRxx.xxSE4-33** | 36.21-39.00 | 89.5 | 94.9 | 30.0 | 5.4 | BTSI 033 | 33 |
| | **TRxx.xxSE4-33** | 39.01-39.60 | 89.5 | 94.9 | 30.0 | 5.4 | BTSI 033 | 33 |
| | **TRxx.xxSE4-36** | 39.61-40.00 | 94.5 | 99.9 | 33.0 | 5.4 | BTSI 036 | 36 |

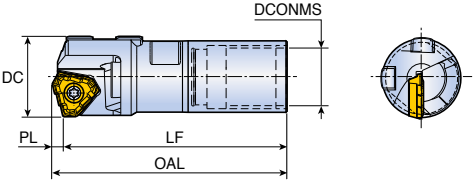
Assembly D165 | Tube D170 | Cutting Condition D260

▸ Insert and guide pad are sold separately from drill body

# TBTA-TR…SI1

**Single tube system**






• Inner single start thread

| Designation | | DC | Dimension (mm) | | | | Tube | |
|---|---|---|---|---|---|---|---|---|
| | | | LF | OAL | DCONMS | PL | Part | Diameter (mm) |
| **TBTA-** | **TR16.00SI1-13A** | 16.00 | 53.5 | 55.7 | 10.8 | 2.2 | BTSE 013A | 13 |
| | **TRxx.xxSI1-13B** | 16.01-16.50 | 53.5 | 55.7 | 11.1 | 2.2 | BTSE 013B | 13 |
| | **TRxx.xxSI1-14A** | 16.51-17.25 | 53.5 | 55.7 | 11.8 | 2.2 | BTSE 014A | 14 |
| | **TRxx.xxSI1-14B** | 17.26-18.00 | 53.5 | 55.7 | 12.1 | 2.2 | BTSE 014B | 14 |
| | **TRxx.xxSI1-15** | 18.01-19.00 | 53.5 | 56.5 | 12.8 | 3.0 | BTSE 015 | 15 |
| | **TRxx.xxSI1-16.5** | 19.01-19.99 | 53.5 | 56.7 | 13.8 | 3.2 | BTSE 016.5 | 16.5 |
| | **TRxx.xxSI1-18** | 20.00-21.99 | 58.0 | 61.2 | 14.5 | 3.2 | BTSE 018 | 18 |
| | **TRxx.xxSI1-20** | 22.00-24.99 | 60.0 | 63.4 | 16.0 | 3.4 | BTSE 020 | 20 |
| | **TRxx.xxSI1-22** | 25.00 | 60.0 | 63.5 | 17.0 | 3.5 | BTSE 022 | 22 |
| | **TRxx.xxSI1-22** | 25.01-26.99 | 65.0 | 68.5 | 17.0 | 3.5 | BTSE 022 | 22 |
| | **TRxx.xxSI1-24** | 27.00-28.00 | 65.0 | 68.5 | 19.0 | 3.5 | BTSE 024 | 24 |
| | **TRxx.xxSI1-24** | 28.01-29.99 | 70.0 | 74.6 | 22.0 | 4.6 | BTSE 024 | 24 |
| | **TRxx.xxSI1-26** | 30.00-31.99 | 75.0 | 79.6 | 24.0 | 4.6 | BTSE 026 | 26 |
| | **TRxx.xxSI1-28** | 32.00 | 75.0 | 79.6 | 26.0 | 4.6 | BTSE 028 | 28 |
| | **TRxx.xxSI1-28** | 32.01-33.99 | 74.5 | 79.9 | 26.0 | 5.4 | BTSE 028 | 28 |
| | **TRxx.xxSI1-30** | 34.00-36.99 | 89.5 | 94.9 | 27.0 | 5.4 | BTSE 030 | 30 |
| | **TRxx.xxSI1-33** | 37.00-39.00 | 94.5 | 99.9 | 30.0 | 5.4 | BTSE 033 | 33 |
| | **TRxx.xxSI1-33** | 39.01-39.99 | 94.5 | 99.9 | 30.0 | 5.4 | BTSE 033 | 33 |
| | **TRxx.xxSI1-36** | 40.00 | 99.5 | 104.9 | 33.0 | 5.4 | BTSE 036 | 36 |

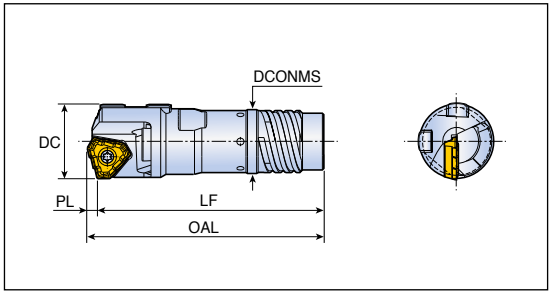
Assembly D165 | Tube D172 | Cutting Condition D260

▸ Insert and guide pad are sold separately from drill body

# TBTA-TR…DE4

**Double tube system**






• Outer four start thread

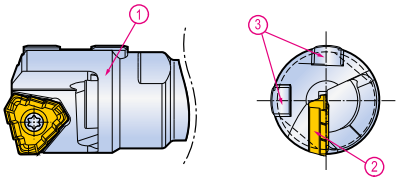
| Designation | | DC | Dimension (mm) | | | | Tube | |
|---|---|---|---|---|---|---|---|---|
| | | | LF | OAL | DCONMS | PL | Part | Diameter (mm) |
| **TBTA-** | **TRxx.xxDE4-18** | 18.40-20.00 | 59.0 | 62.0 | 16.0 | 3.0 | BTDO 018 | 18 |
| | **TRxx.xxDE4-19.5** | 20.01-21.80 | 63.5 | 66.7 | 18.0 | 3.2 | BTDO 019.5 | 19.5 |
| | **TRxx.xxDE4-21.5** | 21.81-21.99 | 63.5 | 66.7 | 19.5 | 3.2 | BTDO 021.5 | 21.5 |
| | **TRxx.xxDE4-21.5** | 22.00-24.10 | 65.5 | 68.9 | 19.5 | 3.4 | BTDO 021.5 | 21.5 |
| | **TRxx.xxDE4-23.5** | 24.11-25.00 | 65.5 | 68.9 | 21.0 | 3.4 | BTDO 023.5 | 23.5 |
| | **TRxx.xxDE4-23.5** | 25.01-26.40 | 65.5 | 71.1 | 21.0 | 3.6 | BTDO 023.5 | 23.5 |
| | **TRxx.xxDE4-26** | 26.41-28.00 | 70.5 | 74.1 | 23.5 | 3.6 | BTDO 026 | 26 |
| | **TRxx.xxDE4-26** | 28.01-28.70 | 75.0 | 79.6 | 23.5 | 4.6 | BTDO 026 | 26 |
| | **TRxx.xxDE4-28** | 28.71-29.99 | 75.0 | 79.6 | 25.5 | 4.6 | BTDO 026 | 28 |
| | **TRxx.xxDE4-28** | 30.00-31.00 | 75.0 | 79.6 | 25.5 | 4.6 | BTDO 028 | 28 |
| | **TRxx.xxDE4-30.5** | 31.01-32.00 | 80.0 | 84.6 | 28.0 | 4.6 | BTDO 030.5 | 30.5 |
| | **TRxx.xxDE4-30.5** | 32.01-33.30 | 79.5 | 84.9 | 28.0 | 5.4 | BTDO 030.5 | 30.5 |
| | **TRxx.xxDE4-33** | 33.31-36.20 | 89.5 | 94.9 | 30.0 | 5.4 | BTDO 033 | 33 |
| | **TRxx.xxDE4-35.5** | 36.21-39.00 | 94.5 | 99.9 | 33.0 | 5.4 | BTDO 035.5 | 35.5 |
| | **TRxx.xxDE4-35.5** | 39.01-39.60 | 94.5 | 99.9 | 33.0 | 5.4 | BTDO 035.5 | 35.5 |
| | **TRxx.xxDE4-39** | 39.61-40.00 | 99.5 | 104.9 | 36.0 | 5.4 | BTDO 039 | 39 |

Assembly D165 | Tube D174 | Cutting Condition D260

▸ Insert and guide pad are sold separately from drill body.

# TBTA-TR Series

## Assembly of TBTA-TR series




1. Head shank
2. Insert
3. Guide pad

| | Parts | Diameter (mm) | | |
|---|---|---|---|---|
| | | 16.00-18.00 | 18.01-20.00 | 20.01-21.00 |
| Insert | Insert | TOGT 080305 RS | TOGT 090305 RS | TOGT 100305 RS |
| | Screw | CSTB2.5S | CSTB2.5S* | CSTB3S* |
| | Wrench | T-8F | T-8F | T-9F |
| | | | | |
| Guide Pad | Guide Pad | PAD-GP06-20-075-DC-SB | PAD-GP06-20-085-DC-SB | PAD-GP06-20-085-DC-SB |
| | | PAD-GP06-20-075-DC-SC | PAD-GP06-20-085-DC-SC | PAD-GP06-20-085-DC-SC |
| | Screw | CSTB2.2S | CSTB2.2S* | CSTB2.2S* |
| | Wrench | T-7F | T-7F | T-7F |
| | | | | |

| | Parts | Diameter (mm) | | |
|---|---|---|---|---|
| | | 21.01-21.99 | 22.00-25.00 | 25.01-28.00 |
| Insert | Insert | TOGT 100305 RS | TOGT 110405 RS | TOGT 120405 RS |
| | Screw | CSTB3S* | SR14-571/S | CSTB4S |
| | Wrench | T-9F | T-10/5 | T-15F |
| | | | | |
| Guide Pad | Guide Pad | PAD-GP06-20-100-DC-SB | PAD-GP06-20-100-DC-SB | PAD-GP06-20-120-DC-SB |
| | | PAD-GP06-20-100-DC-SC | PAD-GP06-20-100-DC-SC | PAD-GP06-20-120-DC-SC |
| | Screw | CSTB2.2S* | CSTB2.2S* | CSTB2.2S* |
| | Wrench | T-7F | T-7F | T-7F |
| | | | | |

| | Parts | Diameter (mm) | | | |
|---|---|---|---|---|---|
| | | 28.01-29.99 | 30.00-32.00 | 32.01-39.00 | 39.01-40.00 |
| Insert | Insert | TOGT 130408 RS | TOGT 130408 RS | TOGT 140510 RS | TOGT 140510 RS |
| | Screw | SR 16-212/L10 | SR 16-212/L10 | SR 16-212/L10 | SR 16-212/L10 |
| | Wrench | T-20/5 | T-20/5 | T-20/5 | T-20/5 |
| | | | | | |
| Guide Pad | Guide Pad | PAD-GP06-20-120-DC-SB | PAD-GP07-20-120-DC-SB | PAD-GP07-20-120-DC-SB | PAD-GP08-25-155-DC-SB |
| | | PAD-GP06-20-120-DC-SC | PAD-GP07-20-120-DC-SC | PAD-GP07-20-120-DC-SC | PAD-GP08-25-155-DC-SC |
| | Screw | CSTB2.2 | CSTB3S | CSTB3S | CSTB3S |
| | Wrench | T-7F | T-9F | T-9F | T-9F |
| | | | | | |
| | | | | | |
| | | | | | |





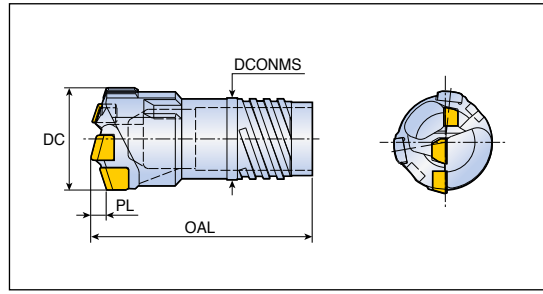


▸ Insert and guide pad are sold separately from drill body.

# BTA...SE2/SE4

**Single tube system**




• Outer four start thread

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | OAL | PL | DCONMS | Part | Diameter (mm) |
| **BTA xxx.xx SE2-11*** | 12.60-13.10 | 43.0 | 1.1 | 9.6 | BTSI011 | 11 |
| **xxx.xx SE2-11*** | 13.11-13.60 | 43.0 | 1.1 | 9.6 | BTSI011 | 11 |
| **xxx.xx SE2-12*** | 13.61-14.10 | 43.0 | 1.2 | 10.6 | BTSI012 | 12 |
| **xxx.xx SE2-12*** | 14.11-14.60 | 43.0 | 1.2 | 10.6 | BTSI012 | 12 |
| **xxx.xx SE2-13*** | 14.61-15.10 | 43.0 | 1.3 | 11.6 | BTSI013 | 13 |
| **xxx.xx SE2-13*** | 15.11-15.59 | 43.0 | 1.3 | 11.6 | BTSI013 | 13 |
| **xxx.xx SE4-14** | 15.60-16.20 | 43.0 | 2.7 | 12.6 | BTSI014 | 14 |
| **xxx.xx SE4-14** | 16.21-16.70 | 43.0 | 2.7 | 12.6 | BTSI014 | 14 |
| **xxx.xx SE4-15** | 16.71-17.20 | 43.0 | 2.7 | 13.6 | BTSI015 | 15 |
| **xxx.xx SE4-15** | 17.21-17.70 | 43.0 | 2.7 | 13.6 | BTSI015 | 15 |
| **xxx.xx SE4-16** | 17.71-18.40 | 47.0 | 2.8 | 14.5 | BTSI016 | 16 |
| **xxx.xx SE4-16** | 18.41-18.90 | 47.0 | 2.9 | 14.5 | BTSI016 | 16 |
| **xxx.xx SE4-17** | 18.91-19.20 | 47.0 | 2.9 | 15.5 | BTSI017 | 17 |
| **xxx.xx SE4-17** | 19.21-20.00 | 47.0 | 2.9 | 15.5 | BTSI017 | 17 |
| **xxx.xx SE4-18** | 20.01-20.90 | 52.5 | 3.2 | 16.0 | BTSI018 | 18 |
| **xxx.xx SE4-18** | 20.91-21.80 | 52.5 | 3.2 | 16.0 | BTSI018 | 18 |
| **xxx.xx SE4-20** | 21.81-22.90 | 56.0 | 3.2 | 18.0 | BTSI020 | 20 |
| **xxx.xx SE4-20** | 22.91-24.10 | 56.0 | 3.2 | 18.0 | BTSI020 | 20 |
| **xxx.xx SE4-22** | 24.11-25.20 | 57.5 | 3.5 | 19.5 | BTSI022 | 22 |
| **xxx.xx SE4-22** | 25.21-26.40 | 57.5 | 3.5 | 19.5 | BTSI022 | 22 |
| **xxx.xx SE4-24** | 26.41-27.50 | 57.5 | 3.7 | 21.0 | BTSI024 | 24 |
| **xxx.xx SE4-24** | 27.51-28.70 | 57.5 | 3.7 | 21.0 | BTSI024 | 24 |
| **xxx.xx SE4-26** | 28.71-29.80 | 63.5 | 4.0 | 23.5 | BTSI026 | 26 |
| **xxx.xx SE4-26** | 29.81-31.00 | 63.5 | 4.0 | 23.5 | BTSI026 | 26 |
| **xxx.xx SE4-28** | 31.01-32.10 | 63.5 | 4.3 | 25.5 | BTSI028 | 28 |
| **xxx.xx SE4-28** | 32.11-33.30 | 63.5 | 4.3 | 25.5 | BTSI028 | 28 |
| **xxx.xx SE4-30** | 33.31-34.80 | 63.5 | 4.5 | 28.0 | BTSI030 | 30 |
| **xxx.xx SE4-30** | 34.81-36.20 | 63.5 | 4.5 | 28.0 | BTSI030 | 30 |
| **xxx.xx SE4-33** | 36.21-37.30 | 73.5 | 4.8 | 30.0 | BTSI033 | 33 |
| **xxx.xx SE4-33** | 37.31-38.40 | 73.5 | 4.8 | 30.0 | BTSI033 | 33 |
| **xxx.xx SE4-33** | 38.41-39.60 | 73.5 | 4.8 | 30.0 | BTSI033 | 33 |
| **xxx.xx SE4-36** | 39.61-40.60 | 73.5 | 5.6 | 33.0 | BTSI036 | 36 |
| **xxx.xx SE4-36** | 40.61-41.80 | 73.5 | 5.6 | 33.0 | BTSI036 | 36 |
| **xxx.xx SE4-36** | 41.81-43.00 | 73.5 | 5.6 | 33.0 | BTSI036 | 36 |
| **xxx.xx SE4-39** | 43.01-44.30 | 75.0 | 5.4 | 36.0 | BTSI039 | 39 |

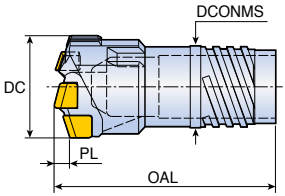
Tube D170 | Cutting Condition D256

▸ *: 2 cutting edge head, 2 start thread

# BTA...SE4

## Single tube system






• Outer four start thread

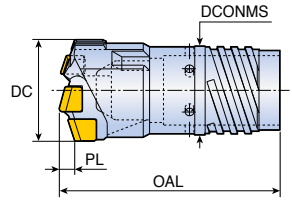
| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | OAL | PL | DCONMS | Part | Diameter (mm) |
| **BTA xxx.xx SE4-39** | 44.31-45.60 | 75.0 | 5.4 | 36.0 | BTSI039 | 39 |
| **xxx.xx SE4-39** | 45.61-47.00 | 75.0 | 5.4 | 36.0 | BTSI039 | 39 |
| **xxx.xx SE4-43** | 47.01-48.50 | 75.0 | 6.1 | 39.0 | BTSI043 | 43 |
| **xxx.xx SE4-43** | 48.51-50.10 | 75.0 | 6.1 | 39.0 | BTSI043 | 43 |
| **xxx.xx SE4-43** | 50.11-51.70 | 75.0 | 6.1 | 39.0 | BTSI043 | 43 |
| **xxx.xx SE4-47** | 51.71-53.20 | 82.0 | 6.5 | 43.0 | BTSI047 | 47 |
| **xxx.xx SE4-47** | 53.21-54.70 | 82.0 | 6.5 | 43.0 | BTSI047 | 47 |
| **xxx.xx SE4-47** | 54.71-56.20 | 82.0 | 6.5 | 43.0 | BTSI047 | 47 |
| **xxx.xx SE4-51** | 56.21-58.40 | 84.0 | 6.6 | 47.0 | BTSI051 | 51 |
| **xxx.xx SE4-51** | 58.41-60.60 | 84.0 | 6.6 | 47.0 | BTSI051 | 51 |
| **xxx.xx SE4-51** | 60.61-62.80 | 84.0 | 7.0 | 47.0 | BTSI051 | 51 |
| **xxx.xx SE4-51** | 62.81-65.00 | 84.0 | 7.0 | 47.0 | BTSI051 | 51 |
| **xxx.xx SE4-56** | 60.61-62.80 | 84.0 | 7.0 | 51.0 | BTSI056 | 56 |
| **xxx.xx SE4-56** | 62.81-65.00 | 84.0 | 7.0 | 51.0 | BTSI056 | 56 |

Tube D170
Cutting Condition D256

# BTA...DE4

**Double tube system**






• Outer four start thread

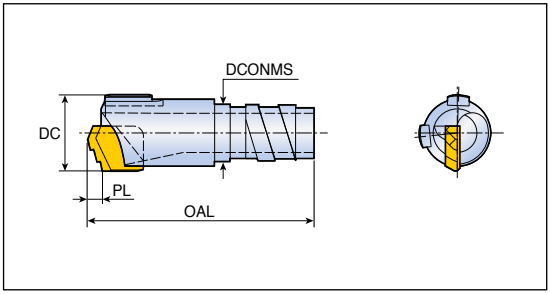
| Designation | DC | Dimension (mm) | | | Tube | | |
|---|---|---|---|---|---|---|---|
| | | OAL | PL | DCONMS | Outer tube | Inner tube | Diameter (mm) |
| **BTA xxx.xx DE4-18** | 18.41-19.20 | 50.0 | 2.9 | 16.0 | BTDO018 | BTDI012 | 18.0 |
| **xxx.xx DE4-18** | 19.21-20.00 | 50.0 | 2.9 | 16.0 | BTDO018 | BTDI012 | 18.0 |
| **xxx.xx DE4-19.5** | 20.01-20.90 | 56.0 | 3.2 | 18.0 | BTDO019.5 | BTDI014 | 19.5 |
| **xxx.xx DE4-19.5** | 20.91-21.80 | 56.0 | 3.2 | 18.0 | BTDO019.5 | BTDI014 | 19.5 |
| **xxx.xx DE4-21.5** | 21.81-22.90 | 56.0 | 3.2 | 19.5 | BTDO021.5 | BTDI015 | 21.5 |
| **xxx.xx DE4-21.5** | 22.91-24.10 | 56.0 | 3.2 | 19.5 | BTDO021.5 | BTDI015 | 21.5 |
| **xxx.xx DE4-23.5** | 24.11-25.20 | 57.5 | 3.5 | 21.0 | BTDO023.5 | BTDI016 | 23.5 |
| **xxx.xx DE4-23.5** | 25.21-26.40 | 57.5 | 3.5 | 21.0 | BTDO023.5 | BTDI016 | 23.5 |
| **xxx.xx DE4-26** | 26.41-27.50 | 60.5 | 3.7 | 23.5 | BTDO026 | BTDI018 | 26.0 |
| **xxx.xx DE4-26** | 27.51-28.70 | 60.5 | 3.7 | 23.5 | BTDO026 | BTDI018 | 26.0 |
| **xxx.xx DE4-28** | 28.71-29.80 | 63.5 | 4.0 | 25.5 | BTDO028 | BTDI020 | 28.0 |
| **xxx.xx DE4-28** | 29.81-31.00 | 63.5 | 4.0 | 25.5 | BTDO028 | BTDI020 | 28.0 |
| **xxx.xx DE4-30.5** | 31.01-32.10 | 63.5 | 4.1 | 28.0 | BTDO030.5 | BTDI022 | 30.5 |
| **xxx.xx DE4-30.5** | 32.11-33.30 | 63.5 | 4.1 | 28.0 | BTDO030.5 | BTDI022 | 30.5 |
| **xxx.xx DE4-33** | 33.31-34.80 | 70.5 | 4.5 | 30.0 | BTDO033.0 | BTDI024 | 33.0 |
| **xxx.xx DE4-33** | 34.81-36.20 | 70.5 | 4.5 | 30.0 | BTDO033.0 | BTDI024 | 33.0 |
| **xxx.xx DE4-35.5** | 36.21-37.30 | 73.5 | 4.8 | 33.0 | BTDO035.5 | BTDI026 | 35.5 |
| **xxx.xx DE4-35.5** | 37.31-38.40 | 73.5 | 4.8 | 33.0 | BTDO035.5 | BTDI026 | 35.5 |
| **xxx.xx DE4-35.5** | 38.41-39.60 | 73.5 | 4.8 | 33.0 | BTDO035.5 | BTDI026 | 35.5 |
| **xxx.xx DE4-39** | 39.61-40.60 | 73.5 | 5.3 | 36.0 | BTDO039 | BTDI029 | 39.0 |
| **xxx.xx DE4-39** | 40.61-41.80 | 73.5 | 5.3 | 36.0 | BTDO039 | BTDI029 | 39.0 |
| **xxx.xx DE4-39** | 41.81-43.00 | 73.5 | 5.3 | 36.0 | BTDO039 | BTDI029 | 39.0 |
| **xxx.xx DE4-42.5** | 43.01-44.30 | 75.0 | 5.5 | 39.0 | BTDO042.5 | BTDI032 | 42.5 |
| **xxx.xx DE4-42.5** | 44.31-45.60 | 75.0 | 5.5 | 39.0 | BTDO042.5 | BTDI032 | 42.5 |
| **xxx.xx DE4-42.5** | 45.61-47.00 | 75.0 | 5.5 | 39.0 | BTDO042.5 | BTDI032 | 42.5 |
| **xxx.xx DE4-46.5** | 47.01-48.50 | 79.0 | 6.1 | 43.0 | BTDO046.5 | BTDI035 | 46.5 |
| **xxx.xx DE4-46.5** | 48.51-50.10 | 79.0 | 6.1 | 43.0 | BTDO046.5 | BTDI035 | 46.5 |
| **xxx.xx DE4-46.5** | 50.11-51.70 | 79.0 | 6.1 | 43.0 | BTDO046.5 | BTDI035 | 46.5 |
| **xxx.xx DE4-51** | 51.71-53.20 | 82.0 | 6.5 | 47.0 | BTDO051 | BTDI039 | 51.0 |
| **xxx.xx DE4-51** | 53.21-54.70 | 82.0 | 6.5 | 47.0 | BTDO051 | BTDI039 | 51.0 |
| **xxx.xx DE4-51** | 54.71-56.20 | 82.0 | 6.5 | 47.0 | BTDO051 | BTDI039 | 51.0 |
| **xxx.xx DE4-55.5** | 56.21-58.40 | 84.0 | 6.6 | 51.0 | BTDO055.5 | BTDI043A | 55.5 |
| **xxx.xx DE4-55.5** | 58.41-60.60 | 84.0 | 6.6 | 51.0 | BTDO055.5 | BTDI043A | 55.5 |
| **xxx.xx DE4-55.5** | 60.61-62.80 | 84.0 | 6.6 | 51.0 | BTDO055.5 | BTDI043A | 55.5 |
| **xxx.xx DE4-55.5** | 62.81-65.00 | 84.0 | 6.6 | 51.0 | BTDO055.5 | BTDI043A | 55.5 |

Tube D174
Cutting Condition D256

# BTS...SE1

**Single tube system**





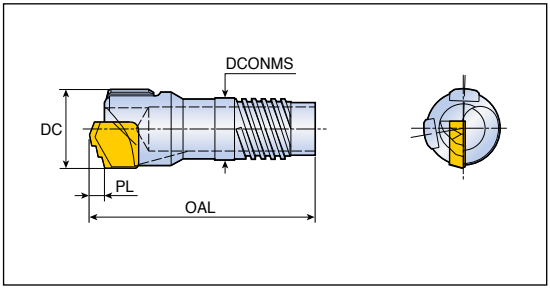

• Outer single start thread

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | OAL | PL | DCONMS | Part | Diameter (mm) |
| **BTS xxx.xx SE1-7.1** | 8.00-8.99 | 34 | 2.0 | 6.0 | BTSO071 | 7.1 |
| **xxx.xx SE1-8.3** | 9.00-9.99 | 34 | 2.0 | 7.2 | BTSO083 | 8.3 |
| **xxx.xx SE1-9** | 10.00-10.99 | 34 | 2.2 | 7.6 | BTSO090 | 9.0 |
| **xxx.xx SE1-10** | 11.00-11.99 | 34 | 2.2 | 8.6 | BTSO100 | 10.0 |
| **xxx.xx SE1-11** | 12.00-13.49 | 34 | 2.3 | 9.1 | BTSO110 | 11.0 |
| **xxx.xx SE1-12** | 13.50-14.79 | 34 | 2.4 | 10.8 | BTSO120 | 12.0 |
| | | | | | | |

# BTS...SE2/SE4

**Single tube system**






• Outer four start thread

| Designation | DC | Dimension (mm) | | | Tube | |
|---|---|---|---|---|---|---|
| | | OAL | PL | DCONMS | Part | Diameter (mm) |
| **BTS xxx.xx SE2-11*** | 12.60-13.60 | 40 | 2.3 | 9.6 | BTSI011 | 11 |
| **xxx.xx SE2-12*** | 13.61-14.60 | 40 | 2.4 | 10.6 | BTSI012 | 12 |
| **xxx.xx SE2-13*** | 14.61-15.59 | 40 | 3.0 | 11.6 | BTSI013 | 13 |
| **xxx.xx SE4-14** | 15.60-16.70 | 40 | 2.4 | 12.6 | BTSI014 | 14 |
| **xxx.xx SE4-15** | 16.71-17.70 | 40 | 3.0 | 13.6 | BTSI015 | 15 |
| **xxx.xx SE4-16** | 17.71-18.90 | 40 | 3.3 | 14.5 | BTSI016 | 16 |
| **xxx.xx SE4-17** | 18.91-20.00 | 40 | 3.3 | 15.5 | BTSI017 | 17 |
| | | | | | | |

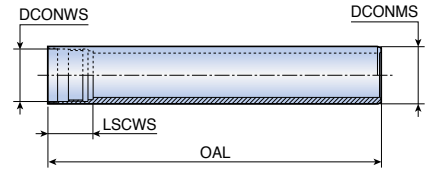
Tube D170,D173 | Cutting Condition D256

▸ *: Designates outer two start thread

# BTSI

## Single tube






• Inner four start thread

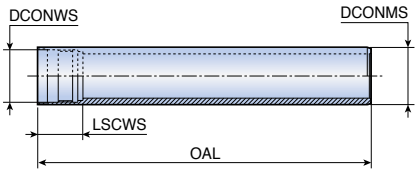
| Designation | | DC | Dimension (mm) | | |
|---|---|---|---|---|---|
| | | | DCONMS | DCONWS | LSCWS |
| **BTSI** | **011 *** | 12.60-13.60 | 11.0 | 9.6 | 22 |
| | **012 *** | 13.61-14.60 | 12.0 | 10.6 | 22 |
| | **013 *** | 14.61-15.59 | 13.0 | 11.6 | 22 |
| | **014** | 15.60-16.70 | 14.0 | 12.6 | 21 |
| | **015** | 16.71-17.70 | 15.0 | 13.6 | 21 |
| | **016** | 17.71-18.90 | 16.0 | 14.5 | 22 |
| | **017** | 18.91-20.00 | 17.0 | 15.5 | 22 |
| | **018** | 20.01-21.80 | 18.0 | 16.0 | 27.5 |
| | **020** | 21.81-24.10 | 20.0 | 18.0 | 30 |
| | **022** | 24.11-26.40 | 22.0 | 19.5 | 30 |
| | **024** | 26.41-28.70 | 24.0 | 21.0 | 30 |
| | **026** | 28.71-31.00 | 26.0 | 23.5 | 33 |
| | **028** | 31.01-33.30 | 28.0 | 25.5 | 33 |
| | **030** | 33.31-36.20 | 30.0 | 28.0 | 33 |
| | **033** | 36.21-39.60 | 33.0 | 30.0 | 40 |
| | **036** | 39.61-43.00 | 36.0 | 33.0 | 40 |
| | **039** | 43.01-47.00 | 39.0 | 36.0 | 40 |
| | **043** | 47.01-51.70 | 43.0 | 39.0 | 40 |
| | **047** | 51.71-56.20 | 47.0 | 43.0 | 44 |

▸ Please indicate overall length (OAL) when ordering
▸ *: Indicates parts are inner two start thread

# BTSI

## Single tube






• Inner four start thread

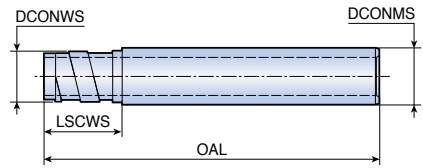
| Designation | DC | Dimension (mm) | | |
|---|---|---|---|---|
| | | DCONMS | DCONWS | LSCWS |
| **BTSI 051** | 56.21-60.60 | 51.0 | 47.0 | 44 |
| **056A** | 60.61-65.00 | 56.0 | 51.0 | 44 |
| **056B** | 65.00-66.99 | 56.0 | 52.0 | 75 |
| **062** | 67.00-72.99 | 62.0 | 58.0 | 75 |
| **068** | 73.00-79.99 | 68.0 | 63.0 | 75 |
| **075** | 80.00-86.99 | 75.0 | 70.0 | 97 |
| **082** | 87.00-99.99 | 82.0 | 77.0 | 97 |
| **094** | 100.00-111.99 | 94.0 | 89.0 | 97 |
| **106** | 112.00-123.99 | 106.0 | 101.0 | 118 |
| **118** | 124.00-135.99 | 118.0 | 113.0 | 118 |
| **130** | 136.00-147.99 | 130.0 | 125.0 | 118 |
| **142** | 148.00-159.99 | 142.0 | 137.0 | 139 |
| **154** | 160.00-171.99 | 154.0 | 149.0 | 139 |
| **166** | 172.00-183.99 | 166.0 | 161.0 | 139 |
| **178** | 184.00-195.99 | 178.0 | 173.0 | 144 |
| **190** | 196.00-207.99 | 190.0 | 185.0 | 144 |
| **202** | 208.00-219.99 | 202.0 | 197.0 | 144 |
| **214** | 220.00-231.99 | 214.0 | 208.0 | 164 |
| **226** | 232.00-243.99 | 226.0 | 220.0 | 164 |
| **238** | 244.00-255.99 | 238.0 | 232.0 | 164 |
| **250** | 256.00-267.99 | 250.0 | 244.0 | 184 |
| **262** | 268.00-279.99 | 262.0 | 256.0 | 184 |
| **274** | 280.00-291.99 | 274.0 | 268.0 | 184 |

▸ Please indicate overall length (OAL) when ordering

# BTSE

## Single tube





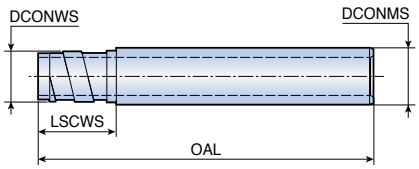

• Outer single start thread

| Designation | | DC | Dimension (mm) | | |
|---|---|---|---|---|---|
| | | | DCONMS | DCONWS | LSCWS |
| **BTSE** | **012A** | 14.50-15.00 | 12.0 | 11.5 | 23 |
| | **012B** | 15.01-15.50 | 12.0 | 11.8 | 23 |
| | **013A** | 15.51-16.00 | 13.0 | 12.4 | 23 |
| | **013B** | 16.01-16.50 | 13.0 | 12.7 | 23 |
| | **014A** | 16.51-17.25 | 14.0 | 13.4 | 23 |
| | **014B** | 17.26-18.00 | 14.0 | 13.7 | 23 |
| | **015** | 18.01-19.00 | 15.0 | 14.4 | 23 |
| | **016.5** | 19.01-19.99 | 16.5 | 15.4 | 23 |
| | **018** | 20.00-21.99 | 18.0 | 16.5 | 26 |
| | **020** | 22.00-24.99 | 20.0 | 19.0 | 26 |
| | **022** | 25.00-26.99 | 22.0 | 20.0 | 26 |
| | **024** | 27.00-29.99 | 24.0 | 22.0 | 26 |
| | **026** | 30.00-31.99 | 26.0 | 24.0 | 26 |
| | **028** | 32.00-33.99 | 28.0 | 26.0 | 26 |
| | **030** | 34.00-36.99 | 30.0 | 27.0 | 41 |
| | **033** | 37.00-39.99 | 33.0 | 30.0 | 41 |
| | **036** | 40.00-43.99 | 36.0 | 33.0 | 41 |
| | **039** | 44.00-46.99 | 39.0 | 37.0 | 41 |
| | **043** | 47.00-51.99 | 43.0 | 41.0 | 41 |

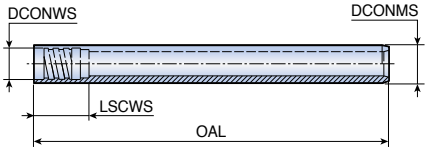
▸ Please indicate overall length (OAL) when ordering

# BTSE / BTSO

## Single tube




**BTSE**
Outer single start thread



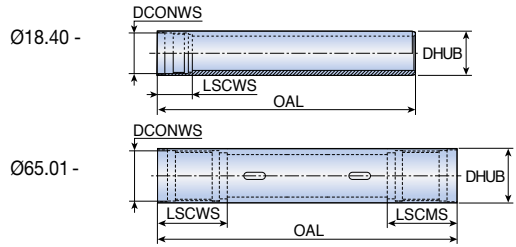

**BTSO**
Inner single start thread

| Designation | | DC | Dimension (mm) | | | |
|---|---|---|---|---|---|---|
| | | | DCONMS | DCONWS | | LSCWS |
| **BTSE** | **047** | 52.00-56.99 | 47.0 | 44 | - | 41 |
| | **051** | 57.00-60.99 | 51.0 | 49 | - | 41 |
| | **056** | 61.00-67.99 | 56.0 | 53 | - | 41 |
| | **062** | 68.00-74.99 | 62.0 | 59 | - | 41 |
| | **068** | 75.00-80.99 | 68.0 | 65 | - | 71 |
| | **075** | 81.00-90.99 | 75.0 | 71 | - | 71 |
| | **082** | 91.00-98.99 | 82.0 | 79 | - | 71 |
| | **094** | 99.00-110.99 | 94.0 | 90 | - | 71 |
| | **106** | 111.00-122.99 | 106.0 | 102 | - | 71 |
| | **118** | 123.00-134.99 | 118.0 | 114 | - | 71 |
| | **130** | 135.00-148.99 | 130.0 | 126 | - | 71 |
| | **142** | 149.00-161.99 | 142.0 | 139 | - | 71 |
| | **154** | 162.00-173.99 | 154.0 | 151 | - | 86 |
| | **166** | 174.00-185.99 | 166.0 | 163 | - | 86 |
| | **178** | 186.00-197.99 | 178.0 | 175 | - | 86 |
| | **190** | 198.00-209.99 | 190.0 | 187 | - | 86 |
| | **202** | 210.00-221.99 | 202.0 | 199 | - | 86 |
| | **214** | 222.00-233.99 | 214.0 | 211 | - | 86 |
| | **226** | 234.00-245.99 | 226.0 | 223 | - | 86 |
| | **238** | 246.00-257.99 | 238.0 | 235 | - | 86 |
| | **250** | 258.00-269.99 | 250.0 | 247 | - | 121 |
| | **262** | 270.00-281.99 | 262.0 | 259 | - | 121 |
| | **274** | 282.00-293.99 | 274.0 | 271 | - | 121 |
| **BTSO** | **071** | 8.00-8.99 | 7.1 | - | 6.0 | 13.5 |
| | **083** | 9.00-9.99 | 8.3 | - | 7.2 | 13.5 |
| | **090** | 10.00-10.99 | 9.0 | - | 7.6 | 13.5 |
| | **100** | 11.00-11.99 | 10.0 | - | 8.6 | 13.5 |
| | **110** | 12.00-13.49 | 11.0 | - | 9.1 | 13.5 |
| | **120** | 13.50-14.79 | 12.0 | - | 10.8 | 13.5 |

▸ Please indicate overall length (OAL) when ordering

# BTDO / BTDI

## Double tube

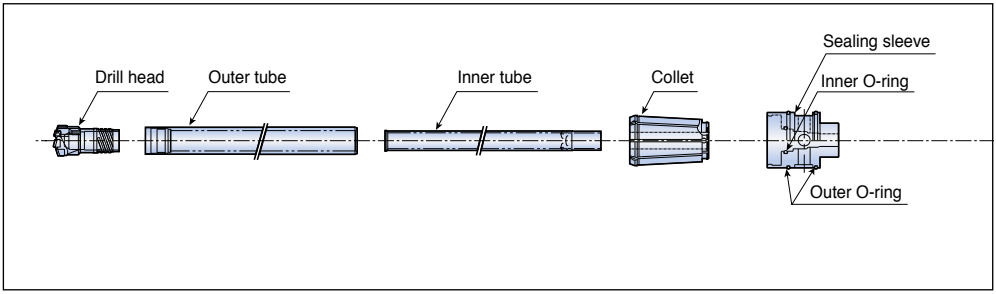



| DC | Outer tube | Dimension (mm) | | | Inner tube | Dimension (mm) | |
|---|---|---|---|---|---|---|---|
| | | DHUB | DCONWS | LSCWS | | DCONMS | DC_3 |
| 18.40-20.00 | **BTDO 018** | 18.0 | 16 | 27.5 | **BTDI 012** | 12 | 10 |
| 20.01-21.80 | **019.5** | 19.5 | 18 | 30 | **014** | 14 | 12 |
| 21.81-24.10 | **021.5** | 21.5 | 19.5 | 30 | **015** | 15 | 13 |
| 24.11-26.40 | **023.5** | 23.5 | 21 | 30 | **016** | 16 | 14 |
| 26.41-28.70 | **026** | 26.0 | 23.5 | 33 | **018** | 18 | 16 |
| 28.71-31.00 | **028** | 28.0 | 25.5 | 33 | **020** | 20 | 18 |
| 31.01-33.30 | **030.5** | 30.5 | 28 | 33 | **022** | 22 | 20 |
| 33.31-36.20 | **033** | 33.0 | 30 | 40 | **024** | 24 | 22 |
| 36.21-39.60 | **035.5** | 35.5 | 33 | 40 | **026** | 26 | 24 |
| 39.61-43.00 | **039** | 39.0 | 36 | 40 | **029** | 29 | 27 |
| 43.01-47.00 | **042.5** | 42.5 | 39 | 40 | **032** | 32 | 30 |
| 47.01-51.70 | **046.5** | 46.5 | 43 | 44 | **035** | 35 | 32 |
| 51.71-56.20 | **051** | 51.0 | 47 | 44 | **039** | 39 | 36 |
| 56.21-65.00 | **055.5** | 55.5 | 51 | 44 | **043A** | 43 | 40 |
| 65.01-69.99 | **056** | 56.0 | 52 | 75 | **043B** | 40 | - |
| 70.00-72.99 | **062** | 62.0 | 58 | 75 | **048** | 44 | - |
| 73.00-79.99 | **068** | 68.0 | 63 | 75 | **053** | 48 | - |
| 80.00-86.99 | **075** | 75.0 | 70 | 97 | **059** | 54 | - |
| 87.00-99.99 | **082** | 82.0 | 77 | 97 | **066** | 60 | - |
| 100.00-111.99 | **094** | 94.0 | 89 | 97 | **078** | 70 | - |
| 112.00-123.99 | **106** | 106.0 | 101 | 118 | **090** | 80 | - |
| 124.00-135.99 | **118** | 118.0 | 113 | 118 | **092** | 80 | - |
| 136.00-147.99 | **130** | 130.0 | 125 | 118 | **104** | 95 | - |
| 148.00-159.99 | **142** | 142.0 | 137 | 139 | **116** | 100 | - |
| 160.00-171.99 | **154** | 154.0 | 149 | 139 | **128** | 120 | - |
| 172.00-183.99 | **166** | 166.0 | 161 | 139 | **138** | 130 | - |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

▸ Please indicate overall length (OAL) when ordering

- For diameter range 18.40-65.00 (BTDO 055.5) the inner tube should be ordered 30mm longer than outer tube
- For diameter range 65.01-123.99 (BTDO 056-BTDO 106) the inner tube should be ordered 190mm longer than outer tube
- For diameter range 124.00-183.99 (BTDO 118-BTDO 166) the inner tube should be ordered 220mm longer than outer tube

# Assembly of Double Tube System

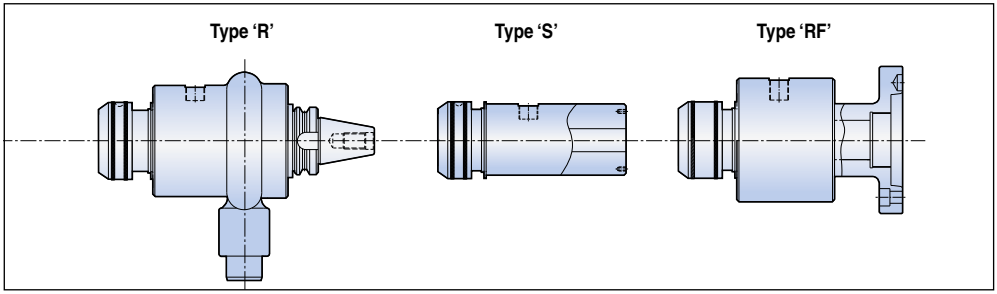



| Designation | | DC | Collet |
|---|---|---|---|
| **BTDO 018** | **BTDI 012** | 18.40-19.20 | COLLET 4-18 |
| **018** | **012** | 19.21-20.00 | COLLET 4-18 |
| **019.5** | **014** | 20.01-20.90 | COLLET 4-19.5 |
| **019.5** | **014** | 20.91-21.80 | COLLET 4-19.5 |
| **021.5** | **015** | 21.81-22.90 | COLLET 4-21.5 |
| **021.5** | **015** | 22.91-24.10 | COLLET 4-21.5 |
| **023.5** | **016** | 24.11-25.20 | COLLET 4-23.5 |
| **023.5** | **016** | 25.21-26.40 | COLLET 4-23.5 |
| **026** | **018** | 26.41-27.50 | COLLET 4-26 |
| **026** | **018** | 27.51-28.70 | COLLET 4-26 |
| **028** | **020** | 28.71-29.80 | COLLET 4-28 |
| **028** | **020** | 29.81-31.00 | COLLET 4-28 |
| **030.5** | **022** | 31.01-32.10 | COLLET 4-30.5 |
| **030.5** | **022** | 32.11-33.30 | COLLET 4-30.5 |
| **033** | **024** | 33.31-34.80 | COLLET 4-33 |
| **033** | **024** | 34.81-36.20 | COLLET 4-33 |
| **035.5** | **026** | 36.21-37.30 | COLLET 4-35.5 |
| **035.5** | **026** | 37.31-38.40 | COLLET 4-35.5 |
| **035.5** | **026** | 38.41-39.60 | COLLET 4-35.5 |
| **039** | **029** | 39.61-40.60 | COLLET 4-39 |
| **039** | **029** | 40.61-41.80 | COLLET 4-39 |
| **039** | **029** | 41.81-43.00 | COLLET 4-39 |
| **042.5** | **032** | 43.01-44.30 | COLLET 4-42.5 |
| **042.5** | **032** | 44.31-45.60 | COLLET 4-42.5 |
| **042.5** | **032** | 45.61-47.00 | COLLET 4-42.5 |
| **046.5** | **035** | 47.01-48.50 | COLLET 4-46.5 |
| **046.5** | **035** | 48.51-50.10 | COLLET 4-46.5 |
| **046.5** | **035** | 50.11-51.70 | COLLET 4-46.5 |
| **051** | **039** | 51.71-53.20 | COLLET 4-51 |
| **051** | **039** | 53.21-54.70 | COLLET 4-51 |
| **051** | **039** | 54.71-56.20 | COLLET 4-51 |
| **055.5** | **043A** | 56.21-58.40 | COLLET 4-55.5 |
| **055.5** | **043A** | 58.41-60.60 | COLLET 4-55.5 |
| **055.5** | **043A** | 60.61-62.80 | COLLET 4-55.5 |
| **055.5** | **043A** | 62.81-65.00 | COLLET 4-55.5 |

▸ Inner tube should be longer than outer tube. Please refer to page D174 for details

# Assembly of Double Tube System

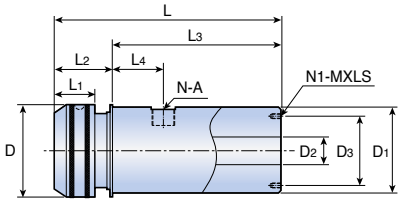
## Connector




| Sealing sleeve | Outer O-ring | Inner O-ring | Connector |
|---|---|---|---|
| SEALING SLEEVE 4R-18 | OOR 25.24 | IOR18 | DTC-4S/4R/4RF |
| SEALING SLEEVE 4R-18 | | IOR18 | |
| SEALING SLEEVE 4R-19.5 | | IOR19.5 | |
| SEALING SLEEVE 4R-19.5 | | IOR19.5 | |
| SEALING SLEEVE 4R-21.5 | | IOR21.5 | |
| SEALING SLEEVE 4R-21.5 | | IOR21.5 | |
| SEALING SLEEVE 4R-23.5 | | IOR23.5 | |
| SEALING SLEEVE 4R-23.5 | | IOR23.5 | |
| SEALING SLEEVE 4R-26 | | IOR26 | |
| SEALING SLEEVE 4R-26 | | IOR26 | |
| SEALING SLEEVE 4R-28 | | IOR28 | |
| SEALING SLEEVE 4R-28 | | IOR28 | |
| SEALING SLEEVE 4R-30.5 | | IOR30.5 | |
| SEALING SLEEVE 4R-30.5 | | IOR30.5 | |
| SEALING SLEEVE 4R-33 | | IOR33 | |
| SEALING SLEEVE 4R-33 | | IOR33 | |
| SEALING SLEEVE 4R-35.5 | OOR65 | IOR35.5 | |
| SEALING SLEEVE 4R-35.5 | | IOR35.5 | |
| SEALING SLEEVE 4R-35.5 | | IOR35.5 | |
| SEALING SLEEVE 4R-39 | | IOR39 | |
| SEALING SLEEVE 4R-39 | | IOR39 | |
| SEALING SLEEVE 4R-39 | | IOR39 | |
| SEALING SLEEVE 4R-42.5 | | IOR42.5 | |
| SEALING SLEEVE 4R-42.5 | | IOR42.5 | |
| SEALING SLEEVE 4R-42.5 | | IOR42.5 | |
| SEALING SLEEVE 4R-46.5 | | IOR46.5 | |
| SEALING SLEEVE 4R-46.5 | | IOR46.5 | |
| SEALING SLEEVE 4R-46.5 | | IOR46.5 | |
| SEALING SLEEVE 4R-51 | | IOR51 | |
| SEALING SLEEVE 4R-51 | | IOR51 | |
| SEALING SLEEVE 4R-51 | | IOR51 | |
| SEALING SLEEVE 4R-55.5 | | IOR55.5 | |
| SEALING SLEEVE 4R-55.5 | | IOR55.5 | |
| SEALING SLEEVE 4R-55.5 | | IOR55.5 | |
| SEALING SLEEVE 4R-55.5 | | IOR55.5 | |
| | | | |

# DTC-S

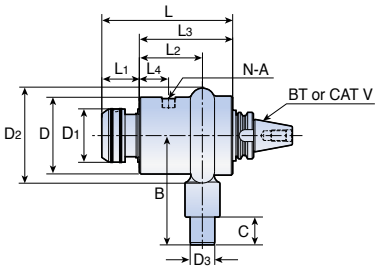
**'S' type connector**




| Designation | DC | D | D1 | D2 | D3 | L | L1 | L2 | L3 | L4 | N-A | N1-MXLS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DTC 4S** | 18.4-65.0 | 115 | 100 | 45 | 80 | 310 | 50 | 60 | 250 | 68 | 2-PT3/4" | 4-M8x15 |
| **5S** | 65.0-123.9 | 164 | 140 | 81 | 120 | 415 | 47 | 115 | 300 | | 2-PT1" | 6-M8x20 |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
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| | | | | | | | | | | | | |

# DTC-R

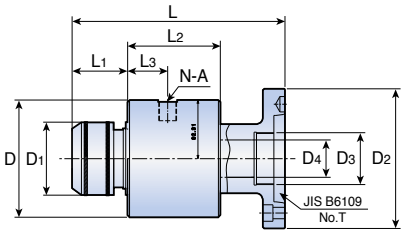
**'R' type connector**




| Designation | DC | D | D1 | D2 | D3 | B | C | L | L1 | L2 | L3 | L4 | N-A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **DTC 4R** | 18.4-65.0 | 165 | 115 | 206 | 53 | 186.5 | 60 | 319.7 | 59.2 | 152 | 228 | 75 | 2-PT1" |
| **5R** | 65.0-123.9 | 225 | 164 | 312 | 100 | 310 | 100 | 382 | 62 | 201 | 320 | 95 | 2-PT1 1/4" |
| **6R** | 124.0-183.9 | 350 | 244 | 445 | 152.4 | 412 | 120 | 487 | 75 | 250 | 412 | 118 | 4-PT1-1/4" |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

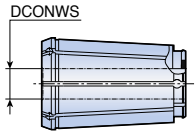
# DTC-RF

**'RF' type connector**

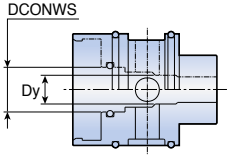



| Designation | DC | D | D1 | D2 | D3 | D4 | L | L1 | L2 | L3 | N-A |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **DTC 4RF** | 18.4-65.0 | 160 | 115 | 210 | M62x2 | 46 | 291.5 | 64.5 | 150 | 75 | 2-PT1" |

# Collet / Sealing Sleeve




**Collet**




**Sealing sleeve**

| Designation | DC | DCONWS | Designation | DC | DCONWS | Dy | Outer O-ring | Inner O-ring |
|---|---|---|---|---|---|---|---|---|
| **COLLET 4-18** | 18.40-20.00 | 18.0 | **SEALING SLEEVE 4-18** | 18.40-20.00 | 18.0 | 10 | OOR 65 | IOR 18 |
| **4-19.5** | 20.01-21.80 | 19.5 | **4-19.5** | 20.01-21.80 | 19.5 | 12 | | IOR 19.5 |
| **4-21.5** | 21.81-24.10 | 21.5 | **4-21.5** | 21.81-24.10 | 21.5 | 13 | | IOR 21.5 |
| **4-23.5** | 24.11-26.40 | 23.5 | **4-23.5** | 24.11-26.40 | 23.5 | 14 | | IOR 23.5 |
| **4-26** | 26.41-28.70 | 26.0 | **4-26** | 26.41-28.70 | 26.0 | 16 | | IOR 26 |
| **4-28** | 28.71-31.00 | 28.0 | **4-28** | 28.71-31.00 | 28.0 | 18 | | IOR 28 |
| **4-30.5** | 31.01-33.30 | 30.5 | **4-30.5** | 31.01-33.30 | 30.5 | 20 | | IOR 30.5 |
| **4-33** | 33.31-36.20 | 33.0 | **4-33** | 33.31-36.20 | 33.0 | 22 | | IOR 33 |
| **4-35.5** | 36.21-39.60 | 35.5 | **4-35.5** | 36.21-39.60 | 35.5 | 24 | | IOR 35.5 |
| **4-39** | 39.61-43.00 | 39.0 | **4-39** | 39.61-43.00 | 39.0 | 27 | | IOR 39 |
| **4-42.5** | 43.01-47.00 | 42.5 | **4-42.5** | 43.01-47.00 | 42.5 | 30 | | IOR 42.5 |
| **4-46.5** | 47.01-51.70 | 46.5 | **4-46.5** | 47.01-51.70 | 46.5 | 32 | | IOR 46.5 |
| **4-51** | 51.71-56.20 | 51.0 | **4-51** | 51.71-56.20 | 51.0 | 36 | | IOR 51 |
| **4-55.5** | 56.21-65.00 | 55.5 | **4-55.5** | 56.21-65.00 | 55.5 | 40 | | IOR 55.5 |

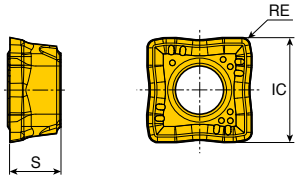
# Drilling Heads & Inserts



# SOMT...DP

TOPDRILL

## Inserts for general purpose




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **04** | 4.4 | 2.38 | 0.4 |
| **05** | 4.9 | 2.38 | 0.4 |
| **06** | 5.7 | 2.38 | 0.4 |
| **07** | 6.8 | 2.80 | 0.6 |
| **08** | 7.9 | 3.97 | 0.6 |
| **09** | 9.2 | 3.97 | 0.8 |
| **11** | 11.0 | 3.97 | 0.8 |
| **13** | 12.8 | 4.40 | 0.8 |
| **15** | 15.0 | 4.80 | 1.0 |

| Insert | Designation | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT8020 | TT9300 | TT9030 | TT6030 | TT7400 | K10 |
|  | **SOMT 040204 DP** | ● | ● | ● | | | | |
| | **050204 DP** | ● | ● | ● | | | | |
| | **060204 DP** | ● | ● | ● | | | | |
| | **070306 DP** | ● | ● | ● | | | | |
| | **08T306 DP** | ● | ● | ● | | | | |
| | **09T308 DP** | ● | ● | ● | | | | |
| | **11T308 DP** | ● | ● | ● | | | | |
| | **130408 DP** | ● | ● | ● | | | | |
| | **150510 DP** | ● | ● | ● | | | | |



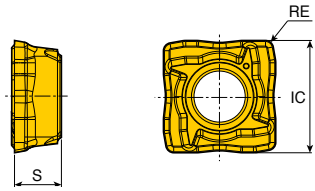

- TT9080: First choice for general purpose
- TT8020: For unstable condition
- TT9300: For high speed machining on a steel application (Peripheral **ONLY**)

●: Standard items

# SOMT…DL

TOPDRILL

## Inserts for low carbon steel




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 4.9 | 2.38 | 0.4 |
| **06** | 5.7 | 2.38 | 0.4 |
| **07** | 6.8 | 2.80 | 0.6 |
| **08** | 7.9 | 3.97 | 0.6 |
| **09** | 9.2 | 3.97 | 0.8 |
| **11** | 11.0 | 3.97 | 0.8 |
| **13** | 12.8 | 4.40 | 0.8 |
| **15** | 15.0 | 4.80 | 1.0 |

| Insert | Designation | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT9030 | TT8020 | TT6030 | TT9300 | TT7400 | K10 |
|  | **SOMT 050204 DL** | ● | | | | | | |
| | **060204 DL** | ● | | | | | | |
| | **070306 DL** | ● | | | | | | |
| | **08T306 DL** | ● | | | | | | |
| | **09T308 DL** | ● | | | | | | |
| | **11T308 DL** | ● | | | | | | |
| | **130408 DL** | ● | | | | | | |
| | **150510 DL** | ● | | | | | | |

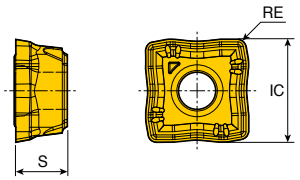



- TT9080: First choice for general purpose

●: Standard items

# SOMT...DK

## Inserts for cast iron




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 4.9 | 2.38 | 0.4 |
| **06** | 5.7 | 2.38 | 0.4 |
| **07** | 6.8 | 2.80 | 0.6 |
| **08** | 7.9 | 3.97 | 0.6 |
| **09** | 9.2 | 3.97 | 0.8 |
| **11** | 11.0 | 3.97 | 0.8 |
| **13** | 12.8 | 4.40 | 0.8 |
| **15** | 15.0 | 4.80 | 1.0 |

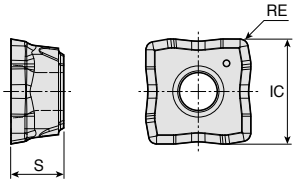
| Insert | Designation | Coated | | | | | | | Uncoated | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT8020 | TT9300 | TT9030 | TT6030 | TT6080 | TT7400 | K10 | | | |
|  | **SOMT 050204 DK** | | | | | | ● | | | | | |
| | **060204 DK** | | | | | | ● | | | | | |
| | **070306 DK** | | | | | | ● | | | | | |
| | **08T306 DK** | | | | | | ● | | | | | |
| | **09T308 DK** | | | | | | ● | | | | | |
| | **11T308 DK** | | | | | | ● | | | | | |
| | **130408 DK** | | | | | | ● | | | | | |
| | **150510 DK** | | | | | | ● | | | | | |




●: Standard items

# SOMT...DA

## Inserts for aluminum alloy




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 4.9 | 2.38 | 0.4 |
| **06** | 5.7 | 2.38 | 0.4 |
| **07** | 6.8 | 2.80 | 0.6 |
| **08** | 7.9 | 3.97 | 0.6 |
| **09** | 9.2 | 3.97 | 0.8 |
| **11** | 11.0 | 3.97 | 0.8 |
| **13** | 12.8 | 4.40 | 0.8 |
| **15** | 15.0 | 4.80 | 1.0 |

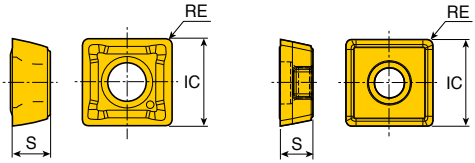
| Insert | Designation | Coated | | | | | | | Uncoated | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT8020 | TT9300 | TT9030 | TT6030 | TT6080 | TT7400 | K10 | | | |
|  | **SOMT 050204 DA** | | | | | | | | ● | | | |
| | **060204 DA** | | | | | | | | ● | | | |
| | **070306 DA** | | | | | | | | ● | | | |
| | **08T306 DA** | | | | | | | | ● | | | |
| | **09T308 DA** | | | | | | | | ● | | | |
| | **11T308 DA** | | | | | | | | ● | | | |
| | **130408 DA** | | | | | | | | ● | | | |
| | **150510 DA** | | | | | | | | ● | | | |




●: Standard items

# SPMG...DG

## Inserts for general purpose




SPMG 120408 DG

| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 5.00 | 2.38 | 0.4 |
| **06** | 6.00 | 2.38 | 0.4 |
| **07** | 7.94 | 3.97 | 0.8 |
| **09** | 9.80 | 4.30 | 0.8 |
| **11** | 11.50 | 4.80 | 0.8 |
| **12** | 12.70 | 4.76 | 0.8 |
| **14** | 14.30 | 5.20 | 1.2 |
| | | | |

| Insert | Designation | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT9030 | TT8020 | TT6030 | TT9300 | TT7400 | K10 |
|  | **SPMG 050204 DG** | | ● | ● | | | ● | |
| | **060204 DG** | | ● | ● | | | ● | |
| | **07T308 DG** | | ● | ● | | | ● | |
| | **090408 DG** | | ● | ● | | | ● | |
| | **110408 DG** | | ● | ● | | | ● | |
| | **120408 DG** | | ● | | | | | |
| | **140512 DG** | | ● | ● | | | ● | |

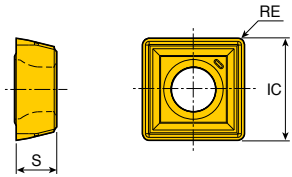
D34-D49

- TT9030: First choice for general purpose
- TT8020: For unstable condition
- TT7400: For high speed machining on a steel application (Peripheral **ONLY**)

●: Standard items

# SPMG...DK

## Inserts for cast iron




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 5.00 | 2.38 | 0.4 |
| **06** | 6.00 | 2.38 | 0.4 |
| **07** | 7.94 | 3.97 | 0.8 |
| **09** | 9.80 | 4.30 | 0.8 |
| **11** | 11.50 | 4.80 | 0.8 |
| **14** | 14.30 | 5.20 | 1.2 |
| | | | |
| | | | |

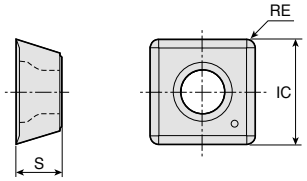
| Insert | Designation | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT9030 | TT8020 | TT6030 | TT9300 | TT7400 | K10 |
|  | **SPMG 050204 DK** | | | | ● | | | |
| | **060204 DK** | | | | ● | | | |
| | **07T308 DK** | | | | ● | | | |
| | **090408 DK** | | | | ● | | | |
| | **110408 DK** | | | | ● | | | |
| | **140512 DK** | | | | ● | | | |

D34-D49

●: Standard items

# SPGG...DA

**Inserts for aluminum alloy**




| Size | Dimension (mm) | | |
|---|---|---|---|
| | IC | S | RE |
| **05** | 5.00 | 2.38 | 0.4 |
| **06** | 6.00 | 2.38 | 0.4 |
| **07** | 7.94 | 3.97 | 0.8 |
| **09** | 9.80 | 4.30 | 0.8 |
| **11** | 11.50 | 4.80 | 0.8 |
| **14** | 14.30 | 5.20 | 1.2 |
| | | | |
| | | | |

| Insert | Designation | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT9030 | TT8020 | TT6030 | TT9300 | TT7400 | K10 |
|  | **SPGG 050204 DA** | | | | | | | ● |
| | **060204 DA** | | | | | | | ● |
| | **07T308 DA** | | | | | | | ● |
| | **090408 DA** | | | | | | | ● |
| | **110408 DA** | | | | | | | ● |
| | **140512 DA** | | | | | | | ● |

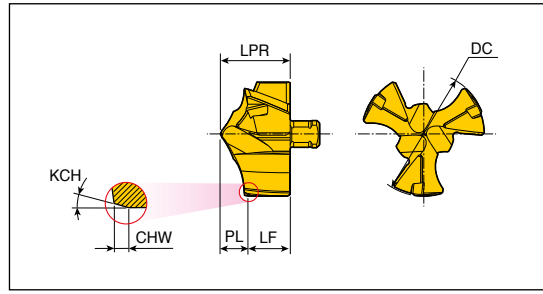
●: Standard items

D34-D49

# 3ED...-P+

## 3 flute drill heads






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | KCH | SSC | TT5130 |
| **3ED- 120-P+** | 12.0 | 6.7 | 2.74 | 3.96 | 0.4 | 15 | 12 | ● |
| **121-P+** | 12.1 | 6.7 | 2.74 | 3.96 | 0.4 | 15 | 12 | ● |
| **122-P+** | 12.2 | 6.7 | 2.74 | 3.96 | 0.4 | 15 | 12 | ● |
| **123-P+** | 12.3 | 6.7 | 2.74 | 3.96 | 0.4 | 15 | 12 | ● |
| **124-P+** | 12.4 | 6.7 | 2.74 | 3.96 | 0.4 | 15 | 12 | ● |
| **125-P+** | 12.5 | 6.7 | 2.76 | 3.94 | 0.4 | 15 | 12 | ● |
| **126-P+** | 12.6 | 6.7 | 2.76 | 3.94 | 0.4 | 15 | 12 | ● |
| **127-P+** | 12.7 | 6.7 | 2.76 | 3.94 | 0.4 | 15 | 12 | ● |
| **128-P+** | 12.8 | 6.7 | 2.76 | 3.94 | 0.4 | 15 | 12 | ● |
| **129-P+** | 12.9 | 6.7 | 2.76 | 3.94 | 0.4 | 15 | 12 | ● |
| **130-P+** | 13.0 | 7.3 | 2.91 | 4.39 | 0.4 | 15 | 13 | ● |
| **131-P+** | 13.1 | 7.3 | 2.91 | 4.39 | 0.4 | 15 | 13 | ● |
| **132-P+** | 13.2 | 7.3 | 2.91 | 4.39 | 0.4 | 15 | 13 | ● |
| **133-P+** | 13.3 | 7.3 | 2.91 | 4.39 | 0.4 | 15 | 13 | ● |
| **134-P+** | 13.4 | 7.3 | 2.91 | 4.39 | 0.4 | 15 | 13 | ● |
| **135-P+** | 13.5 | 7.3 | 2.93 | 4.37 | 0.4 | 15 | 13 | ● |
| **136-P+** | 13.6 | 7.3 | 2.93 | 4.37 | 0.4 | 15 | 13 | ● |
| **137-P+** | 13.7 | 7.3 | 2.93 | 4.37 | 0.4 | 15 | 13 | ● |
| **138-P+** | 13.8 | 7.3 | 2.93 | 4.37 | 0.4 | 15 | 13 | ● |
| **139-P+** | 13.9 | 7.3 | 2.93 | 4.37 | 0.4 | 15 | 13 | ● |
| **140-P+** | 14.0 | 7.9 | 3.17 | 4.73 | 0.4 | 15 | 14 | ● |
| **141-P+** | 14.1 | 7.9 | 3.17 | 4.73 | 0.4 | 15 | 14 | ● |
| **142-P+** | 14.2 | 7.9 | 3.17 | 4.73 | 0.4 | 15 | 14 | ● |
| **143-P+** | 14.3 | 7.9 | 3.17 | 4.73 | 0.4 | 15 | 14 | ● |
| **144-P+** | 14.4 | 7.9 | 3.17 | 4.73 | 0.4 | 15 | 14 | ● |
| **145-P+** | 14.5 | 7.9 | 3.19 | 4.71 | 0.4 | 15 | 14 | ● |
| **146-P+** | 14.6 | 7.9 | 3.19 | 4.71 | 0.4 | 15 | 14 | ● |
| **147-P+** | 14.7 | 7.9 | 3.19 | 4.71 | 0.4 | 15 | 14 | ● |
| **148-P+** | 14.8 | 7.9 | 3.19 | 4.71 | 0.4 | 15 | 14 | ● |
| **149-P+** | 14.9 | 7.9 | 3.19 | 4.71 | 0.4 | 15 | 14 | ● |
| **150-P+** | 15.0 | 8.4 | 3.31 | 5.09 | 0.5 | 30 | 15 | ● |
| **151-P+** | 15.1 | 8.4 | 3.31 | 5.09 | 0.5 | 30 | 15 | ● |
| **152-P+** | 15.2 | 8.4 | 3.31 | 5.09 | 0.5 | 30 | 15 | ● |
| **153-P+** | 15.3 | 8.4 | 3.31 | 5.09 | 0.5 | 30 | 15 | ● |
| **154-P+** | 15.4 | 8.4 | 3.31 | 5.09 | 0.5 | 30 | 15 | ● |


D55-D57

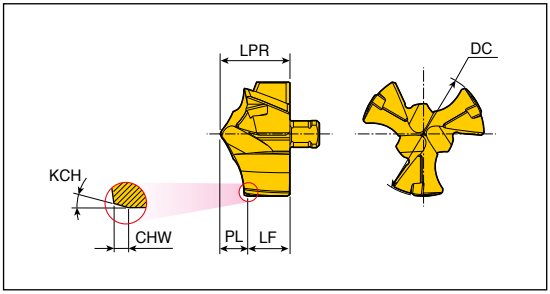
▸ SSC: Seat size code

●: Standard items

# 3ED...-P+

**3 flute drill heads**






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | KCH | SSC | TT5130 |
| **3ED- 155-P+** | 15.5 | 8.4 | 3.32 | 5.08 | 0.5 | 30 | 15 | ● |
| **156-P+** | 15.6 | 8.4 | 3.32 | 5.08 | 0.5 | 30 | 15 | ● |
| **157-P+** | 15.7 | 8.4 | 3.32 | 5.08 | 0.5 | 30 | 15 | ● |
| **158-P+** | 15.8 | 8.4 | 3.32 | 5.08 | 0.5 | 30 | 15 | ● |
| **159-P+** | 15.9 | 8.4 | 3.32 | 5.08 | 0.5 | 30 | 15 | ● |
| **160-P+** | 16.0 | 9.0 | 3.70 | 5.30 | 0.7 | 30 | 16 | ● |
| **161-P+** | 16.1 | 9.0 | 3.70 | 5.30 | 0.7 | 30 | 16 | ● |
| **162-P+** | 16.2 | 9.0 | 3.70 | 5.30 | 0.7 | 30 | 16 | ● |
| **163-P+** | 16.3 | 9.0 | 3.70 | 5.30 | 0.7 | 30 | 16 | ● |
| **164-P+** | 16.4 | 9.0 | 3.70 | 5.30 | 0.7 | 30 | 16 | ● |
| **165-P+** | 16.5 | 9.0 | 3.71 | 5.29 | 0.7 | 30 | 16 | ● |
| **166-P+** | 16.6 | 9.0 | 3.71 | 5.29 | 0.7 | 30 | 16 | ● |
| **167-P+** | 16.7 | 9.0 | 3.71 | 5.29 | 0.7 | 30 | 16 | ● |
| **168-P+** | 16.8 | 9.0 | 3.71 | 5.29 | 0.7 | 30 | 16 | ● |
| **169-P+** | 16.9 | 9.0 | 3.71 | 5.29 | 0.7 | 30 | 16 | ● |
| **170-P+** | 17.0 | 9.5 | 3.88 | 5.62 | 0.7 | 30 | 17 | ● |
| **171-P+** | 17.1 | 9.5 | 3.88 | 5.62 | 0.7 | 30 | 17 | ● |
| **172-P+** | 17.2 | 9.5 | 3.88 | 5.62 | 0.7 | 30 | 17 | ● |
| **173-P+** | 17.3 | 9.5 | 3.88 | 5.62 | 0.7 | 30 | 17 | ● |
| **174-P+** | 17.4 | 9.5 | 3.88 | 5.62 | 0.7 | 30 | 17 | ● |
| **175-P+** | 17.5 | 9.5 | 3.89 | 5.61 | 0.7 | 30 | 17 | ● |
| **176-P+** | 17.6 | 9.5 | 3.89 | 5.61 | 0.7 | 30 | 17 | ● |
| **177-P+** | 17.7 | 9.5 | 3.89 | 5.61 | 0.7 | 30 | 17 | ● |
| **178-P+** | 17.8 | 9.5 | 3.89 | 5.61 | 0.7 | 30 | 17 | ● |
| **179-P+** | 17.9 | 9.5 | 3.89 | 5.61 | 0.7 | 30 | 17 | ● |
| **180-P+** | 18.0 | 10.1 | 4.07 | 6.03 | 0.7 | 30 | 18 | ● |
| **181-P+** | 18.1 | 10.1 | 4.07 | 6.03 | 0.7 | 30 | 18 | ● |
| **182-P+** | 18.2 | 10.1 | 4.07 | 6.03 | 0.7 | 30 | 18 | ● |
| **183-P+** | 18.3 | 10.1 | 4.07 | 6.03 | 0.7 | 30 | 18 | ● |
| **184-P+** | 18.4 | 10.1 | 4.07 | 6.03 | 0.7 | 30 | 18 | ● |
| **185-P+** | 18.5 | 10.1 | 4.08 | 6.02 | 0.7 | 30 | 18 | ● |
| **186-P+** | 18.6 | 10.1 | 4.08 | 6.02 | 0.7 | 30 | 18 | ● |
| **187-P+** | 18.7 | 10.1 | 4.08 | 6.02 | 0.7 | 30 | 18 | ● |
| **188-P+** | 18.8 | 10.1 | 4.08 | 6.02 | 0.7 | 30 | 18 | ● |
| **189-P+** | 18.9 | 10.1 | 4.08 | 6.02 | 0.7 | 30 | 18 | ● |

D55-D57

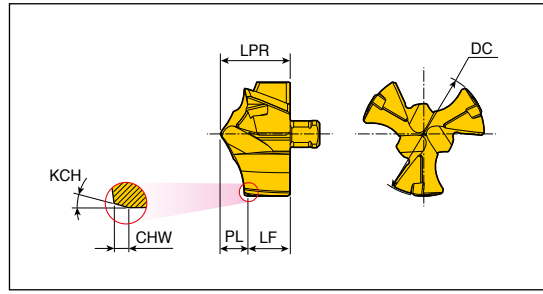
▸ SSC: Seat size code

●: Standard items

# 3ED...-P+

**3 flute drill heads**






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | KCH | SSC | TT5130 |
| **3ED- 190-P+** | 19.0 | 10.7 | 4.26 | 6.44 | 0.7 | 30 | 19 | ● |
| **191-P+** | 19.1 | 10.7 | 4.26 | 6.44 | 0.7 | 30 | 19 | ● |
| **192-P+** | 19.2 | 10.7 | 4.26 | 6.44 | 0.7 | 30 | 19 | ● |
| **193-P+** | 19.3 | 10.7 | 4.26 | 6.44 | 0.7 | 30 | 19 | ● |
| **194-P+** | 19.4 | 10.7 | 4.26 | 6.44 | 0.7 | 30 | 19 | ● |
| **195-P+** | 19.5 | 10.7 | 4.27 | 6.43 | 0.7 | 30 | 19 | ● |
| **196-P+** | 19.6 | 10.7 | 4.27 | 6.43 | 0.7 | 30 | 19 | ● |
| **197-P+** | 19.7 | 10.7 | 4.27 | 6.43 | 0.7 | 30 | 19 | ● |
| **198-P+** | 19.8 | 10.7 | 4.27 | 6.43 | 0.7 | 30 | 19 | ● |
| **199-P+** | 19.9 | 10.7 | 4.27 | 6.43 | 0.7 | 30 | 19 | ● |
| **200-P+** | 20.0 | 11.3 | 4.44 | 6.86 | 0.7 | 30 | 20 | ● |
| **201-P+** | 20.1 | 11.3 | 4.44 | 6.86 | 0.7 | 30 | 20 | ● |
| **202-P+** | 20.2 | 11.3 | 4.44 | 6.86 | 0.7 | 30 | 20 | ● |
| **203-P+** | 20.3 | 11.3 | 4.44 | 6.86 | 0.7 | 30 | 20 | ● |
| **204-P+** | 20.4 | 11.3 | 4.44 | 6.86 | 0.7 | 30 | 20 | ● |
| **205-P+** | 20.5 | 11.3 | 4.45 | 6.85 | 0.7 | 30 | 20 | ● |
| **206-P+** | 20.6 | 11.3 | 4.45 | 6.85 | 0.7 | 30 | 20 | ● |
| **207-P+** | 20.7 | 11.3 | 4.45 | 6.85 | 0.7 | 30 | 20 | ● |
| **208-P+** | 20.8 | 11.3 | 4.45 | 6.85 | 0.7 | 30 | 20 | ● |
| **209-P+** | 20.9 | 11.3 | 4.45 | 6.85 | 0.7 | 30 | 20 | ● |
| **210-P+** | 21.0 | 11.8 | 4.62 | 7.18 | 0.4 | 15 | 21 | ● |
| **215-P+** | 21.5 | 11.8 | 4.64 | 7.16 | 0.4 | 15 | 21 | ● |
| **220-P+** | 22.0 | 12.4 | 4.78 | 7.62 | 0.4 | 15 | 22 | ● |
| **225-P+** | 22.5 | 12.4 | 4.80 | 7.60 | 0.4 | 15 | 22 | ● |
| **230-P+** | 23.0 | 12.8 | 5.02 | 7.78 | 0.4 | 15 | 23 | ● |
| **235-P+** | 23.5 | 12.8 | 5.04 | 7.76 | 0.4 | 15 | 23 | ● |
| **240-P+** | 24.0 | 13.4 | 5.18 | 8.22 | 0.4 | 15 | 24 | ● |
| **245-P+** | 24.5 | 13.4 | 5.20 | 8.20 | 0.4 | 15 | 24 | ● |
| **250-P+** | 25.0 | 14.0 | 5.29 | 8.71 | 0.4 | 15 | 25 | ● |
| **255-P+** | 25.5 | 14.0 | 5.31 | 8.69 | 0.4 | 15 | 25 | ● |

D55-D57

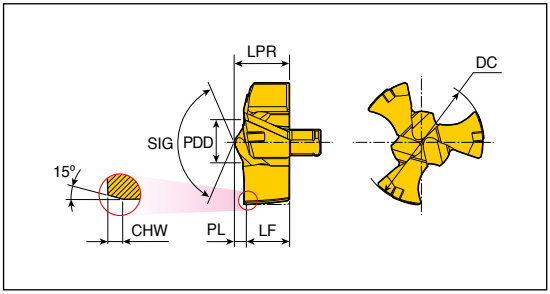
▸ SSC: Seat size code

●: Standard items

# 3ED...-F

**3 flute drill heads for flat bottom hole**






| Designation | Dimension (mm) | | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | PDD | SIG | CHW | SSC | TT5130 |
| **3ED- 120-F** | 12.0 | 5.14 | 1.18 | 3.96 | 3.38 | 133 | 0.4 | 12 | ● |
| **125-F** | 12.5 | 5.14 | 1.20 | 3.94 | 3.38 | 133 | 0.4 | 12 | ● |
| **130-F** | 13.0 | 5.61 | 1.22 | 4.39 | 3.58 | 132 | 0.4 | 13 | ● |
| **135-F** | 13.5 | 5.61 | 1.24 | 4.37 | 3.58 | 132 | 0.4 | 13 | ● |
| **140-F** | 14.0 | 6.01 | 1.28 | 4.73 | 4.01 | 133 | 0.4 | 14 | ● |
| **145-F** | 14.5 | 6.01 | 1.30 | 4.71 | 4.01 | 133 | 0.4 | 14 | ● |
| **150-F** | 15.0 | 6.38 | 1.32 | 5.06 | 4.16 | 133 | 0.4 | 15 | ● |
| **155-F** | 15.5 | 6.38 | 1.34 | 5.04 | 4.16 | 133 | 0.4 | 15 | ● |
| **160-F** | 16.0 | 6.86 | 1.38 | 5.48 | 4.52 | 134 | 0.4 | 16 | ● |
| **165-F** | 16.5 | 6.86 | 1.40 | 5.46 | 4.52 | 134 | 0.4 | 16 | ● |
| **170-F** | 17.0 | 7.22 | 1.45 | 5.77 | 4.79 | 134 | 0.4 | 17 | ● |
| **175-F** | 17.5 | 7.22 | 1.47 | 5.75 | 4.79 | 134 | 0.4 | 17 | ● |
| **180-F** | 18.0 | 7.93 | 1.75 | 6.18 | 5.96 | 133 | 0.4 | 18 | ● |
| **185-F** | 18.5 | 7.93 | 1.77 | 6.16 | 5.96 | 133 | 0.4 | 18 | ● |
| **190-F** | 19.0 | 8.41 | 1.83 | 6.58 | 6.32 | 133 | 0.4 | 19 | ● |
| **195-F** | 19.5 | 8.41 | 1.85 | 6.56 | 6.32 | 133 | 0.4 | 19 | ● |
| **200-F** | 20.0 | 8.89 | 1.90 | 6.99 | 6.61 | 133 | 0.4 | 20 | ● |
| **205-F** | 20.5 | 8.89 | 1.92 | 6.97 | 6.61 | 133 | 0.4 | 20 | ● |
| **210-F** | 21.0 | 9.17 | 1.99 | 7.18 | 7.01 | 133 | 0.4 | 21 | ● |
| **215-F** | 21.5 | 9.17 | 2.01 | 7.16 | 7.01 | 133 | 0.4 | 21 | ● |
| **220-F** | 22.0 | 9.72 | 2.10 | 7.62 | 7.30 | 133 | 0.4 | 22 | ● |
| **225-F** | 22.5 | 9.72 | 2.12 | 7.60 | 7.30 | 133 | 0.4 | 22 | ● |
| **230-F** | 23.0 | 9.96 | 2.18 | 7.78 | 7.49 | 132 | 0.4 | 23 | ● |
| **235-F** | 23.5 | 9.96 | 2.20 | 7.76 | 7.49 | 132 | 0.4 | 23 | ● |
| **240-F** | 24.0 | 10.46 | 2.24 | 8.22 | 7.81 | 132 | 0.4 | 24 | ● |
| **245-F** | 24.5 | 10.46 | 2.26 | 8.20 | 7.81 | 132 | 0.4 | 24 | ● |
| **250-F** | 25.0 | 11.03 | 2.31 | 8.72 | 8.16 | 132 | 0.4 | 25 | ● |
| **255-F** | 25.5 | 11.03 | 2.33 | 8.70 | 8.16 | 132 | 0.4 | 25 | ● |

D55-D57

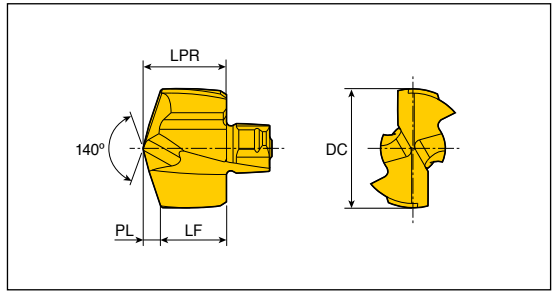
▸ SSC: Seat size code

●: Standard items

# TCD...-P

## Drill heads






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | TT9080 |
| **TCD - 040-P** | 4.0 | 3.10 | 0.62 | 2.48 | 4 | ● |
| **041-P** | 4.1 | 3.10 | 0.64 | 2.46 | 4 | ● |
| **042-P** | 4.2 | 3.10 | 0.66 | 2.44 | 4 | ● |
| **043-P** | 4.3 | 3.10 | 0.67 | 2.43 | 4 | ● |
| **044-P** | 4.4 | 3.10 | 0.69 | 2.41 | 4 | ● |
| **045-P** | 4.5 | 3.55 | 0.66 | 2.89 | 4.5 | ● |
| **046-P** | 4.6 | 3.55 | 0.68 | 2.87 | 4.5 | ● |
| **047-P** | 4.7 | 3.55 | 0.70 | 2.85 | 4.5 | ● |
| **048-P** | 4.8 | 3.55 | 0.71 | 2.84 | 4.5 | ● |
| **049-P** | 4.9 | 3.55 | 0.73 | 2.82 | 4.5 | ● |
| **050-P** | 5.0 | 3.70 | 0.73 | 2.97 | 5 | ● |
| **051-P** | 5.1 | 3.70 | 0.75 | 2.95 | 5 | ● |
| **052-P** | 5.2 | 3.70 | 0.77 | 2.93 | 5 | ● |
| **053-P** | 5.3 | 3.70 | 0.78 | 2.92 | 5 | ● |
| **054-P** | 5.4 | 3.70 | 0.80 | 2.90 | 5 | ● |
| **055-P** | 5.5 | 3.85 | 0.80 | 3.05 | 5.5 | ● |
| **056-P** | 5.6 | 3.85 | 0.82 | 3.03 | 5.5 | ● |
| **057-P** | 5.7 | 3.85 | 0.84 | 3.01 | 5.5 | ● |
| **058-P** | 5.8 | 3.85 | 0.85 | 3.00 | 5.5 | ● |
| **059-P** | 5.9 | 3.85 | 0.87 | 2.98 | 5.5 | ● |

●: Standard items

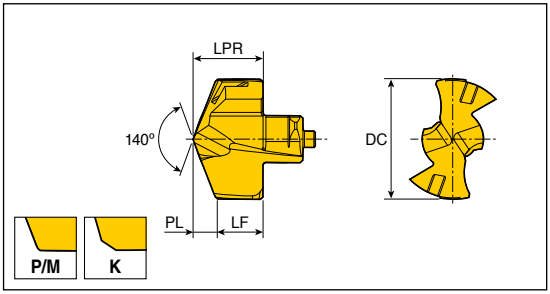
Steel

# TCD...P/M/K

DRILLRUSH

## Drill heads






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | TT9080 |
| **TCD-060-P/M/K** | 6.0 | 4.0 | 0.96 | 3.04 | 6 | ● |
| **061-P/M/K** | 6.1 | 4.0 | 0.98 | 3.02 | 6 | ● |
| **062-P/M/K** | 6.2 | 4.0 | 1.00 | 3.00 | 6 | ● |
| **063-P/M/K** | 6.3 | 4.0 | 1.01 | 2.99 | 6 | ● |
| **064-P/M/K** | 6.4 | 4.0 | 1.03 | 2.97 | 6 | ● |
| **065-P/M/K** | 6.5 | 4.3 | 1.18 | 3.12 | 6.5 | ● |
| **066-P/M/K** | 6.6 | 4.3 | 1.20 | 3.10 | 6.5 | ● |
| **067-P/M/K** | 6.7 | 4.3 | 1.22 | 3.08 | 6.5 | ● |
| **068-P/M/K** | 6.8 | 4.3 | 1.23 | 3.07 | 6.5 | ● |
| **069-P/M/K** | 6.9 | 4.3 | 1.25 | 3.05 | 6.5 | ● |
| **070-P/M/K** | 7.0 | 4.6 | 1.01 | 3.59 | 7 | ● |
| **071-P/M/K** | 7.1 | 4.6 | 1.03 | 3.57 | 7 | ● |
| **072-P/M/K** | 7.2 | 4.6 | 1.05 | 3.55 | 7 | ● |
| **073-P/M/K** | 7.3 | 4.6 | 1.06 | 3.54 | 7 | ● |
| **074-P/M/K** | 7.4 | 4.6 | 1.08 | 3.52 | 7 | ● |
| **075-P/M/K** | 7.5 | 4.6 | 1.10 | 3.50 | 7 | ● |
| **076-P/M/K** | 7.6 | 4.6 | 1.12 | 3.48 | 7 | ● |
| **077-P/M/K** | 7.7 | 4.6 | 1.14 | 3.46 | 7 | ● |
| **078-P/M/K** | 7.8 | 4.6 | 1.16 | 3.44 | 7 | ● |
| **079-P/M/K** | 7.9 | 4.6 | 1.17 | 3.43 | 7 | ● |
| **080-P/M/K** | 8.0 | 5.4 | 1.20 | 4.20 | 8 | ● |
| **081-P/M/K** | 8.1 | 5.4 | 1.22 | 4.18 | 8 | ● |
| **082-P/M/K** | 8.2 | 5.4 | 1.24 | 4.16 | 8 | ● |
| **083-P/M/K** | 8.3 | 5.4 | 1.25 | 4.15 | 8 | ● |
| **084-P/M/K** | 8.4 | 5.4 | 1.27 | 4.13 | 8 | ● |
| **085-P/M/K** | 8.5 | 5.4 | 1.29 | 4.11 | 8 | ● |
| **086-P/M/K** | 8.6 | 5.4 | 1.31 | 4.09 | 8 | ● |
| **087-P/M/K** | 8.7 | 5.4 | 1.33 | 4.07 | 8 | ● |
| **088-P/M/K** | 8.8 | 5.4 | 1.35 | 4.05 | 8 | ● |
| **089-P/M/K** | 8.9 | 5.4 | 1.36 | 4.04 | 8 | ● |
| **090-P/M/K** | 9.0 | 5.8 | 1.35 | 4.45 | 9 | ● |
| **091-P/M/K** | 9.1 | 5.8 | 1.37 | 4.43 | 9 | ● |
| **092-P/M/K** | 9.2 | 5.8 | 1.39 | 4.41 | 9 | ● |
| **093-P/M/K** | 9.3 | 5.8 | 1.40 | 4.40 | 9 | ● |
| **094-P/M/K** | 9.4 | 5.8 | 1.42 | 4.38 | 9 | ● |




▸ Drill head can be ordered by an application
Order example) Diameter 10.0mm drill head for ISO P application: TCD-100-P TT9080

●: Standard items

P Steel M Stainless steel K Cast iron

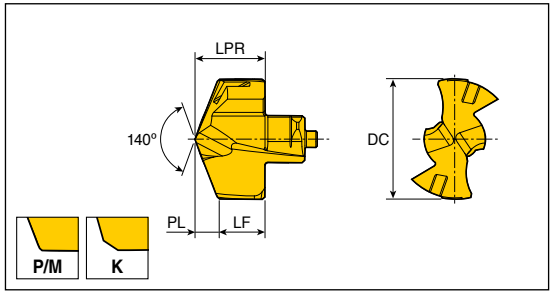
TaeguTec

# TCD...P/M/K

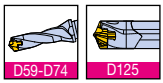
DRILLRUSH

## Drill heads






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | TT9080 |
| **TCD - 095-P/M/K** | 9.5 | 5.8 | 1.44 | 4.36 | 9 | ● |
| **096-P/M/K** | 9.6 | 5.8 | 1.46 | 4.34 | 9 | ● |
| **097-P/M/K** | 9.7 | 5.8 | 1.48 | 4.32 | 9 | ● |
| **098-P/M/K** | 9.8 | 5.8 | 1.50 | 4.30 | 9 | ● |
| **099-P/M/K** | 9.9 | 5.8 | 1.51 | 4.29 | 9 | ● |
| **100-P/M/K** | 10.0 | 6.2 | 1.50 | 4.70 | 10 | ● |
| **101-P/M/K** | 10.1 | 6.2 | 1.52 | 4.68 | 10 | ● |
| **102-P/M/K** | 10.2 | 6.2 | 1.54 | 4.66 | 10 | ● |
| **103-P/M/K** | 10.3 | 6.2 | 1.55 | 4.65 | 10 | ● |
| **104-P/M/K** | 10.4 | 6.2 | 1.57 | 4.63 | 10 | ● |
| **105-P/M/K** | 10.5 | 6.2 | 1.59 | 4.61 | 10 | ● |
| **106-P/M/K** | 10.6 | 6.2 | 1.61 | 4.59 | 10 | ● |
| **107-P/M/K** | 10.7 | 6.2 | 1.63 | 4.57 | 10 | ● |
| **108-P/M/K** | 10.8 | 6.2 | 1.65 | 4.55 | 10 | ● |
| **109-P/M/K** | 10.9 | 6.2 | 1.66 | 4.54 | 10 | ● |
| **110-P/M/K** | 11.0 | 6.6 | 1.67 | 4.93 | 11 | ● |
| **111-P/M/K** | 11.1 | 6.6 | 1.69 | 4.91 | 11 | ● |
| **112-P/M/K** | 11.2 | 6.6 | 1.71 | 4.89 | 11 | ● |
| **113-P/M/K** | 11.3 | 6.6 | 1.72 | 4.88 | 11 | ● |
| **114-P/M/K** | 11.4 | 6.6 | 1.74 | 4.86 | 11 | ● |
| **115-P/M/K** | 11.5 | 6.6 | 1.76 | 4.84 | 11 | ● |
| **116-P/M/K** | 11.6 | 6.6 | 1.78 | 4.82 | 11 | ● |
| **117-P/M/K** | 11.7 | 6.6 | 1.80 | 4.80 | 11 | ● |
| **118-P/M/K** | 11.8 | 6.6 | 1.82 | 4.78 | 11 | ● |
| **119-P/M/K** | 11.9 | 6.6 | 1.83 | 4.77 | 11 | ● |
| **120-P/M/K** | 12.0 | 7.0 | 1.82 | 5.18 | 12 | ● |
| **121-P/M/K** | 12.1 | 7.0 | 1.84 | 5.16 | 12 | ● |
| **122-P/M/K** | 12.2 | 7.0 | 1.86 | 5.14 | 12 | ● |
| **123-P/M/K** | 12.3 | 7.0 | 1.87 | 5.13 | 12 | ● |
| **124-P/M/K** | 12.4 | 7.0 | 1.89 | 5.11 | 12 | ● |
| **125-P/M/K** | 12.5 | 7.0 | 1.91 | 5.09 | 12 | ● |
| **126-P/M/K** | 12.6 | 7.0 | 1.93 | 5.07 | 12 | ● |
| **127-P/M/K** | 12.7 | 7.0 | 1.95 | 5.05 | 12 | ● |
| **128-P/M/K** | 12.8 | 7.0 | 1.97 | 5.03 | 12 | ● |
| **129-P/M/K** | 12.9 | 7.0 | 1.98 | 5.02 | 12 | ● |




▸ Drill head can be ordered by an application
Order example) Diameter 10.0mm drill head for ISO P application: TCD-100-P TT9080

●: Standard items

P Steel  M Stainless steel  K Cast iron



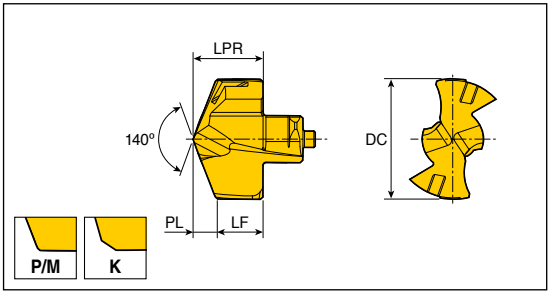
ADVANCE CUTTING TaeguTec

# TCD...P/M/K

DRILLRUSH

## Drill heads






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | TT9080 |
| TCD - 130-P/M/K | 13.0 | 7.6 | 1.96 | 5.64 | 13 | ● |
| 131-P/M/K | 13.1 | 7.6 | 1.98 | 5.62 | 13 | ● |
| 132-P/M/K | 13.2 | 7.6 | 2.00 | 5.60 | 13 | ● |
| 133-P/M/K | 13.3 | 7.6 | 2.01 | 5.59 | 13 | ● |
| 134-P/M/K | 13.4 | 7.6 | 2.03 | 5.57 | 13 | ● |
| 135-P/M/K | 13.5 | 7.6 | 2.05 | 5.55 | 13 | ● |
| 136-P/M/K | 13.6 | 7.6 | 2.07 | 5.53 | 13 | ● |
| 137-P/M/K | 13.7 | 7.6 | 2.09 | 5.51 | 13 | ● |
| 138-P/M/K | 13.8 | 7.6 | 2.11 | 5.49 | 13 | ● |
| 139-P/M/K | 13.9 | 7.6 | 2.12 | 5.48 | 13 | ● |
| 140-P/M/K | 14.0 | 8.1 | 2.12 | 5.98 | 14 | ● |
| 141-P/M/K | 14.1 | 8.1 | 2.14 | 5.96 | 14 | ● |
| 142-P/M/K | 14.2 | 8.1 | 2.16 | 5.94 | 14 | ● |
| 143-P/M/K | 14.3 | 8.1 | 2.17 | 5.93 | 14 | ● |
| 144-P/M/K | 14.4 | 8.1 | 2.19 | 5.91 | 14 | ● |
| 145-P/M/K | 14.5 | 8.1 | 2.21 | 5.89 | 14 | ● |
| 146-P/M/K | 14.6 | 8.1 | 2.23 | 5.87 | 14 | ● |
| 147-P/M/K | 14.7 | 8.1 | 2.25 | 5.85 | 14 | ● |
| 148-P/M/K | 14.8 | 8.1 | 2.27 | 5.83 | 14 | ● |
| 149-P/M/K | 14.9 | 8.1 | 2.28 | 5.82 | 14 | ● |
| 150-P/M/K | 15.0 | 8.7 | 2.27 | 6.43 | 15 | ● |
| 151-P/M/K | 15.1 | 8.7 | 2.29 | 6.41 | 15 | ● |
| 152-P/M/K | 15.2 | 8.7 | 2.31 | 6.39 | 15 | ● |
| 153-P/M/K | 15.3 | 8.7 | 2.32 | 6.38 | 15 | ● |
| 154-P/M/K | 15.4 | 8.7 | 2.34 | 6.36 | 15 | ● |
| 155-P/M/K | 15.5 | 8.7 | 2.36 | 6.34 | 15 | ● |
| 156-P/M/K | 15.6 | 8.7 | 2.38 | 6.32 | 15 | ● |
| 157-P/M/K | 15.7 | 8.7 | 2.40 | 6.30 | 15 | ● |
| 158-P/M/K | 15.8 | 8.7 | 2.42 | 6.28 | 15 | ● |
| 159-P/M/K | 15.9 | 8.7 | 2.43 | 6.27 | 15 | ● |
| 160-P/M/K | 16.0 | 9.3 | 2.42 | 6.88 | 16 | ● |
| 161-P/M/K | 16.1 | 9.3 | 2.44 | 6.86 | 16 | ● |
| 162-P/M/K | 16.2 | 9.3 | 2.46 | 6.84 | 16 | ● |
| 163-P/M/K | 16.3 | 9.3 | 2.47 | 6.83 | 16 | ● |
| 164-P/M/K | 16.4 | 9.3 | 2.49 | 6.81 | 16 | ● |




▸ Drill head can be ordered by an application
Order example) Diameter 10.0mm drill head for ISO P application: TCD-100-P TT9080

●: Standard items

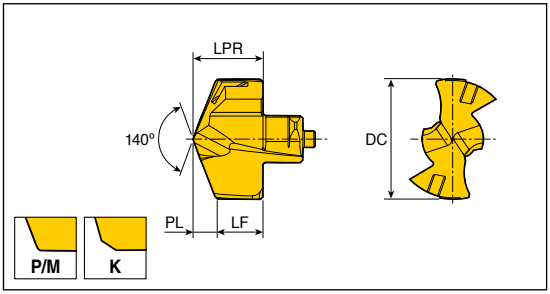
P Steel M Stainless steel K Cast iron

TaeguTec

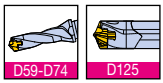
# TCD...P/M/K

## Drill heads






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | TT9080 |
| **TCD - 165-P/M/K** | 16.5 | 9.3 | 2.51 | 6.79 | 16 | ● |
| **166-P/M/K** | 16.6 | 9.3 | 2.53 | 6.77 | 16 | ● |
| **167-P/M/K** | 16.7 | 9.3 | 2.55 | 6.75 | 16 | ● |
| **168-P/M/K** | 16.8 | 9.3 | 2.57 | 6.73 | 16 | ● |
| **169-P/M/K** | 16.9 | 9.3 | 2.58 | 6.72 | 16 | ● |
| **170-P/M/K** | 17.0 | 9.9 | 2.59 | 7.31 | 17 | ● |
| **171-P/M/K** | 17.1 | 9.9 | 2.61 | 7.29 | 17 | ● |
| **172-P/M/K** | 17.2 | 9.9 | 2.63 | 7.27 | 17 | ● |
| **173-P/M/K** | 17.3 | 9.9 | 2.64 | 7.26 | 17 | ● |
| **174-P/M/K** | 17.4 | 9.9 | 2.66 | 7.24 | 17 | ● |
| **175-P/M/K** | 17.5 | 9.9 | 2.68 | 7.22 | 17 | ● |
| **176-P/M/K** | 17.6 | 9.9 | 2.70 | 7.20 | 17 | ● |
| **177-P/M/K** | 17.7 | 9.9 | 2.72 | 7.18 | 17 | ● |
| **178-P/M/K** | 17.8 | 9.9 | 2.74 | 7.16 | 17 | ● |
| **179-P/M/K** | 17.9 | 9.9 | 2.75 | 7.15 | 17 | ● |
| **180-P/M/K** | 18.0 | 10.5 | 2.73 | 7.77 | 18 | ● |
| **181-P/M/K** | 18.1 | 10.5 | 2.75 | 7.75 | 18 | ● |
| **182-P/M/K** | 18.2 | 10.5 | 2.77 | 7.73 | 18 | ● |
| **183-P/M/K** | 18.3 | 10.5 | 2.78 | 7.72 | 18 | ● |
| **184-P/M/K** | 18.4 | 10.5 | 2.80 | 7.70 | 18 | ● |
| **185-P/M/K** | 18.5 | 10.5 | 2.82 | 7.68 | 18 | ● |
| **186-P/M/K** | 18.6 | 10.5 | 2.84 | 7.66 | 18 | ● |
| **187-P/M/K** | 18.7 | 10.5 | 2.86 | 7.64 | 18 | ● |
| **188-P/M/K** | 18.8 | 10.5 | 2.88 | 7.62 | 18 | ● |
| **189-P/M/K** | 18.9 | 10.5 | 2.89 | 7.61 | 18 | ● |
| **190-P/M/K** | 19.0 | 11.0 | 2.88 | 8.12 | 19 | ● |
| **191-P/M/K** | 19.1 | 11.0 | 2.90 | 8.10 | 19 | ● |
| **192-P/M/K** | 19.2 | 11.0 | 2.92 | 8.08 | 19 | ● |
| **193-P/M/K** | 19.3 | 11.0 | 2.93 | 8.07 | 19 | ● |
| **194-P/M/K** | 19.4 | 11.0 | 2.95 | 8.05 | 19 | ● |
| **195-P/M/K** | 19.5 | 11.0 | 2.97 | 8.03 | 19 | ● |
| **196-P/M/K** | 19.6 | 11.0 | 2.99 | 8.01 | 19 | ● |
| **197-P/M/K** | 19.7 | 11.0 | 3.01 | 7.99 | 19 | ● |
| **198-P/M/K** | 19.8 | 11.0 | 3.03 | 7.97 | 19 | ● |
| **199-P/M/K** | 19.9 | 11.0 | 3.04 | 7.96 | 19 | ● |




▸ Drill head can be ordered by an application
Order example) Diameter 10.0mm drill head for ISO P application: TCD-100-P TT9080

●: Standard items

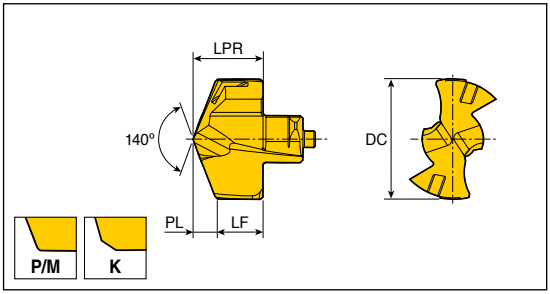
P Steel M Stainless steel K Cast iron

# TCD...P/M/K

DRILLRUSH

## Drill heads






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | TT9080 |
| **TCD - 200-P/M/K** | 20.0 | 11.6 | 3.02 | 8.58 | 20 | ● |
| **201-P/M/K** | 20.1 | 11.6 | 3.04 | 8.56 | 20 | ● |
| **202-P/M/K** | 20.2 | 11.6 | 3.06 | 8.54 | 20 | ● |
| **203-P/M/K** | 20.3 | 11.6 | 3.07 | 8.53 | 20 | ● |
| **204-P/M/K** | 20.4 | 11.6 | 3.09 | 8.51 | 20 | ● |
| **205-P/M/K** | 20.5 | 11.6 | 3.11 | 8.49 | 20 | ● |
| **206-P/M/K** | 20.6 | 11.6 | 3.13 | 8.47 | 20 | ● |
| **207-P/M/K** | 20.7 | 11.6 | 3.15 | 8.45 | 20 | ● |
| **208-P/M/K** | 20.8 | 11.6 | 3.17 | 8.43 | 20 | ● |
| **209-P/M/K** | 20.9 | 11.6 | 3.18 | 8.42 | 20 | ● |
| **210-P/M/K** | 21.0 | 12.1 | 3.18 | 8.92 | 21 | ● |
| **211-P/M/K** | 21.1 | 12.1 | 3.20 | 8.90 | 21 | ● |
| **212-P/M/K** | 21.2 | 12.1 | 3.22 | 8.88 | 21 | ● |
| **213-P/M/K** | 21.3 | 12.1 | 3.23 | 8.87 | 21 | ● |
| **214-P/M/K** | 21.4 | 12.1 | 3.25 | 8.85 | 21 | ● |
| **215-P/M/K** | 21.5 | 12.1 | 3.27 | 8.83 | 21 | ● |
| **216-P/M/K** | 21.6 | 12.1 | 3.29 | 8.81 | 21 | ● |
| **217-P/M/K** | 21.7 | 12.1 | 3.31 | 8.79 | 21 | ● |
| **218-P/M/K** | 21.8 | 12.1 | 3.33 | 8.77 | 21 | ● |
| **219-P/M/K** | 21.9 | 12.1 | 3.34 | 8.76 | 21 | ● |
| **220-P/M/K** | 22.0 | 12.7 | 3.24 | 9.46 | 22 | ● |
| **221-P/M/K** | 22.1 | 12.7 | 3.26 | 9.44 | 22 | ● |
| **222-P/M/K** | 22.2 | 12.7 | 3.28 | 9.42 | 22 | ● |
| **223-P/M/K** | 22.3 | 12.7 | 3.29 | 9.41 | 22 | ● |
| **224-P/M/K** | 22.4 | 12.7 | 3.31 | 9.39 | 22 | ● |
| **225-P/M/K** | 22.5 | 12.7 | 3.33 | 9.37 | 22 | ● |
| **226-P/M/K** | 22.6 | 12.7 | 3.35 | 9.35 | 22 | ● |
| **227-P/M/K** | 22.7 | 12.7 | 3.37 | 9.33 | 22 | ● |
| **228-P/M/K** | 22.8 | 12.7 | 3.39 | 9.31 | 22 | ● |
| **229-P/M/K** | 22.9 | 12.7 | 3.40 | 9.30 | 22 | ● |
| **230-P/M/K** | 23.0 | 13.3 | 3.46 | 9.84 | 23 | ● |
| **231-P/M/K** | 23.1 | 13.3 | 3.48 | 9.82 | 23 | ● |
| **232-P/M/K** | 23.2 | 13.3 | 3.50 | 9.80 | 23 | ● |
| **233-P/M/K** | 23.3 | 13.3 | 3.51 | 9.79 | 23 | ● |
| **234-P/M/K** | 23.4 | 13.3 | 3.53 | 9.77 | 23 | ● |




▸ Drill head can be ordered by an application
Order example) Diameter 10.0mm drill head for ISO P application: TCD-100-P TT9080

●: Standard items

P Steel M Stainless steel K Cast iron

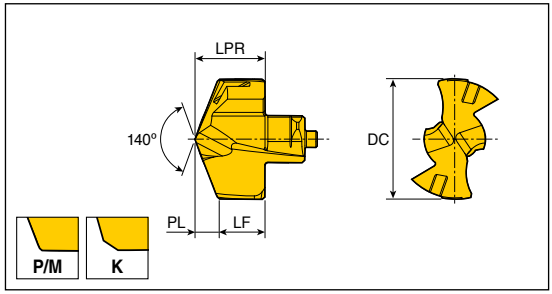
TaeguTec

# TCD...P/M/K

DRILLRUSH

## Drill heads






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | TT9080 |
| **TCD - 235-P/M/K** | 23.5 | 13.3 | 3.55 | 9.75 | 23 | ● |
| **236-P/M/K** | 23.6 | 13.3 | 3.57 | 9.73 | 23 | ● |
| **237-P/M/K** | 23.7 | 13.3 | 3.59 | 9.71 | 23 | ● |
| **238-P/M/K** | 23.8 | 13.3 | 3.61 | 9.69 | 23 | ● |
| **239-P/M/K** | 23.9 | 13.3 | 3.62 | 9.68 | 23 | ● |
| **240-P/M/K** | 24.0 | 13.9 | 3.62 | 10.28 | 24 | ● |
| **241-P/M/K** | 24.1 | 13.9 | 3.64 | 10.26 | 24 | ● |
| **242-P/M/K** | 24.2 | 13.9 | 3.66 | 10.24 | 24 | ● |
| **243-P/M/K** | 24.3 | 13.9 | 3.67 | 10.23 | 24 | ● |
| **244-P/M/K** | 24.4 | 13.9 | 3.69 | 10.21 | 24 | ● |
| **245-P/M/K** | 24.5 | 13.9 | 3.71 | 10.19 | 24 | ● |
| **246-P/M/K** | 24.6 | 13.9 | 3.73 | 10.17 | 24 | ● |
| **247-P/M/K** | 24.7 | 13.9 | 3.75 | 10.15 | 24 | ● |
| **248-P/M/K** | 24.8 | 13.9 | 3.77 | 10.13 | 24 | ● |
| **249-P/M/K** | 24.9 | 13.9 | 3.78 | 10.12 | 24 | ● |
| **250-P/M/K** | 25.0 | 14.5 | 3.80 | 10.70 | 25 | ● |
| **251-P/M/K** | 25.1 | 14.5 | 3.82 | 10.68 | 25 | ● |
| **252-P/M/K** | 25.2 | 14.5 | 3.84 | 10.66 | 25 | ● |
| **253-P/M/K** | 25.3 | 14.5 | 3.85 | 10.65 | 25 | ● |
| **254-P/M/K** | 25.4 | 14.5 | 3.87 | 10.63 | 25 | ● |
| **255-P/M/K** | 25.5 | 14.5 | 3.89 | 10.61 | 25 | ● |
| **256-P/M/K** | 25.6 | 14.5 | 3.91 | 10.59 | 25 | ● |
| **257-P/M/K** | 25.7 | 14.5 | 3.93 | 10.57 | 25 | ● |
| **258-P/M/K** | 25.8 | 14.5 | 3.95 | 10.55 | 25 | ● |
| **259-P/M/K** | 25.9 | 14.5 | 3.96 | 10.54 | 25 | ● |




▸ Drill head can be ordered by an application
Order example) Diameter 10.0mm drill head for ISO P application: TCD-100-P TT9080

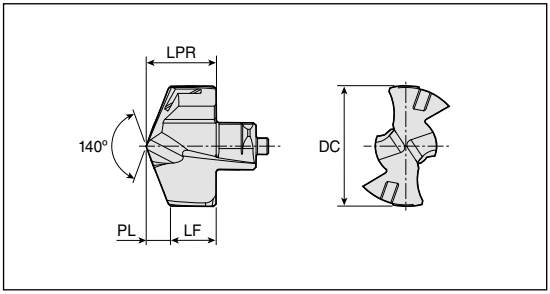
●: Standard items

P Steel  M Stainless steel  K Cast iron

# TCD...N

**Drill heads for aluminum alloy**






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | SSC | UF10 |
| TCD- 060-N | 6.0 | 4.00 | 0.96 | 3.04 | 6 | ● |
| 065-N | 6.5 | 4.30 | 1.18 | 3.12 | 6.5 | ● |
| 070-N | 7.0 | 4.60 | 1.01 | 3.59 | 7 | ● |
| 075-N | 7.5 | 4.60 | 1.10 | 3.50 | 7 | ● |
| 080-N | 8.0 | 5.40 | 1.20 | 4.20 | 8 | ● |
| 085-N | 8.5 | 5.40 | 1.29 | 4.11 | 8 | ● |
| 090-N | 9.0 | 5.80 | 1.35 | 4.45 | 9 | ● |
| 095-N | 9.5 | 5.80 | 1.44 | 4.36 | 9 | ● |
| 100-N | 10.0 | 6.20 | 1.50 | 4.70 | 10 | ● |
| 105-N | 10.5 | 6.20 | 1.59 | 4.61 | 10 | ● |
| 110-N | 11.0 | 6.60 | 1.67 | 4.93 | 11 | ● |
| 115-N | 11.5 | 6.60 | 1.76 | 4.84 | 11 | ● |
| 120-N | 12.0 | 7.00 | 1.82 | 5.18 | 12 | ● |
| 125-N | 12.5 | 7.00 | 1.91 | 5.09 | 12 | ● |
| 130-N | 13.0 | 7.60 | 1.96 | 5.64 | 13 | ● |
| 135-N | 13.5 | 7.60 | 2.05 | 5.55 | 13 | ● |
| 140-N | 14.0 | 8.15 | 2.12 | 6.03 | 14 | ● |
| 145-N | 14.5 | 8.15 | 2.21 | 5.94 | 14 | ● |
| 150-N | 15.0 | 8.73 | 2.27 | 6.46 | 15 | ● |
| 155-N | 15.5 | 8.73 | 2.36 | 6.37 | 15 | ● |
| 160-N | 16.0 | 9.30 | 2.42 | 6.88 | 16 | ● |
| 165-N | 16.5 | 9.30 | 2.51 | 6.79 | 16 | ● |
| 170-N | 17.0 | 9.90 | 2.59 | 7.31 | 17 | ● |
| 175-N | 17.5 | 9.90 | 2.68 | 7.22 | 17 | ● |
| 180-N | 18.0 | 10.50 | 2.73 | 7.77 | 18 | ● |
| 185-N | 18.5 | 10.50 | 2.82 | 7.68 | 18 | ● |
| 190-N | 19.0 | 11.00 | 2.88 | 8.12 | 19 | ● |
| 195-N | 19.5 | 11.00 | 2.97 | 8.03 | 19 | ● |




▸ SSC: Seat size code

●: Standard items

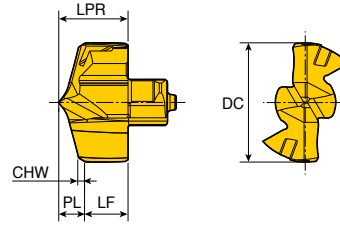
Nonferrous

# TCD-P+

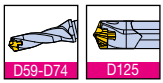
DRILLRUSH

**Self-centering drill heads**






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD-060-P+** | 6.0 | 4.00 | 1.46 | 2.54 | 0.5 | 6 | ● |
| **065-P+** | 6.5 | 4.30 | 1.55 | 2.75 | 0.5 | 6.5 | ● |
| **068-P+** | 6.8 | 4.30 | 1.59 | 2.71 | 0.5 | 6.5 | ● |
| **070-P+** | 7.0 | 4.60 | 1.64 | 2.96 | 0.5 | 7 | ● |
| **072-P+** | 7.2 | 4.60 | 1.67 | 2.93 | 0.5 | 7 | ● |
| **075-P+** | 7.5 | 4.60 | 1.71 | 2.89 | 0.5 | 7 | ● |
| **080-P+** | 8.0 | 5.40 | 1.81 | 3.59 | 0.5 | 8 | ● |
| **081-P+** | 8.1 | 5.40 | 1.82 | 3.58 | 0.5 | 8 | ● |
| **082-P+** | 8.2 | 5.40 | 1.84 | 3.56 | 0.5 | 8 | ● |
| **083-P+** | 8.3 | 5.40 | 1.85 | 3.55 | 0.5 | 8 | ● |
| **085-P+** | 8.5 | 5.40 | 1.88 | 3.52 | 0.5 | 8 | ● |
| **086-P+** | 8.6 | 5.40 | 1.89 | 3.51 | 0.5 | 8 | ● |
| **087-P+** | 8.7 | 5.40 | 1.90 | 3.50 | 0.5 | 8 | ● |
| **088-P+** | 8.8 | 5.40 | 1.92 | 3.48 | 0.5 | 8 | ● |
| **089-P+** | 8.9 | 5.40 | 1.93 | 3.47 | 0.5 | 8 | ● |
| **090-P+** | 9.0 | 5.80 | 1.98 | 3.82 | 0.5 | 9 | ● |
| **093-P+** | 9.3 | 5.80 | 2.02 | 3.78 | 0.5 | 9 | ● |
| **095-P+** | 9.5 | 5.80 | 2.05 | 3.75 | 0.5 | 9 | ● |
| **096-P+** | 9.6 | 5.80 | 2.06 | 3.74 | 0.5 | 9 | ● |
| **097-P+** | 9.7 | 5.80 | 2.07 | 3.73 | 0.5 | 9 | ● |
| **098-P+** | 9.8 | 5.80 | 2.09 | 3.71 | 0.5 | 9 | ● |
| **099-P+** | 9.9 | 5.80 | 2.10 | 3.70 | 0.5 | 9 | ● |
| **100-P+** | 10.0 | 6.20 | 2.33 | 3.87 | 0.7 | 10 | ● |
| **101-P+** | 10.1 | 6.20 | 2.34 | 3.86 | 0.7 | 10 | ● |
| **102-P+** | 10.2 | 6.20 | 2.36 | 3.84 | 0.7 | 10 | ● |
| **103-P+** | 10.3 | 6.20 | 2.37 | 3.83 | 0.7 | 10 | ● |
| **105-P+** | 10.5 | 6.20 | 2.40 | 3.80 | 0.7 | 10 | ● |
| **106-P+** | 10.6 | 6.20 | 2.41 | 3.79 | 0.7 | 10 | ● |
| **107-P+** | 10.7 | 6.20 | 2.42 | 3.78 | 0.7 | 10 | ● |
| **108-P+** | 10.8 | 6.20 | 2.44 | 3.76 | 0.7 | 10 | ● |
| **109-P+** | 10.9 | 6.20 | 2.45 | 3.75 | 0.7 | 10 | ● |
| **110-P+** | 11.0 | 6.60 | 2.50 | 4.10 | 0.7 | 11 | ● |
| **111-P+** | 11.1 | 6.60 | 2.51 | 4.09 | 0.7 | 11 | ● |
| **112-P+** | 11.2 | 6.60 | 2.53 | 4.07 | 0.7 | 11 | ● |
| **113-P+** | 11.3 | 6.60 | 2.54 | 4.06 | 0.7 | 11 | ● |




▸ SSC: Seat size code

●: Standard items

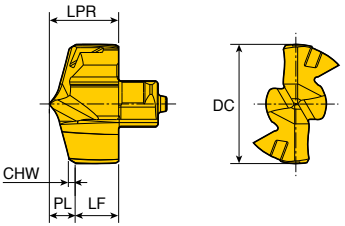


ADVANCE CUTTING
TaeguTec

# TCD-P+

**Self-centering drill heads**






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD-114-P+** | 11.4 | 6.60 | 2.55 | 4.05 | 0.7 | 11 | ● |
| **115-P+** | 11.5 | 6.60 | 2.57 | 4.03 | 0.7 | 11 | ● |
| **116-P+** | 11.6 | 6.60 | 2.58 | 4.02 | 0.7 | 11 | ● |
| **117-P+** | 11.7 | 6.60 | 2.59 | 4.01 | 0.7 | 11 | ● |
| **118-P+** | 11.8 | 6.60 | 2.61 | 3.99 | 0.7 | 11 | ● |
| **119-P+** | 11.9 | 6.60 | 2.62 | 3.98 | 0.7 | 11 | ● |
| **120-P+** | 12.0 | 7.00 | 2.67 | 4.33 | 0.7 | 12 | ● |
| **121-P+** | 12.1 | 7.00 | 2.68 | 4.32 | 0.7 | 12 | ● |
| **122-P+** | 12.2 | 7.00 | 2.70 | 4.30 | 0.7 | 12 | ● |
| **123-P+** | 12.3 | 7.00 | 2.71 | 4.29 | 0.7 | 12 | ● |
| **124-P+** | 12.4 | 7.00 | 2.72 | 4.28 | 0.7 | 12 | ● |
| **125-P+** | 12.5 | 7.00 | 2.74 | 4.26 | 0.7 | 12 | ● |
| **126-P+** | 12.6 | 7.00 | 2.75 | 4.25 | 0.7 | 12 | ● |
| **127-P+** | 12.7 | 7.00 | 2.76 | 4.24 | 0.7 | 12 | ● |
| **128-P+** | 12.8 | 7.00 | 2.78 | 4.22 | 0.7 | 12 | ● |
| **130-P+** | 13.0 | 7.60 | 2.85 | 4.75 | 0.7 | 13 | ● |
| **131-P+** | 13.1 | 7.60 | 2.86 | 4.74 | 0.7 | 13 | ● |
| **132-P+** | 13.2 | 7.60 | 2.88 | 4.72 | 0.7 | 13 | ● |
| **133-P+** | 13.3 | 7.60 | 2.89 | 4.71 | 0.7 | 13 | ● |
| **134-P+** | 13.4 | 7.60 | 2.90 | 4.70 | 0.7 | 13 | ● |
| **135-P+** | 13.5 | 7.60 | 2.92 | 4.68 | 0.7 | 13 | ● |
| **136-P+** | 13.6 | 7.60 | 2.93 | 4.67 | 0.7 | 13 | ● |
| **137-P+** | 13.7 | 7.60 | 2.94 | 4.66 | 0.7 | 13 | ● |
| **138-P+** | 13.8 | 7.60 | 2.96 | 4.64 | 0.7 | 13 | ● |
| **139-P+** | 13.9 | 7.60 | 2.97 | 4.63 | 0.7 | 13 | ● |
| **140-P+** | 14.0 | 8.15 | 3.02 | 5.13 | 0.7 | 14 | ● |
| **141-P+** | 14.1 | 8.15 | 3.03 | 5.12 | 0.7 | 14 | ● |
| **142-P+** | 14.2 | 8.15 | 3.05 | 5.10 | 0.7 | 14 | ● |
| **143-P+** | 14.3 | 8.15 | 3.06 | 5.09 | 0.7 | 14 | ● |
| **144-P+** | 14.4 | 8.15 | 3.07 | 5.08 | 0.7 | 14 | ● |
| **145-P+** | 14.5 | 8.15 | 3.09 | 5.06 | 0.7 | 14 | ● |
| **146-P+** | 14.6 | 8.15 | 3.10 | 5.05 | 0.7 | 14 | ● |
| **147-P+** | 14.7 | 8.15 | 3.11 | 5.04 | 0.7 | 14 | ● |
| **148-P+** | 14.8 | 8.15 | 3.13 | 5.02 | 0.7 | 14 | ● |
| **150-P+** | 15.0 | 8.73 | 3.19 | 5.54 | 0.7 | 15 | ● |




▸ SSC: Seat size code

●: Standard items

# TCD-P+

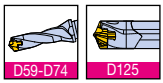
DRILLRUSH

**Self-centering drill heads**






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD-151-P+** | 15.1 | 8.73 | 3.20 | 5.53 | 0.7 | 15 | ● |
| **152-P+** | 15.2 | 8.73 | 3.22 | 5.51 | 0.7 | 15 | ● |
| **153-P+** | 15.3 | 8.73 | 3.23 | 5.50 | 0.7 | 15 | ● |
| **154-P+** | 15.4 | 8.73 | 3.24 | 5.49 | 0.7 | 15 | ● |
| **155-P+** | 15.5 | 8.73 | 3.26 | 5.47 | 0.7 | 15 | ● |
| **156-P+** | 15.6 | 8.73 | 3.27 | 5.46 | 0.7 | 15 | ● |
| **157-P+** | 15.7 | 8.73 | 3.28 | 5.45 | 0.7 | 15 | ● |
| **158-P+** | 15.8 | 8.73 | 3.30 | 5.43 | 0.7 | 15 | ● |
| **159-P+** | 15.9 | 8.73 | 3.31 | 5.42 | 0.7 | 15 | ● |
| **160-P+** | 16.0 | 9.30 | 3.46 | 5.84 | 0.81 | 16 | ● |
| **161-P+** | 16.1 | 9.30 | 3.47 | 5.83 | 0.81 | 16 | ● |
| **162-P+** | 16.2 | 9.30 | 3.49 | 5.81 | 0.81 | 16 | ● |
| **163-P+** | 16.3 | 9.30 | 3.50 | 5.80 | 0.81 | 16 | ● |
| **164-P+** | 16.4 | 9.30 | 3.51 | 5.79 | 0.81 | 16 | ● |
| **165-P+** | 16.5 | 9.30 | 3.53 | 5.77 | 0.81 | 16 | ● |
| **166-P+** | 16.6 | 9.30 | 3.54 | 5.76 | 0.81 | 16 | ● |
| **167-P+** | 16.7 | 9.30 | 3.55 | 5.75 | 0.81 | 16 | ● |
| **168-P+** | 16.8 | 9.30 | 3.57 | 5.73 | 0.81 | 16 | ● |
| **170-P+** | 17.0 | 9.90 | 3.63 | 6.27 | 0.81 | 17 | ● |
| **171-P+** | 17.1 | 9.90 | 3.64 | 6.26 | 0.81 | 17 | ● |
| **172-P+** | 17.2 | 9.90 | 3.66 | 6.24 | 0.81 | 17 | ● |
| **173-P+** | 17.3 | 9.90 | 3.67 | 6.23 | 0.81 | 17 | ● |
| **174-P+** | 17.4 | 9.90 | 3.68 | 6.22 | 0.81 | 17 | ● |
| **175-P+** | 17.5 | 9.90 | 3.70 | 6.20 | 0.81 | 17 | ● |
| **176-P+** | 17.6 | 9.90 | 3.71 | 6.19 | 0.81 | 17 | ● |
| **177-P+** | 17.7 | 9.90 | 3.72 | 6.18 | 0.81 | 17 | ● |
| **178-P+** | 17.8 | 9.90 | 3.74 | 6.16 | 0.81 | 17 | ● |
| **179-P+** | 17.9 | 9.90 | 3.75 | 6.15 | 0.81 | 17 | ● |
| **180-P+** | 18.0 | 10.50 | 3.81 | 6.69 | 0.81 | 18 | ● |
| **181-P+** | 18.1 | 10.50 | 3.82 | 6.68 | 0.81 | 18 | ● |
| **182-P+** | 18.2 | 10.50 | 3.84 | 6.66 | 0.81 | 18 | ● |
| **183-P+** | 18.3 | 10.50 | 3.85 | 6.65 | 0.81 | 18 | ● |
| **185-P+** | 18.5 | 10.50 | 3.88 | 6.62 | 0.81 | 18 | ● |
| **186-P+** | 18.6 | 10.50 | 3.89 | 6.61 | 0.81 | 18 | ● |
| **187-P+** | 18.7 | 10.50 | 3.90 | 6.60 | 0.81 | 18 | ● |




▸ SSC: Seat size code

●: Standard items

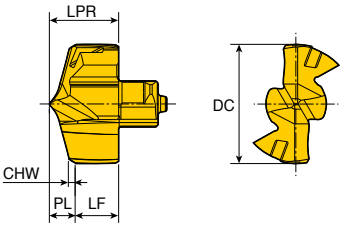


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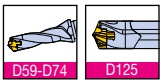
# TCD-P+

**Self-centering drill heads**






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD-188-P+** | 18.8 | 10.50 | 3.92 | 6.58 | 0.81 | 18 | ● |
| **190-P+** | 19.0 | 11.00 | 3.98 | 7.02 | 0.81 | 19 | ● |
| **191-P+** | 19.1 | 11.00 | 3.99 | 7.01 | 0.81 | 19 | ● |
| **192-P+** | 19.2 | 11.00 | 4.01 | 6.99 | 0.81 | 19 | ● |
| **193-P+** | 19.3 | 11.00 | 4.02 | 6.98 | 0.81 | 19 | ● |
| **194-P+** | 19.4 | 11.00 | 4.03 | 6.97 | 0.81 | 19 | ● |
| **195-P+** | 19.5 | 11.00 | 4.05 | 6.95 | 0.81 | 19 | ● |
| **196-P+** | 19.6 | 11.00 | 4.06 | 6.94 | 0.81 | 19 | ● |
| **197-P+** | 19.7 | 11.00 | 4.07 | 6.93 | 0.81 | 19 | ● |
| **198-P+** | 19.8 | 11.00 | 4.09 | 6.91 | 0.81 | 19 | ● |
| **199-P+** | 19.9 | 11.00 | 4.10 | 6.90 | 0.81 | 19 | ● |
| **200-P+** | 20.0 | 11.60 | 4.15 | 7.45 | 0.81 | 20 | ● |
| **201-P+** | 20.1 | 11.60 | 4.16 | 7.44 | 0.81 | 20 | ● |
| **202-P+** | 20.2 | 11.60 | 4.18 | 7.42 | 0.81 | 20 | ● |
| **205-P+** | 20.5 | 11.60 | 4.22 | 7.38 | 0.81 | 20 | ● |
| **206-P+** | 20.6 | 11.60 | 4.23 | 7.37 | 0.81 | 20 | ● |
| **207-P+** | 20.7 | 11.60 | 4.24 | 7.36 | 0.81 | 20 | ● |
| **210-P+** | 21.0 | 12.18 | 4.32 | 7.86 | 0.81 | 21 | ● |
| **212-P+** | 21.2 | 12.18 | 4.35 | 7.83 | 0.81 | 21 | ● |
| **213-P+** | 21.3 | 12.18 | 4.36 | 7.82 | 0.81 | 21 | ● |
| **214-P+** | 21.4 | 12.18 | 4.37 | 7.81 | 0.81 | 21 | ● |
| **215-P+** | 21.5 | 12.18 | 4.39 | 7.79 | 0.81 | 21 | ● |
| **218-P+** | 21.8 | 12.18 | 4.43 | 7.75 | 0.81 | 21 | ● |
| **220-P+** | 22.0 | 12.76 | 4.50 | 8.26 | 0.81 | 22 | ● |
| **225-P+** | 22.5 | 12.76 | 4.57 | 8.19 | 0.81 | 22 | ● |
| **229-P+** | 22.9 | 12.76 | 4.62 | 8.14 | 0.81 | 22 | ● |
| **230-P+** | 23.0 | 13.33 | 4.67 | 8.66 | 0.81 | 23 | ● |
| **235-P+** | 23.5 | 13.33 | 4.74 | 8.59 | 0.81 | 23 | ● |
| **240-P+** | 24.0 | 13.90 | 4.84 | 9.06 | 0.81 | 24 | ● |
| **245-P+** | 24.5 | 13.90 | 4.91 | 8.99 | 0.81 | 24 | ● |
| **250-P+** | 25.0 | 14.50 | 5.01 | 9.49 | 0.81 | 25 | ● |
| **254-P+** | 25.4 | 14.50 | 5.06 | 9.44 | 0.81 | 25 | ● |
| **255-P+** | 25.5 | 14.50 | 5.08 | 9.42 | 0.81 | 25 | ● |
| **256-P+** | 25.6 | 14.50 | 5.09 | 9.41 | 0.81 | 25 | ● |
| **257-P+** | 25.7 | 14.50 | 5.10 | 9.40 | 0.81 | 25 | ● |



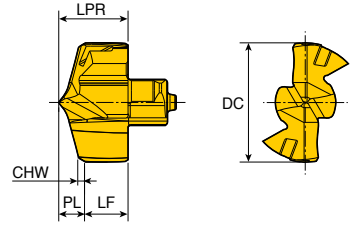

▸ SSC: Seat size code

●: Standard items

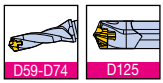
# TCD-P+

## Self-centering drill heads






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD-258-P+** | 25.8 | 14.50 | 5.12 | 9.38 | 0.81 | 25 | ● |
| **259-P+** | 25.9 | 14.50 | 5.13 | 9.37 | 0.81 | 25 | ● |



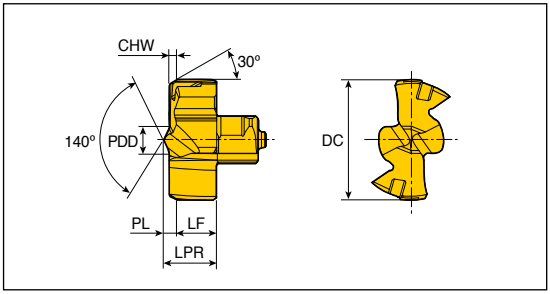

▸ SSC: Seat size code

●: Standard items

# TCD...F

**Drill heads for flat bottom hole**






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | PDD | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD - 080-F** | 8.0 | 2.33 | 4.4 | 1.09 | 3.3 | 0.7 | 8 | ● |
| **085-F** | 8.5 | 2.33 | 4.4 | 1.09 | 3.3 | 0.7 | 8 | ● |
| **090-F** | 9.0 | 2.29 | 4.6 | 1.11 | 3.5 | 0.7 | 9 | ● |
| **095-F** | 9.5 | 2.29 | 4.6 | 1.11 | 3.5 | 0.7 | 9 | ● |
| **100-F** | 10.0 | 2.44 | 4.9 | 1.17 | 3.7 | 0.7 | 10 | ● |
| **105-F** | 10.5 | 2.44 | 4.9 | 1.17 | 3.7 | 0.7 | 10 | ● |
| **110-F** | 11.0 | 3.09 | 5.1 | 1.25 | 3.8 | 0.7 | 11 | ● |
| **115-F** | 11.5 | 3.09 | 5.1 | 1.25 | 3.8 | 0.7 | 11 | ● |
| **120-F** | 12.0 | 2.95 | 5.4 | 1.26 | 4.1 | 0.7 | 12 | ● |
| **125-F** | 12.5 | 2.95 | 5.4 | 1.26 | 4.1 | 0.7 | 12 | ● |
| **130-F** | 13.0 | 3.04 | 5.7 | 1.30 | 4.4 | 0.7 | 13 | ● |
| **135-F** | 13.5 | 3.04 | 5.7 | 1.30 | 4.4 | 0.7 | 13 | ● |
| **140-F** | 14.0 | 3.30 | 6.1 | 1.31 | 4.8 | 0.7 | 14 | ● |
| **145-F** | 14.5 | 3.30 | 6.1 | 1.31 | 4.8 | 0.7 | 14 | ● |
| **150-F** | 15.0 | 3.54 | 6.6 | 1.35 | 5.23 | 0.7 | 15 | ● |
| **155-F** | 15.5 | 3.54 | 6.6 | 1.35 | 5.23 | 0.7 | 15 | ● |
| **160-F** | 16.0 | 3.74 | 7.0 | 1.39 | 5.6 | 0.7 | 16 | ● |
| **165-F** | 16.5 | 3.74 | 7.0 | 1.39 | 5.6 | 0.7 | 16 | ● |
| **170-F** | 17.0 | 3.75 | 7.3 | 1.40 | 5.9 | 0.7 | 17 | ● |
| **175-F** | 17.5 | 3.75 | 7.3 | 1.40 | 5.9 | 0.7 | 17 | ● |
| **180-F** | 18.0 | 3.85 | 7.6 | 1.42 | 6.18 | 0.7 | 18 | ● |
| **185-F** | 18.5 | 3.85 | 7.6 | 1.42 | 6.18 | 0.7 | 18 | ● |
| **190-F** | 19.0 | 3.86 | 7.9 | 1.44 | 6.5 | 0.7 | 19 | ● |
| **195-F** | 19.5 | 3.86 | 7.9 | 1.44 | 6.5 | 0.7 | 19 | ● |
| **200-F** | 20.0 | 6.76 | 9.3 | 1.77 | 7.5 | 0.7 | 20 | ● |
| **205-F** | 20.5 | 6.76 | 9.3 | 1.77 | 7.5 | 0.7 | 20 | ● |
| **210-F** | 21.0 | 6.98 | 9.7 | 1.79 | 7.9 | 0.7 | 21 | ● |
| **215-F** | 21.5 | 6.98 | 9.7 | 1.79 | 7.9 | 0.7 | 21 | ● |
| **220-F** | 22.0 | 7.42 | 10.0 | 1.81 | 8.2 | 0.7 | 22 | ● |
| **225-F** | 22.5 | 7.42 | 10.0 | 1.81 | 8.2 | 0.7 | 22 | ● |
| **230-F** | 23.0 | 7.60 | 10.4 | 1.83 | 8.6 | 0.7 | 23 | ● |
| **235-F** | 23.5 | 7.60 | 10.4 | 1.83 | 8.6 | 0.7 | 23 | ● |
| **240-F** | 24.0 | 8.13 | 10.9 | 1.86 | 9.0 | 0.7 | 24 | ● |
| **245-F** | 24.5 | 8.13 | 10.9 | 1.86 | 9.0 | 0.7 | 24 | ● |
| **250-F** | 25.0 | 8.16 | 11.3 | 1.89 | 9.4 | 0.7 | 25 | ● |



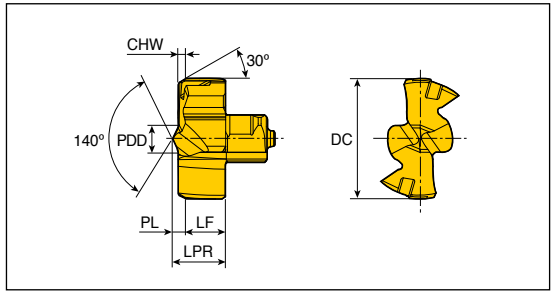

▸ SSC: Seat size code

●: Standard items

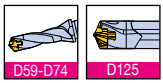
# TCD...F

**Drill heads for flat bottom hole**






| Designation | Dimension (mm) | | | | | | | Grade |
|---|---|---|---|---|---|---|---|---|
| | DC | PDD | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD - 254-F** | 25.4 | 8.16 | 11.3 | 1.89 | 9.4 | 0.7 | 25 | ● |
| **255-F** | 25.5 | 8.16 | 11.3 | 1.89 | 9.4 | 0.7 | 25 | ● |




▸ SSC: Seat size code

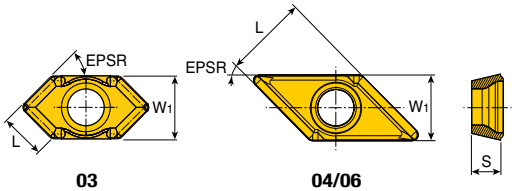
●: Standard items



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# AOMT

## Chamfering inserts for pre-thread hole




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | W1 | L | S | EPSR |
| **03-C30** | 4.0 | 4.00 | 1.59 | 30 |
| **03-C45** | 4.0 | 2.80 | 1.59 | 45 |
| **04-C45** | 3.6 | 5.20 | 1.80 | 45 |
| **06-C45** | 4.5 | 5.66 | 1.96 | 45 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

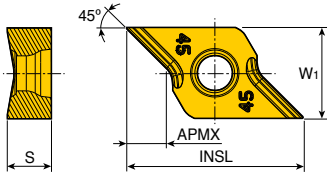
| Insert | Designation | Coated | | | | | | | Uncoated | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT9030 | TT8020 | TT6030 | TT9300 | TT7400 | | K10 | | | |
|  | **AOMT 030204-C30** | ● | | | | | | | | | | |
| | **030204-C45** | ● | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
|  | **AOMT 040204-C45** | ● | | | | | | | | | | |
| | **060204-C45** | ● | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

●: Standard items

D68

# CRNG 0802-45CD

## Chamfering inserts for chamfering ring




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | W1 | INSL | S | APMX |
| **08** | 7.5 | 14.80 | 3.65 | 3.3 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | Coated | | | | | | | Uncoated | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT9030 | TT8020 | TT6030 | TT9300 | TT7400 | | K10 | | | |
|  | **CRNG 0802-45CD** | ● | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

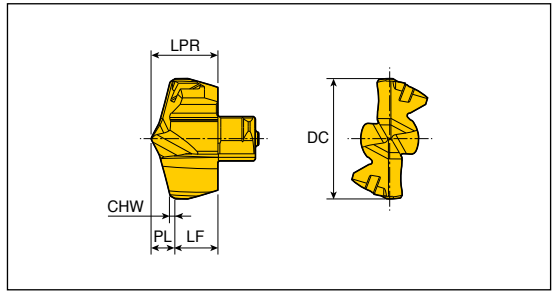
●: Standard items

D69

# TCD...P-CO+

## Drill heads






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | LPR | PL | LF | CHW | SSC | TT9080 |
| **TCD-159-P-CO+** | 15.9 | 8.73 | 3.17 | 5.56 | 0.7 | 15 | ● |
| **169-P-CO+** | 16.9 | 9.30 | 3.34 | 5.96 | 0.81 | 16 | ● |
| **179-P-CO+** | 17.9 | 9.90 | 3.50 | 6.40 | 0.81 | 17 | ● |
| **189-P-CO+** | 18.9 | 10.50 | 3.66 | 6.84 | 0.81 | 18 | ● |
| **199-P-CO+** | 19.9 | 11.00 | 3.82 | 7.18 | 0.81 | 19 | ● |
| **209-P-CO+** | 20.9 | 11.60 | 3.98 | 7.62 | 0.81 | 20 | ● |
| **219-P-CO+** | 21.9 | 12.18 | 4.15 | 8.03 | 0.81 | 21 | ● |
| **229-P-CO+** | 22.9 | 12.76 | 4.31 | 8.45 | 0.81 | 22 | ● |
| **239-P-CO+** | 23.9 | 13.33 | 4.48 | 8.85 | 0.81 | 23 | ● |
| **249-P-CO+** | 24.9 | 13.90 | 4.64 | 9.26 | 0.81 | 24 | ● |
| **259-P-CO+** | 25.9 | 14.50 | 4.81 | 9.69 | 0.81 | 25 | ● |

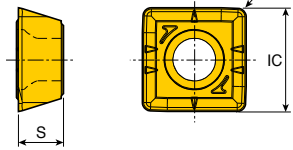
D75-D76

▸ SSC: Seat size code

●: Standard items

# SPGX...DW

## Inserts




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | S | RE | |
| **06** | 6.07 | 2.38 | 0.4 | |
| **07** | 8.02 | 3.97 | 0.8 | |
| **09** | 9.91 | 4.30 | 0.8 | |
| **11** | 11.62 | 4.80 | 0.8 | |
| **14** | 14.41 | 5.20 | 1.2 | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | Coated | | | | | | | | Uncoated | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT8020 | TT9300 | TT9030 | TT6030 | TT7400 | | | K10 | | | |
|  | **SPGX 060204 DW** | ● | | | | | | | | | | | |
| | **07T308 DW** | ● | | | | | | | | | | | |
| | **090408 DW** | ● | | | | | | | | | | | |
| | **110408 DW** | ● | | | | | | | | | | | |
| | **140512 DW** | ● | | | | | | | | | | | |

●: Standard items

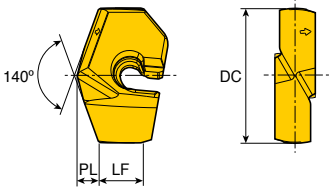
D75-D76

# LCD...-P

SPADERUSH

## Drill heads






| Designation | Dimension (mm) | | | | Grade |
|---|---|---|---|---|---|
| | DC | PL | LF | SSC | TT9080 |
| **LCD- 200-P** | 20.0 | 3.11 | 6.54 | 20 | ● |
| **205-P** | 20.5 | 3.20 | 6.45 | 20 | ● |
| **210-P** | 21.0 | 3.29 | 6.36 | 21 | ● |
| **215-P** | 21.5 | 3.38 | 6.27 | 21 | ● |
| **220-P** | 22.0 | 3.42 | 7.12 | 22 | ● |
| **225-P** | 22.5 | 3.51 | 7.03 | 22 | ● |
| **230-P** | 23.0 | 3.60 | 6.94 | 23 | ● |
| **235-P** | 23.5 | 3.69 | 6.85 | 23 | ● |
| **240-P** | 24.0 | 3.73 | 7.03 | 24 | ● |
| **245-P** | 24.5 | 3.82 | 6.94 | 24 | ● |
| **250-P** | 25.0 | 3.91 | 6.85 | 25 | ● |
| **255-P** | 25.5 | 4.00 | 6.76 | 25 | ● |
| **260-P** | 26.0 | 4.04 | 7.51 | 26 | ● |
| **265-P** | 26.5 | 4.13 | 7.42 | 26 | ● |
| **270-P** | 27.0 | 4.22 | 7.33 | 27 | ● |
| **275-P** | 27.5 | 4.31 | 7.24 | 27 | ● |
| **280-P** | 28.0 | 4.35 | 7.39 | 28 | ● |
| **285-P** | 28.5 | 4.44 | 7.30 | 28 | ● |
| **290-P** | 29.0 | 4.53 | 7.21 | 29 | ● |
| **295-P** | 29.5 | 4.62 | 7.12 | 29 | ● |
| **300-P** | 30.0 | 4.67 | 9.47 | 30 | ● |
| **305-P** | 30.5 | 4.76 | 9.38 | 30 | ● |
| **310-P** | 31.0 | 4.85 | 9.29 | 31 | ● |
| **315-P** | 31.5 | 4.94 | 9.20 | 31 | ● |
| **320-P** | 32.0 | 4.98 | 9.55 | 32 | ● |
| **325-P** | 32.5 | 5.07 | 9.46 | 32 | ● |
| **330-P** | 33.0 | 5.16 | 9.37 | 33 | ● |
| **335-P** | 33.5 | 5.25 | 9.28 | 33 | ● |
| **340-P** | 34.0 | 5.34 | 9.19 | 34 | ● |
| **345-P** | 34.5 | 5.44 | 9.10 | 34 | ● |
| **350-P** | 35.0 | 5.44 | 11.12 | 35 | ● |
| **355-P** | 35.5 | 5.53 | 11.03 | 35 | ● |
| **360-P** | 36.0 | 5.62 | 10.94 | 36 | ● |
| **365-P** | 36.5 | 5.71 | 10.85 | 36 | ● |
| **370-P** | 37.0 | 5.80 | 10.76 | 37 | ● |



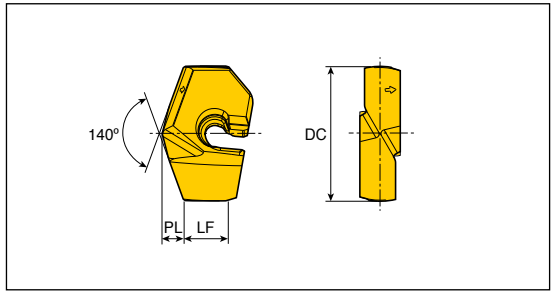

▸ SSC: Seat size code

●: Standard items

# LCD...-P

## Drill heads






| Designation | Dimension (mm) | | | | Grade |
|---|---|---|---|---|---|
| | DC | PL | LF | SSC | TT9080 |
| **LCD- 375-P** | 37.5 | 5.90 | 10.67 | 37 | ● |
| **380-P** | 38.0 | 5.91 | 11.09 | 38 | ● |
| **385-P** | 38.5 | 6.00 | 11.00 | 38 | ● |
| **390-P** | 39.0 | 6.09 | 10.91 | 39 | ● |
| **395-P** | 39.5 | 6.18 | 10.82 | 39 | ● |
| **400-P** | 40.0 | 6.27 | 10.73 | 40 | ● |
| **405-P** | 40.5 | 6.37 | 10.64 | 40 | ● |
| **410-P** | 41.0 | 6.46 | 10.54 | 40 | ● |


D80-D82

▸ SSC: Seat size code

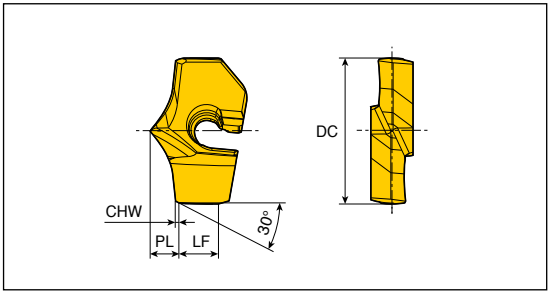
●: Standard items

# LCD...-P+

SPADERUSH

**Self-centering drill head**






| Designation | Dimension (mm) | | | | | Grade |
|---|---|---|---|---|---|---|
| | DC | PL | LF | CHW | SSC | TT9080 |
| **LCD- 200-P+** | 20.0 | 4.55 | 5.83 | 0.86 | 20 | ● |
| **205-P+** | 20.5 | 4.58 | 5.60 | 0.86 | 20 | ● |
| **210-P+** | 21.0 | 4.60 | 5.36 | 0.86 | 21 | ● |
| **215-P+** | 21.5 | 4.63 | 5.13 | 0.86 | 21 | ● |
| **220-P+** | 22.0 | 4.92 | 6.21 | 0.86 | 22 | ● |
| **225-P+** | 22.5 | 4.95 | 5.98 | 0.86 | 22 | ● |
| **230-P+** | 23.0 | 4.97 | 5.74 | 0.86 | 23 | ● |
| **235-P+** | 23.5 | 5.00 | 5.51 | 0.86 | 23 | ● |
| **240-P+** | 24.0 | 5.30 | 5.93 | 0.86 | 24 | ● |
| **245-P+** | 24.5 | 5.33 | 5.70 | 0.86 | 24 | ● |
| **250-P+** | 25.0 | 5.35 | 5.46 | 0.86 | 25 | ● |
| **255-P+** | 25.5 | 5.38 | 5.23 | 0.86 | 25 | ● |
| **260-P+** | 26.0 | 5.67 | 7.39 | 0.86 | 26 | ● |
| **265-P+** | 26.5 | 5.70 | 7.16 | 0.86 | 26 | ● |
| **270-P+** | 27.0 | 5.72 | 6.92 | 0.86 | 27 | ● |
| **275-P+** | 27.5 | 5.75 | 6.69 | 0.86 | 27 | ● |
| **280-P+** | 28.0 | 5.73 | 7.26 | 0.86 | 28 | ● |
| **285-P+** | 28.5 | 5.76 | 7.03 | 0.86 | 28 | ● |
| **290-P+** | 29.0 | 5.78 | 6.79 | 0.86 | 29 | ● |
| **295-P+** | 29.5 | 5.81 | 6.56 | 0.86 | 29 | ● |
| **300-P+** | 30.0 | 6.08 | 9.17 | 0.86 | 30 | ● |
| **305-P+** | 30.5 | 6.11 | 8.94 | 0.86 | 30 | ● |
| **310-P+** | 31.0 | 6.13 | 8.70 | 0.86 | 31 | ● |
| **315-P+** | 31.5 | 6.16 | 8.47 | 0.86 | 31 | ● |
| **320-P+** | 32.0 | 6.43 | 9.18 | 0.86 | 32 | ● |
| **325-P+** | 32.5 | 6.46 | 8.95 | 0.86 | 32 | ● |
| **330-P+** | 33.0 | 6.48 | 8.71 | 0.86 | 33 | ● |
| **335-P+** | 33.5 | 6.51 | 8.48 | 0.86 | 33 | ● |
| **340-P+** | 34.0 | 6.53 | 8.24 | 0.86 | 34 | ● |
| **345-P+** | 34.5 | 6.56 | 8.01 | 0.86 | 34 | ● |




▸ SSC: Seat size code

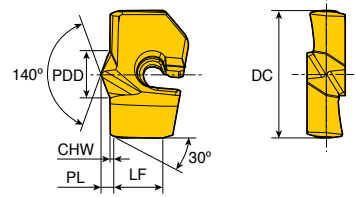
●: Standard items

# LCD...-F

SPADERUSH

**Drill heads for flat bottom hole**






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | PL | LF | CHW | SSC | PDD | TT9080 |
| **LCD - 200-F** | 20.0 | 2.18 | 7.63 | 0.7 | 20 | 8.3 | ● |
| **205-F** | 20.5 | 2.18 | 7.63 | 0.7 | 20 | 8.3 | ● |
| **210-F** | 21.0 | 2.18 | 7.63 | 0.7 | 21 | 8.3 | ● |
| **215-F** | 21.5 | 2.18 | 7.63 | 0.7 | 21 | 8.3 | ● |
| **220-F** | 22.0 | 2.38 | 8.17 | 0.7 | 22 | 9.0 | ● |
| **225-F** | 22.5 | 2.38 | 8.17 | 0.7 | 22 | 9.0 | ● |
| **230-F** | 23.0 | 2.38 | 8.17 | 0.7 | 23 | 9.0 | ● |
| **235-F** | 23.5 | 2.38 | 8.17 | 0.7 | 23 | 9.0 | ● |
| **240-F** | 24.0 | 2.52 | 8.10 | 0.7 | 24 | 10.0 | ● |
| **245-F** | 24.5 | 2.52 | 8.10 | 0.7 | 24 | 10.0 | ● |
| **250-F** | 25.0 | 2.52 | 8.10 | 0.7 | 25 | 10.0 | ● |
| **255-F** | 25.5 | 2.52 | 8.10 | 0.7 | 25 | 10.0 | ● |
| **260-F** | 26.0 | 2.48 | 9.84 | 0.7 | 26 | 10.5 | ● |
| **265-F** | 26.5 | 2.48 | 9.84 | 0.7 | 26 | 10.5 | ● |
| **270-F** | 27.0 | 2.48 | 9.84 | 0.7 | 27 | 10.5 | ● |
| **275-F** | 27.5 | 2.48 | 9.84 | 0.7 | 27 | 10.5 | ● |
| **280-F** | 28.0 | 2.72 | 9.50 | 0.7 | 28 | 11.6 | ● |
| **285-F** | 28.5 | 2.72 | 9.50 | 0.7 | 28 | 11.6 | ● |
| **290-F** | 29.0 | 2.72 | 9.50 | 0.7 | 29 | 11.6 | ● |
| **295-F** | 29.5 | 2.72 | 9.50 | 0.7 | 29 | 11.6 | ● |
| **300-F** | 30.0 | 2.80 | 11.63 | 0.7 | 30 | 12.4 | ● |
| **305-F** | 30.5 | 2.80 | 11.63 | 0.7 | 30 | 12.4 | ● |
| **310-F** | 31.0 | 2.80 | 11.63 | 0.7 | 31 | 12.4 | ● |
| **315-F** | 31.5 | 2.80 | 11.63 | 0.7 | 31 | 12.4 | ● |
| **320-F** | 32.0 | 3.13 | 11.59 | 0.7 | 32 | 13.6 | ● |
| **325-F** | 32.5 | 3.13 | 11.59 | 0.7 | 32 | 13.6 | ● |
| **330-F** | 33.0 | 3.13 | 11.59 | 0.7 | 33 | 13.6 | ● |
| **335-F** | 33.5 | 3.13 | 11.59 | 0.7 | 33 | 13.6 | ● |
| **340-F** | 34.0 | 3.13 | 11.59 | 0.7 | 34 | 13.6 | ● |
| **345-F** | 34.5 | 3.13 | 11.59 | 0.7 | 34 | 13.6 | ● |
| **350-F** | 35.0 | 3.31 | 13.20 | 0.7 | 35 | 14.6 | ● |
| **355-F** | 35.5 | 3.31 | 13.20 | 0.7 | 35 | 14.6 | ● |
| **360-F** | 36.0 | 3.31 | 13.20 | 0.7 | 36 | 14.6 | ● |
| **365-F** | 36.5 | 3.31 | 13.20 | 0.7 | 36 | 14.6 | ● |
| **370-F** | 37.0 | 3.31 | 13.20 | 0.7 | 37 | 14.6 | ● |




▸ SSC: Seat size code

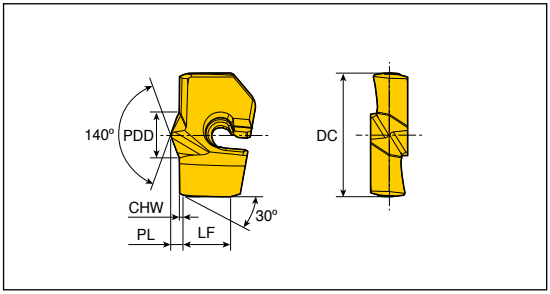
●: Standard items

# LCD...-F

SPADERUSH

**Drill heads for flat bottom hole**






| Designation | Dimension (mm) | | | | | | Grade |
|---|---|---|---|---|---|---|---|
| | DC | PL | LF | CHW | SSC | PDD | TT9080 |
| **LCD - 375-F** | 37.5 | 3.31 | 13.20 | 0.7 | 37 | 14.6 | ● |
| **380-F** | 38.0 | 3.49 | 13.32 | 0.7 | 38 | 15.9 | ● |
| **385-F** | 38.5 | 3.49 | 13.32 | 0.7 | 38 | 15.9 | ● |
| **390-F** | 39.0 | 3.49 | 13.32 | 0.7 | 39 | 15.9 | ● |
| **395-F** | 39.5 | 3.49 | 13.32 | 0.7 | 39 | 15.9 | ● |
| **400-F** | 40.0 | 3.49 | 13.32 | 0.7 | 40 | 15.9 | ● |
| **405-F** | 40.5 | 3.49 | 13.32 | 0.7 | 40 | 15.9 | ● |
| **410-F** | 41.0 | 3.49 | 13.32 | 0.7 | 40 | 15.9 | ● |



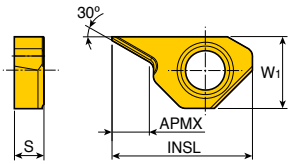

▸ SSC: Seat size code

●: Standard items

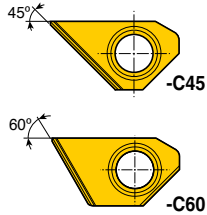
# XCGT ...-C

T-CHAMFER

## Chamfering inserts for T-CHAMFER holder




-C30




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | $W_1$ | INSL | S | APMX |
| **06-C30** | 6.18 | 12.3 | 2.8 | 3.49 |
| **09-C30** | 8.50 | 16.0 | 3.3 | 4.43 |
| **06-C45** | 6.18 | 12.3 | 2.8 | 5.89 |
| **09-C45** | 8.50 | 16.0 | 3.3 | 8.07 |
| **06-C60** | 6.18 | 12.3 | 2.8 | 3.43 |
| **09-C60** | 8.50 | 16.0 | 3.3 | 4.78 |
| | | | | |
| | | | | |

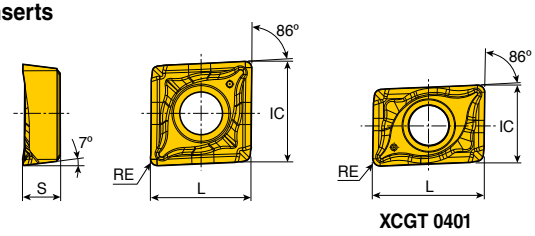
| Insert | Designation | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT9030 | TT8020 | TT6030 | TT9300 | TT7400 | K10 |
|  | **XCGT 0603-C30** | ● | | | | | | |
| | **0903-C30** | ● | | | | | | |
|  | **XCGT 0603-C45** | ● | | | | | | |
| | **0903-C45** | ● | | | | | | |
|  | **XCGT 0603-C60** | ● | | | | | | |
| | **0903-C60** | ● | | | | | | |

●: Standard items

# XCGT...TA

TOPCAP

## Inserts




XCGT 0401

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | L | S | RE |
| **04** | 4.4 | 6.4 | 1.70 | 0.4 |
| **05** | 5.6 | 5.6 | 2.10 | 0.4 |
| **06** | 6.4 | 6.4 | 2.38 | 0.4 |
| **07** | 7.5 | 7.5 | 3.18 | 0.4 |
| **08** | 8.4 | 8.4 | 3.18 | 0.4 |
| **10** | 10.5 | 10.5 | 3.97 | 0.4 |
| **13** | 13.4 | 13.4 | 4.76 | 0.4 |
| **17** | 17.5 | 17.5 | 5.56 | 0.8 |

• For aluminum alloy

| Insert | Designation | Turning | | Drilling | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | TT9080 | TT8020 | TT9300 | TT9030 | TT6030 | TT7400 | K10 |
|  Right hand shown (XCGT 0401)  | **XCGT 040104R TA** | 0.2-1.8 | 0.02-0.15 | 0.02-0.09 | | | | | | | ● |
| | **040104L TA** | 0.2-1.8 | 0.02-0.15 | 0.02-0.09 | | | | | | | ● |
| | **050204 TA** | 0.2-2.2 | 0.03-0.18 | 0.02-0.11 | | | | | | | ● |
| | **060204 TA** | 0.3-2.5 | 0.03-0.20 | 0.03-0.12 | | | | | | | ● |
| | **070304 TA** | 0.4-2.8 | 0.05-0.22 | 0.03-0.13 | | | | | | | ● |
| | **080304 TA** | 0.4-3.2 | 0.06-0.25 | 0.03-0.13 | | | | | | | ● |
| | **10T304 TA** | 0.5-3.5 | 0.06-0.30 | 0.03-0.13 | | | | | | | ● |
| | **130404 TA** | 0.6-4.3 | 0.08-0.33 | 0.03-0.13 | | | | | | | ● |
| | **170508 TA** | 0.7-5.3 | 0.10-0.38 | 0.03-0.13 | | | | | | | ● |

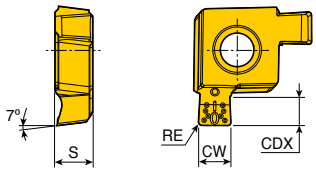



●: Standard items

# XCMT..R-GV

TOPCAP

## Inserts




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | CW | CDX | S | RE |
| **05** | 2.0 | 1.8 | 2.27 | 0.2 |
| **06** | 2.0 | 2.0 | 2.62 | 0.2 |
| **07** | 2.5 | 2.0 | 3.42 | 0.2 |
| **08** | 2.5 | 2.5 | 3.50 | 0.2 |
| **10** | 3.0 | 3.0 | 4.37 | 0.3 |
| **13** | 3.5 | 3.5 | 5.24 | 0.3 |
| **17** | 4.0 | 4.0 | 6.06 | 0.4 |

• For grooving

| Insert | Designation | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|
| | | TT9080 | TT8020 | TT9300 | TT9030 | TT6030 | TT7400 | K10 |
|  | **XCMT 05R-200020GV** | ● | ● | | | | | |
| | **06R-200020GV** | ● | ● | | | | | |
| | **07R-250020GV** | ● | ● | | | | | |
| | **08R-250020GV** | ● | ● | | | | | |
| | **10R-300030GV** | ● | ● | | | | | |
| | **13R-350030GV** | ● | ● | | | | | |
| | **17R-400040GV** | ● | ● | | | | | |



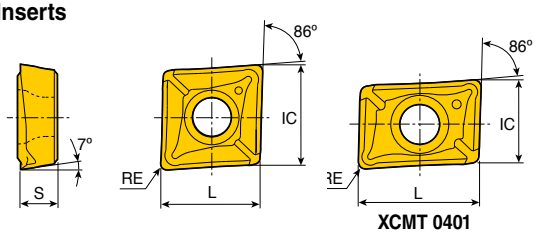

▸ Grooving insert is available only for right handed type

●: Standard items

# XCMT...TC

TOPCAP

## Inserts




XCMT 0401

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | L | S | RE |
| **04** | 4.4 | 6.4 | 1.70 | 0.4 |
| **05** | 5.6 | 5.6 | 2.10 | 0.4 |
| **06** | 6.4 | 6.4 | 2.38 | 0.4 |
| **07** | 7.5 | 7.5 | 3.18 | 0.4 |
| **08** | 8.4 | 8.4 | 3.18 | 0.4 |
| **10** | 10.5 | 10.5 | 3.97 | 0.4/0.8 |
| **13** | 13.4 | 13.4 | 4.76 | 0.4/0.8 |
| **17** | 17.4 | 17.4 | 5.56 | 0.8 |

• For drilling, boring and turning

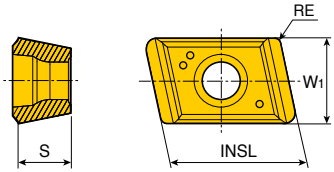
| Insert | Designation | Turning | | Drilling | Coated | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ap (mm) | Feed (mm/rev) | Feed (mm/rev) | TT9080 | TT8020 | TT9300 | TT9030 | TT6030 | TT7400 | K10 |
|  Right hand shown (XCMT 0401)  | **XCMT 040104R TC** | 0.2-1.8 | 0.02-0.15 | 0.02-0.09 | ● | ● | | ● | | | |
| | **040104L TC** | 0.2-1.8 | 0.02-0.15 | 0.02-0.09 | ● | ● | | ● | | | |
| | **050204 TC** | 0.2-2.2 | 0.03-0.18 | 0.02-0.11 | ● | ● | | ● | | | |
| | **060204 TC** | 0.3-2.5 | 0.03-0.20 | 0.03-0.12 | ● | ● | | ● | | | |
| | **070304 TC** | 0.4-2.8 | 0.05-0.22 | 0.03-0.13 | ● | ● | | ● | | | |
| | **080304 TC** | 0.4-3.2 | 0.06-0.25 | 0.03-0.13 | ● | ● | | ● | | | |
| | **10T304 TC** | 0.5-3.5 | 0.06-0.30 | 0.03-0.13 | ● | ● | | ● | | | |
| | **10T308 TC** | 0.5-3.5 | 0.06-0.30 | 0.03-0.13 | ● | ● | | ● | | | |
| | **130404 TC** | 0.6-4.3 | 0.08-0.33 | 0.03-0.13 | ● | ● | | ● | | | |
| | **130408 TC** | 0.6-4.3 | 0.08-0.33 | 0.03-0.13 | ● | ● | | ● | | | |
| | **170508 TC** | 0.7-5.3 | 0.10-0.38 | 0.03-0.13 | ● | ● | | ● | | | |

●: Standard items

D51-D53

# NPHT...R-G-P/R-HF-P

**Inserts for TBTA-FB & TRGD3**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | W1 | INSL | S | RE |
| **06** | 6.0 | 8 | 3.0 | 0.4/0.8 |
| **08** | 7.5 | 10 | 4.0 | 0.4/0.8 |
| **09** | 9.0 | 10 | 4.0 | 0.4/0.8 |
| **11** | 11.0 | 10 | 4.0 | 0.4/0.8 |
| **13** | 13.0 | 10 | 4.0 | 0.4/0.8 |
| | | | | |
| | | | | |
| | | | | |

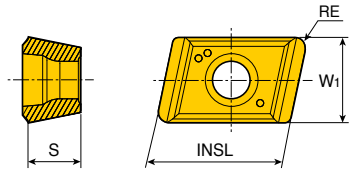
| Insert | Designation | Pocket | | | Coated | | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Center | Inner | Outer | TT9030 | TT9130 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 |
|  | **NPHT 060304R-G-P** | | | ● | ● | | | | ● | | | ● | |
| | **060308R-G-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **060308R-HF-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **080404R-G-P** | | | ● | ● | | | | ● | | | ● | |
| | **080408R-G-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **080408R-HF-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **090404R-G-P** | | | ● | ● | | | | ● | | | ● | |
| | **090408R-G-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **090408R-HF-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **110404R-G-P** | | | ● | ● | | | | ● | | | ● | |
| | **110408R-G-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **110408R-HF-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **130404R-G-P** | | | ● | ● | | | | ● | | | ● | |
| | **130408R-G-P** | | | ● | ● | ● | | | ● | | | ● | |
| | **130404R-HF-P** | | | ● | ● | ● | | | ● | | | ● | |




●: Standard items

# NPMT...L-G-C/L-HF-C

## Inserts for TBTA-FB & TRGD




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | W1 | INSL | S | RE |
| **06** | 5.5 | 8 | 3.0 | 0.8 |
| **07** | 6.5 | 10 | 4.0 | 0.8 |
| **08** | 8.0 | 10 | 4.0 | 0.8 |
| **10** | 10.0 | 10 | 4.0 | 0.8 |
| **13** | 12.5 | 10 | 4.0 | 0.8 |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | Pocket | | | Coated | | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Center | Inner | Outer | TT9030 | TT9130 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 |
|  | **NPMT 060308L-G-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **060308L-HF-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **070408L-G-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **070408L-HF-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **080408L-G-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **080408L-HF-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **100408L-G-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **100408L-HF-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **130408L-G-C** | ● | | | ● | ● | ● | | ● | | | ● | |
| | **130408L-HF-C** | ● | | | ● | ● | ● | | ● | | | ● | |

●: Standard items

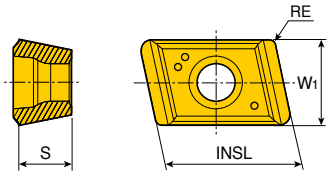
D150-D155 D130



ADVANCE CUTTING TaeguTec

# NPMT...R-G-I/R-HF-I

**Inserts for TBTA-FB & TRGD**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | $W_1$ | INSL | S | RE |
| **06** | 5.5 | 8 | 3.0 | 0.4 |
| **07** | 6.5 | 10 | 4.0 | 0.4 |
| **08** | 8.0 | 10 | 4.0 | 0.4 |
| **10** | 10.0 | 10 | 4.0 | 0.4 |
| **13** | 12.5 | 10 | 4.0 | 0.4 |
| | | | | |
| | | | | |
| | | | | |

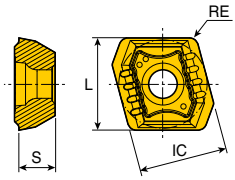
| Insert | Designation | Pocket | | | Coated | | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Center | Inner | Outer | TT9030 | TT9130 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 |
|  | **NPMT 060304R-G-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **060304R-HF-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **070404R-G-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **070404R-HF-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **080404R-G-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **080404R-HF-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **100404R-G-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **100404R-HF-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **130404R-G-I** | | ● | | ● | ● | ● | | ● | | | ● | |
| | **130404R-HF-I** | | ● | | ● | ● | ● | | ● | | | ● | |



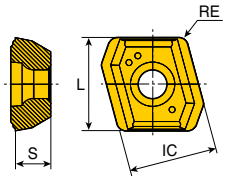

●: Standard items

# NPMX...R-B/R-G

**Inserts for TBTA...3/5/7/9**




R-B




R-G

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | L | S | RE |
| **08** | 8.0 | 8.36 | 3.18 | 0.8 |

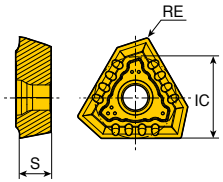
| Insert | Designation | Pocket | | | Coated | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Center | Inner | Outer | TT9030 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 | |
|  | **NPMX 080308R-B** | ● | ● | ● | ● | ● | | ● | | | | | |
| | **080308R-G** | ● | ● | ● | ● | ● | | | ● | ● | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

●: Standard items

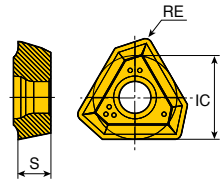
D134-D149

# TPMX...R-B/R-G

**Inserts for TBTA...3/5/7/9 & TBTA-R**




R-B




R-G

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | S | RE | |
| **140304 R-B** | 8.45 | 3.5 | 0.4 | |
| **140308 R-B/R-G** | 8.45 | 3.5 | 0.8 | |
| **170404 R-B** | 10.30 | 4.0 | 0.4 | |
| **170408 R-B/R-G** | 10.30 | 4.0 | 0.8 | |
| **240504 R-B** | 14.20 | 5.5 | 0.4 | |
| **240512 R-B/R-G** | 14.20 | 5.5 | 1.2 | |
| **280708 R-B** | 17.00 | 7.5 | 0.8 | |
| **280716 R-B/R-G** | 17.00 | 7.5 | 1.6 | |

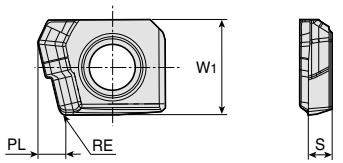
| Insert | Designation | Pocket | | | Coated | | | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Center | Inner | Outer | TT9030 | TT9130 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 | |
|  | **TPMX 140304R-B** | ● | ● | ● | ● | | ● | | ● | | | | | |
| | **140308R-B** | ● | ● | ● | | ● | | | | | | ● | | |
| | **140308R-G** | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | | |
| | **170404R-B** | ● | ● | ● | ● | | ● | | ● | | | | | |
| | **170408R-B** | ● | ● | ● | | ● | | | | | | ● | | |
| | **170408R-G** | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | | |
| | **240504R-B** | ● | ● | ● | ● | | ● | | ● | | | | | |
| | **240512R-B** | ● | ● | ● | | ● | | | | | | ● | | |
| | **240512R-G** | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | | |
| | **280708R-B** | ● | ● | ● | ● | | ● | | ● | | | | | |
| | **280716R-B** | ● | ● | ● | | ● | | | | | | ● | | |
| | **280716R-G** | ● | ● | ● | ● | ● | ● | ● | | ● | ● | ● | | |

●: Standard items

D134-D149

# ZSGT

**Deep drilling inserts with single chip splitting cutting edge and a wiper for high hole surface quality**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | W1 | RE | PL | S |
| **06** | 6.00 | 0.40 | 1.80 | 1.50 |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |
| | | | | |

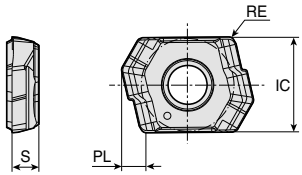
| Insert | Designation | Coated | | | | | | | | Uncoated | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TT9030 | TT9130 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 | | |
|  | **ZSGT 060204R-RS** | | ● | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

●: Standard items

D127-D129

# LOGT

**Deep drilling inserts with 2 chip splitting cutting edges, positive rake chipbreaker and a wiper for high hole surface quality**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | RE | PL | S |
| **06** | 7.00 | 0.40 | 1.80 | 2.00 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | Coated | | | | | | | | Uncoated | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | TT9030 | TT9130 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 | | |
|  | **LOGT 060204R-RS** | | ● | ● | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

●: Standard items

D127,D131

# TOGT…RS/GF

## Inserts for TBTA-TR & TRGD

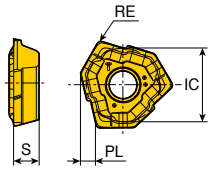



Fig.1

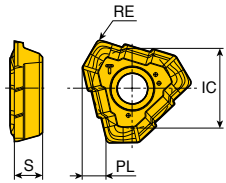



Fig.2

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | PL | S | RE |
| **07** | 7.69 | 2.0 | 2.3 | 0.4 |
| **08** | 8.32 | 2.2 | 2.8 | 0.5 |
| **09** | 8.55 | 3.0 | 3.0 | 0.5 |
| **10** | 9.23 | 3.2 | 3.3 | 0.5 |
| **11** | 10.40 | 3.4 | 3.8 | 0.5 |
| **12** | 11.59 | 3.7 | 4.3 | 0.5 |
| **13** | 12.85 | 4.6 | 4.8 | 0.8 |
| **14** | 16.85 | 5.4 | 5.3 | 1.0 |

| Insert | Designation | Fig. | Coated | | | | | | Uncoated | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | TT9030 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 | |
|  | **TOGT 070304 RS** | 1 | ● | | | | | | | | |
| | **070304 GF** | 1 | ● | | | | | | | | |
| | **080305 RS** | 1 | ● | | | | | | | | |
| | **080305 GF** | 1 | ● | | | | | | | | |
| | **090305 RS** | 2 | ● | | | | | | | | |
| | **090305 GF** | 2 | ● | | | | | | | | |
| | **100305 RS** | 2 | ● | | | | | | | | |
| | **100305 GF** | 2 | ● | | | | | | | | |
| | **110405 RS** | 2 | ● | | | | | | | | |
| | **110405 GF** | 2 | ● | | | | | | | | |
| | **120405 RS** | 2 | ● | | | | | | | | |
| | **120405 GF** | 2 | ● | | | | | | | | |
| | **130408 RS** | 2 | ● | | | | | | | | |
| | **130408 GF** | 2 | ● | | | | | | | | |
| | **140510 RS** | 2 | ● | | | | | | | | |




- RS: First choice for general purpose
- GF: Exotic materials

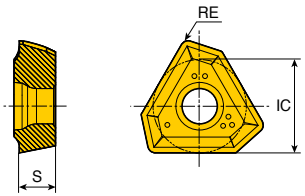
●: Standard items



ADVANCE CUTTING
TaeguTec

# TPMX...LG

**Inserts for TBTA-R**




| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | IC | S | RE | |
| **14** | 8.45 | 3.5 | 0.8 | |
| **17** | 10.30 | 4.0 | 0.8 | |
| **24** | 14.20 | 5.5 | 1.2 | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

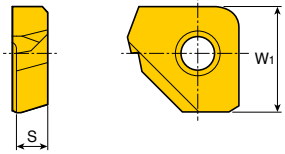
| Insert | Designation | Pocket | | | Coated | | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Center | Inner | Outer | TT9030 | TT9130 | TT8125 | TT7200 | TT6130 | TT6020 | TT5100 | TT5030 | K10 |
|  | **TPMX 140308 LG** | | | ● | ● | | | | | | | ● | |
| | **170408 LG** | | | ● | ● | ● | | | | ● | | ● | |
| | **240512 LG** | | | ● | ● | ● | | | | ● | | ● | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

D156-D161

●: Standard items

# XPMT...-45

**Inserts for TBTA-R**



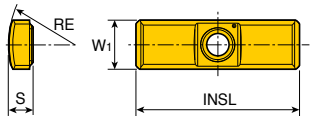

| Size | Dimension (mm) | | | |
|---|---|---|---|---|
| | W1 | S | | |
| **16** | 9.5 | 2.70 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Insert | Designation | Pocket | | | Coated | | | | | | | Uncoated |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Center | Inner | Outer | TT9030 | TT8125 | TT7100 | TT3500 | TT6020 | TT9300 | TT7400 | K10 |
|  | **XPMT 16002-45** | | | ● | ● | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

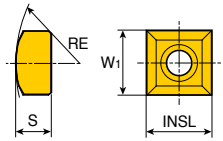
D156-D161

●: Standard items

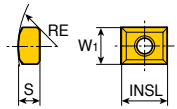
# Pad for TBTA 3.../5.../7.../9...




Guide pad




Guide pad protector



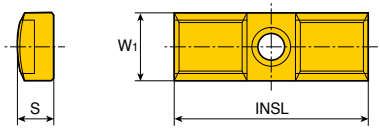

Sub guide pad

| Designation | | Dimension (mm) | | | | Screw |
|---|---|---|---|---|---|---|
| | | W1 | S | INSL | RE | |
| Guide pad | **PAD - GP08-25-155-DC-SB** | 8 | 4.5 | 25 | 15.5 | CSTB3S |
| | **GP08-25-155-DC-SC** | 8 | 4.5 | 25 | 15.5 | CSTB3S |
| | **GP10-35-200-DC-SB** | 10 | 6.0 | 35 | 20.0 | CSTB4S |
| | **GP10-35-200-DC-SC** | 10 | 6.0 | 35 | 20.0 | CSTB4S |
| | **GP14-40-250-DC-SB/SC** | 14 | 7.5 | 40 | 25.0 | CSTA5S |
| | **GP18-40-300-DC-SB/SC** | 18 | 9.0 | 40 | 30.0 | LS1206S |
| Guide pad protector | **PAD - P08** | 8 | 4.5 | 8 | 17.5 | CSTB3S |
| | **P10** | 10 | 6.0 | 10 | 20.0 | CSTB4S |
| | **P14** | 14 | 7.5 | 14 | 25.0 | CSTA5S |
| | **P18** | 18 | 9.0 | 18 | 30.0 | LS1206S |
| Sub guide pad | **PAD - S08** | 8 | 4.5 | 10 | 17.5 | CSTB3S |
| | **S10** | 10 | 5.0 | 10 | 29.0 | CSTB3S |
| | **S14** | 14 | 7.0 | 20 | 45.0 | CCSTA5S |

D134-D149

# Plus Guide Pad for TBTA 3.../5.../7.../9...





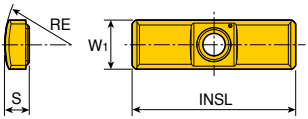

- Plus guide pad for diameter enlargement

| Designation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| DC | PAD-GC08 | S | PAD-GC10 | S | PAD-GC14 | S | PAD-GC18 | S |
| **DC+1mm** | **PAD-GC08-DC+1** | 5.0 | **PAD-GC10-DC+1** | 6.5 | **PAD-GC14-DC+1** | 8.0 | **PAD-GC18-DC+1** | 9.5 |
| **DC+2mm** | **PAD-GC08-DC+2** | 5.5 | **PAD-GC10-DC+2** | 7.0 | **PAD-GC14-DC+2** | 8.5 | **PAD-GC18-DC+2** | 10.0 |
| **DC+3mm** | **PAD-GC08-DC+3** | 6.0 | **PAD-GC10-DC+3** | 7.5 | **PAD-GC14-DC+3** | 9.0 | **PAD-GC18-DC+3** | 10.5 |
| **DC+4mm** | - | - | **PAD-GC10-DC+4** | 8.0 | **PAD-GC14-DC+4** | 9.5 | **PAD-GC18-DC+4** | 11.0 |
| **DC+5mm** | - | - | - | - | **PAD-GC14-DC+5** | 10.0 | **PAD-GC18-DC+5** | 11.5 |

D134-D149

# Pad for TBTA-FB





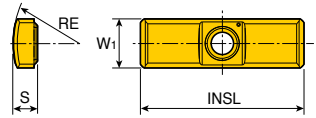

**Guide pad**

| Designation | | Dimension (mm) | | | | Screw |
|---|---|---|---|---|---|---|
| | | W1 | S | INSL | RE | |
| Guide pad | **PAD - GP06-20-120-DC-SB** | 6 | 3.0 | 20 | 12.0 | CSTB2.2S |
| | **GP06-20-120-DC-SC** | 6 | 3.0 | 20 | 12.0 | CSTB2.2S |
| | **GP07-20-120-DC-SB** | 7 | 3.5 | 20 | 12.0 | CSTB3S |
| | **GP07-20-120-DC-SC** | 7 | 3.5 | 20 | 12.0 | CSTB3S |
| | **GP08-25-155-DC-SB** | 8 | 4.5 | 25 | 15.5 | CSTB3S |
| | **GP08-25-155-DC-SC** | 8 | 4.5 | 25 | 15.5 | CSTB3S |
| | **GP10-30-200-DC-SB** | 10 | 4.5 | 30 | 20.0 | CSTB3.5 |
| | **GP10-30-200-DC-SC** | 10 | 4.5 | 30 | 20.0 | CSTB3.5 |
| | **GP12-35-250-DC-SB** | 12 | 5.5 | 35 | 25.0 | CSTB3.5 |
| | **GP12-35-250-DC-SC** | 12 | 5.5 | 35 | 25.0 | CSTB3.5 |

D150-D155

# Pad for TBTA-TR & TRGD

**Solid carbide guide pads**

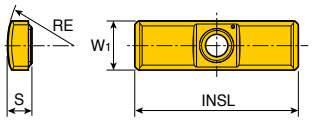



| Designation | | Dimension (mm) | | | | Screw |
|---|---|---|---|---|---|---|
| | | $W_1$ | S | INSL | RE | |
| Guide pad | **PAD - GP04-16-045-DC-SB** | 4 | 1.8 | 16 | 4.5 | CSTB-2 |
| | **GP04-16-050-DC-SB** | 4 | 1.8 | 16 | 5.0 | CSTB-2 |
| | **GP04-16-055-DC-SB** | 4 | 2.0 | 16 | 5.5 | TS 20043I/HG-P |
| | **GP04-16-055-DC-SC** | 4 | 2.0 | 16 | 5.5 | TS 20043I/HG-P |
| | **GP05-18-060-DC-SB** | 5 | 2.5 | 18 | 6.0 | SR34-508 |
| | **GP05-18-060-DC-SC** | 5 | 2.5 | 18 | 6.0 | SR34-508 |
| | **GP05-18-075-DC-SB** | 5 | 2.5 | 18 | 7.5 | SR34-508 |
| | **GP05-18-075-DC-SC** | 5 | 2.5 | 18 | 7.5 | SR34-508 |
| | **GP06-20-085-DC-SB** | 6 | 3.0 | 20 | 8.5 | CSTB2.2S* / SR34-508 |
| | **GP06-20-085-DC-SC** | 6 | 3.0 | 20 | 8.5 | CSTB2.2S* / SR34-508 |
| | **GP06-20-100-DC-SB** | 6 | 3.0 | 20 | 10.0 | CSTB2.2S* / SR34-508 |
| | **GP06-20-100-DC-SC** | 6 | 3.0 | 20 | 10.0 | CSTB2.2S* / SR34-508 |
| | **GP06-20-120-DC-SB** | 6 | 3.0 | 20 | 12.0 | CSTB2.2S* / SR34-508 |
| | **GP06-20-120-DC-SC** | 6 | 3.0 | 20 | 12.0 | CSTB2.2S* / SR34-508 |

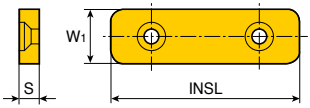
D162-D165 D127-D133

▸ Guide pad with "SB" is the first choice in general purpose machining
"SC" is a excellent toughness grade used with water-soluble coolant

# Pad for TBTA-R




Guide pad



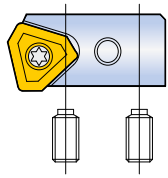

Resin guide pad

| Designation | | Dimension (mm) | | | | Screw |
|---|---|---|---|---|---|---|
| | | $W_1$ | S | INSL | RE | |
| Guide pad | **PAD - GP08-25-155-DC-SB** | 8 | 4.5 | 25 | 15.5 | CSTB3S |
| | **GP08-25-155-DC-SC** | 8 | 4.5 | 25 | 15.5 | CSTB3S |
| | **GP10-35-200-DC-SB** | 10 | 6.0 | 35 | 20.0 | CSTB4S |
| | **GP10-35-200-DC-SC** | 10 | 6.0 | 35 | 20.0 | CSTB4S |
| | **GP14-40-250-DC-SB** | 14 | 7.5 | 40 | 25.0 | CSTA5S |
| | **GP14-40-250-DC-SC** | 14 | 7.5 | 40 | 25.0 | CSTA5S |
| | **GP18-40-300-DC-SB** | 18 | 9.0 | 40 | 30.0 | LS1206S |
| | **GP18-40-300-DC-SC** | 18 | 9.0 | 40 | 30.0 | LS1206S |
| Resin guide pad | **PAD - R10** | 10 | 4.0 | 40 | - | LS0902.5-6 |
| | **R12** | 12 | 5.0 | 45 | - | LS0903-8 |
| | **R15** | 15 | 5.8 | 50 | - | LS0904-10 |
| | **R20** | 20 | 7.5 | 70 | - | LS0905-12 |
| | **R30** | 30 | 12.5 | 80 | - | LS0906-15 |
| | **R35** | 35 | 15.5 | 100 | - | LS0906-15 |

D156-D161

# Cartridge for TBTA 3.../5.../7.../9





Outer





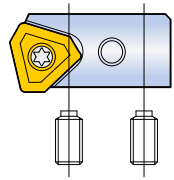
Inner & center

| Designation | | | Adjust screw | Wrench | Lock screw | Wrench | Insert |
|---|---|---|---|---|---|---|---|
| Outer | **PERC** | **05R** | AS0003-5 | H1.5 | LS1803RH | H2 | NPMX0803.. |
| | | **402-04** | AS0004-8 | H2 | LS1803.5RH | H2.5 | TPMX1403.. |
| | | **402-32** | AS0005-10 | H2.5 | LS1805RH | H3 | TPMX1704.. |
| | | **402-43** | AS0005-15 | H2.5 | L1806RH | H4 | TPMX2405.. |
| | | **402-63** | AS0006-15 | H3 | L1806RH | H4 | TPMX2807.. |
| Inner & center | **CENC** | **05R** | - | - | CSTB3 | T9 | NPMX0803.. |
| | | **402-04** | - | - | CSTB3.5 | T15 | TPMX1403.. |
| | | **402-32** | - | - | CSTA5 | T15 | TPMX1704.. |
| | | **402-43** | - | - | LS1206 | H3 | TPMX2405.. |
| | | **402-63** | - | - | LS1206 | H3 | TPMX2807.. |

D134-D149

# Plus Cartridge for TBTA 3.../5.../7.../9



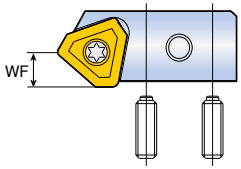


• Plus cartridge for diameter enlargement

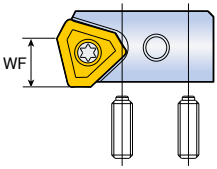
| Designation | | | | | |
|---|---|---|---|---|---|
| DC | DC+1mm | DC+2mm | DC+3mm | DC+4mm | DC+5mm |
| **PERC 05R** | **PERC 05R+1** | **PERC 05R+2** | **-** | **-** | **-** |
| **PERC 402-04** | **PERC 402-04+1** | **PERC 402-04+2** | **PERC 402-04+3** | **-** | **-** |
| **PERC 402-32** | **PERC 402-32+1** | **PERC 402-32+2** | **PERC 402-32+3** | **PERC 402-32+4** | **-** |
| **PERC 402-43** | **PERC 402-43+1** | **PERC 402-43+2** | **PERC 402-43+3** | **PERC 402-43+4** | **PERC 402-43+5** |
| **PERC 402-63** | **PERC 402-63+1** | **PERC 402-63+2** | **PERC 402-63+3** | **PERC 402-63+4** | **PERC 402-63+5** |

D134-D149

# Cartridge for TBTA-R




Accurate tolerance applications



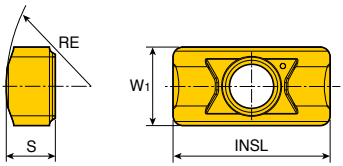

Open tolerance applications

| Designation | | WF (mm) | Adjust screw | Wrench | Lock screw | Wrench | Insert |
|---|---|---|---|---|---|---|---|
| Accurate tolerance applications | **PERC P04R** | 5 | AS0004-8 | H2 | LS1803.5RH | H2.5 | TPMX1403..LG |
| | **P32R** | 6 | AS0005-10 | H2.5 | LS1805RH | H3 | TPMX1704..LG |
| | **P43R** | 8 | AS0005-15 | H2.5 | LS1806RH | H4 | TPMX2405..LG |
| Open tolerance applications | **PERC 402-04** | 8 | AS0004-8 | H2 | LS1803.5RH | H2.5 | TPMX1403..RG |
| | **402-32** | 9 | AS0005-10 | H2.5 | LS1805RH | H3 | TPMX1704..RG |
| | **402-43** | 13 | AS0005-15 | H2.5 | LS1806RH | H4 | TPMX2405..RG |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |


D156-D161

▸ PERC-P and PERC 402-□□ cartridges are interchangable in the same pocket

# Guide pad for TNDH-TP




| Designation | Dimension (mm) | | | | Screw | Grade |
|---|---|---|---|---|---|---|
| | W1 | S | INSL | RE | | TT9030 |
| **PAD-G04-08** | 4 | 2.5 | 8 | 9 | TS 20043I/HG-P | ● |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |


D75-D76

▸ Guide pad is sold separately from drill heads

●: Standard items

# Recommended Cutting Conditions

TOP DRILL

## Machining data for TOP-DRILL 2,3,4xD

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 220-350 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 180-280 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 140-240 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 140-240 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 140-240 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 140-240 |
| | | | Quenched and tempered | 930 | 275 | 7 | 100-180 |
| | | | | 1000 | 300 | 8 | 100-180 |
| | | | | 1200 | 350 | 9 | 100-180 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 140-200 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 100-160 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 150-250 |
| | | | Martensitic | 820 | 240 | 13 | 150-250 |
| | | | Austenitic | 600 | 180 | 14 | 150-250 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 160-260 |
| | | | Pearlitic | | 250 | 16 | 160-260 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 160-260 |
| | | | Pearlitic | | 260 | 18 | 160-260 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 120-220 |
| | | | Pearlitic | | 230 | 20 | 120-220 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 200-350 |
| | | | Cured | | 100 | 22 | 200-350 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 200-350 |
| | | | Cured | | 90 | 24 | 200-350 |
| | | >12% Si | High temp. | | 130 | 25 | 200-350 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 150-250 |
| | | | Brass | | 90 | 27 | 150-250 |
| | | | Electrolitic copper | | 100 | 28 | 150-250 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | 150-250 |
| | | | Hard rubber | | 55 Shore D | 30 | 150-250 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 30-60 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-60 |
| | | | Cured | | 350 | 34 | 30-60 |
| | | | Cast | | 320 | 35 | 30-60 |
| | Titanium,Ti alloys | | Pure | Rm 400 | 190 | 36 | 50-80 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 50-80 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 30-60 |
| | | | Hardened | | 60HRC | 39 | 30-60 |
| | Chilled cast iron | | Cast | | 400 | 40 | 30-60 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | 30-60 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for TOP-DRILL 2,3,4xD**

| Feed (mm/rev) vs. drill diameter<br>Drill length 2,3,4xD | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SOMT 04<br>Ø12 - Ø13.5 | SOMT 05<br>Ø14 - Ø16 | SOMT 06<br>Ø17 - Ø19 | SOMT 07<br>Ø20 - Ø22 | SOMT 08<br>Ø23 - Ø26 | SOMT 09<br>Ø27 - Ø31 | SOMT 11<br>Ø32 - Ø36 | SOMT 13<br>Ø37 - Ø43 | SOMT 15<br>Ø44 - Ø50 |
| 0.04-0.06 | 0.04-0.06 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.06-0.10 | 0.06-0.10 | 0.08-0.12 | 0.08-0.12 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 | 0.08-0.14 | 0.08-0.14 | 0.08-0.16 | 0.10-0.16 |
| 0.08-0.12 | 0.08-0.12 | 0.08-0.12 | 0.08-0.16 | 0.08-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.18 | 0.10-0.18 |
| 0.08-0.12 | 0.08-0.12 | 0.08-0.12 | 0.08-0.16 | 0.08-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.18 | 0.10-0.18 |
| 0.08-0.12 | 0.08-0.12 | 0.08-0.12 | 0.08-0.16 | 0.08-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.10-0.22 | 0.10-0.22 | 0.10-0.24 |
| 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.22 | 0.10-0.22 | 0.10-0.22 |
| 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.22 | 0.10-0.22 | 0.10-0.22 |
| 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.22 | 0.10-0.22 | 0.10-0.22 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.20 | 0.10-0.20 | 0.10-0.20 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.20 | 0.10-0.20 | 0.10-0.20 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.16 | 0.06-0.16 | 0.08-0.18 | 0.08-0.20 | 0.10-0.20 | 0.10-0.20 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.16 | 0.06-0.16 | 0.08-0.18 | 0.08-0.20 | 0.10-0.20 | 0.10-0.20 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.16 | 0.06-0.16 | 0.08-0.18 | 0.08-0.20 | 0.10-0.20 | 0.10-0.20 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 | 0.10-0.22 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 | 0.10-0.22 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 | 0.10-0.22 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 | 0.10-0.22 |
| 0.08-0.14 | 0.08-0.14 | 0.08-0.14 | 0.10-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.08-0.14 | 0.08-0.14 | 0.08-0.14 | 0.10-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.17 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.17 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.17 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 | 0.10-0.18 | 0.10-0.18 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 |
| 0.06-0.09 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.09 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |

# Recommended Cutting Conditions

TOP DRILL

## Machining data for TOP-DRILL 5xD

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 220-350 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 180-280 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 140-240 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 140-240 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 140-240 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 140-240 |
| | | | Quenched and tempered | 930 | 275 | 7 | 100-180 |
| | | | | 1000 | 300 | 8 | 100-180 |
| | | | | 1200 | 350 | 9 | 100-180 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 140-200 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 100-160 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 150-250 |
| | | | Martensitic | 820 | 240 | 13 | 150-250 |
| | | | Austenitic | 600 | 180 | 14 | 150-250 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 160-260 |
| | | | Pearlitic | | 250 | 16 | 160-260 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 160-260 |
| | | | Pearlitic | | 260 | 18 | 160-260 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 120-220 |
| | | | Pearlitic | | 230 | 20 | 120-220 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 200-350 |
| | | | Cured | | 100 | 22 | 200-350 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 200-350 |
| | | | Cured | | 90 | 24 | 200-350 |
| | | >12% Si | High temp. | | 130 | 25 | 200-350 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 150-250 |
| | | | Brass | | 90 | 27 | 150-250 |
| | | | Electrolitic copper | | 100 | 28 | 150-250 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | 150-250 |
| | | | Hard rubber | | 55 Shore D | 30 | 150-250 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 30-60 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-60 |
| | | | Cured | | 350 | 34 | 30-60 |
| | | | Cast | | 320 | 35 | 30-60 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 50-80 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 50-80 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 30-60 |
| | | | Hardened | | 60HRC | 39 | 30-60 |
| | Chilled cast iron | | Cast | | 400 | 40 | 30-60 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | 30-60 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

TOP DRILL

**Machining data for TOP-DRILL 5xD**

| Feed (mm/rev) vs. drill diameter<br>Drill length 5xD | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SOMT 04<br>Ø12 - Ø13.5 | SOMT 05<br>Ø14 - Ø16 | SOMT 06<br>Ø17 - Ø19 | SOMT 07<br>Ø20 - Ø22 | SOMT 08<br>Ø23 - Ø26 | SOMT 09<br>Ø27 - Ø31 | SOMT 11<br>Ø32 - Ø36 | SOMT 13<br>Ø37 - Ø43 | SOMT 15<br>Ø44 - Ø50 |
| 0.04-0.05 | 0.04-0.05 | 0.04-0.05 | 0.04-0.05 | 0.04-0.06 | 0.06-0.08 | 0.06-0.08 | 0.08-0.10 | 0.08-0.10 |
| 0.06-0.08 | 0.06-0.08 | 0.06-0.08 | 0.06-0.10 | 0.06-0.10 | 0.08-0.12 | 0.08-0.12 | 0.08-0.14 | 0.10-0.14 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 | 0.10-0.15 | 0.10-0.15 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 | 0.10-0.15 | 0.10-0.15 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 | 0.10-0.15 | 0.10-0.15 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.10-0.20 | 0.10-0.20 | 0.10-0.22 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.08-0.12 | 0.08-0.12 | 0.08-0.16 | 0.08-0.18 | 0.10-0.18 | 0.10-0.20 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.08-0.12 | 0.08-0.12 | 0.08-0.16 | 0.08-0.18 | 0.10-0.18 | 0.10-0.20 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.18 | 0.10-0.18 | 0.10-0.20 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.18 | 0.10-0.18 | 0.10-0.20 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.12 | 0.06-0.12 | 0.08-0.16 | 0.08-0.18 | 0.10-0.18 | 0.10-0.20 |
| 0.08-0.14 | 0.08-0.14 | 0.08-0.14 | 0.08-0.16 | 0.08-0.16 | 0.10-0.18 | 0.10-0.18 | 0.10-0.20 | 0.10-0.20 |
| 0.08-0.14 | 0.08-0.14 | 0.08-0.14 | 0.08-0.16 | 0.08-0.16 | 0.10-0.18 | 0.10-0.18 | 0.10-0.20 | 0.10-0.20 |
| 0.08-0.14 | 0.08-0.14 | 0.08-0.14 | 0.08-0.16 | 0.08-0.16 | 0.10-0.18 | 0.10-0.18 | 0.10-0.20 | 0.10-0.20 |
| 0.08-0.14 | 0.08-0.14 | 0.08-0.14 | 0.08-0.16 | 0.08-0.16 | 0.10-0.18 | 0.10-0.18 | 0.10-0.20 | 0.10-0.20 |
| 0.08-0.12 | 0.08-0.12 | 0.08-0.14 | 0.08-0.16 | 0.08-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.16 |
| 0.08-0.12 | 0.08-0.12 | 0.08-0.14 | 0.08-0.16 | 0.08-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.16 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.15 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.15 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.08-0.15 | 0.08-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.06-0.15 | 0.06-0.15 | 0.06-0.15 | 0.08-0.16 | 0.08-0.16 | 0.10-0.16 | 0.10-0.16 | 0.10-0.17 | 0.10-0.17 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.06-0.09 | 0.06-0.09 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |

# Recommended Cutting Conditions

TOP DRILL

**Machining data for TOP-DRILL cartridge**

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 250-350 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 160-250 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 140-240 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 140-240 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 140-240 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 140-240 |
| | | | Quenched and tempered | 930 | 275 | 7 | 100-180 |
| | | | | 1000 | 300 | 8 | 100-180 |
| | | | | 1200 | 350 | 9 | 100-180 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 140-200 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 100-160 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 150-250 |
| | | | Martensitic | 820 | 240 | 13 | 150-250 |
| | | | Austenitic | 600 | 180 | 14 | 150-250 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 160-260 |
| | | | Pearlitic | | 250 | 16 | 160-260 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 160-260 |
| | | | Pearlitic | | 260 | 18 | 160-260 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 120-220 |
| | | | Pearlitic | | 230 | 20 | 120-220 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 200-350 |
| | | | Cured | | 100 | 22 | 200-350 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 200-350 |
| | | | Cured | | 90 | 24 | 200-350 |
| | | >12% Si | High temp. | | 130 | 25 | 200-350 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 150-250 |
| | | | Brass | | 90 | 27 | 150-250 |
| | | | Electrolitic copper | | 100 | 28 | 150-250 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | 150-250 |
| | | | Hard rubber | | 55 Shore D | 30 | 150-250 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 30-60 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-60 |
| | | | Cured | | 350 | 34 | 30-60 |
| | | | Cast | | 320 | 35 | 30-60 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 50-80 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 50-80 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 30-60 |
| | | | Hardened | | 60HRC | 39 | 30-60 |
| | Chilled cast iron | | Cast | | 400 | 40 | 30-60 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | 30-60 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for TOP-DRILL cartridge**

| Feed (mm/rev) vs. drill diameter<br>Drill length 2,3,4xD | | | | | |
|---|---|---|---|---|---|
| SOMT 09<br>Ø51 - Ø55 | SOMT 11<br>Ø56 - Ø60 | SOMT 11<br>Ø61 - Ø65 | SOMT 11<br>Ø66 - Ø70 | SOMT 13<br>Ø71 - Ø75 | SOMT 13<br>Ø76 - Ø80 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.12 |
| 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.06-0.16 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 |
| 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 |
| 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 |
| 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 |
| 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 | 0.08-0.20 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 |
| 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 |
| 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 |
| 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 | 0.10-0.22 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |

# Recommended Cutting Conditions

T-DRILL

## Machining data for T-DRILL 2,3,4xD

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 250-350 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 180-250 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 160-220 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 160-220 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 160-220 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 150-220 |
| | | | Quenched and tempered | 930 | 275 | 7 | 120-160 |
| | | | | 1000 | 300 | 8 | 120-160 |
| | | | | 1200 | 350 | 9 | 120-160 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 140-180 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 130-180 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 170-240 |
| | | | Martensitic | 820 | 240 | 13 | 170-240 |
| | | | Austenitic | 600 | 180 | 14 | 170-240 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 180-250 |
| | | | Pearlitic | | 250 | 16 | 180-250 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 180-250 |
| | | | Pearlitic | | 260 | 18 | 180-250 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 130-200 |
| | | | Pearlitic | | 230 | 20 | 130-200 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 330-380 |
| | | | Cured | | 100 | 22 | 330-380 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 330-380 |
| | | | Cured | | 90 | 24 | 330-380 |
| | | >12% Si | High temp. | | 130 | 25 | 330-380 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 150-230 |
| | | | Brass | | 90 | 27 | 150-230 |
| | | | Electrolitic copper | | 100 | 28 | 150-230 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | 150-230 |
| | | | Hard rubber | | 55 Shore D | 30 | 150-230 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 30-60 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-60 |
| | | | Cured | | 350 | 34 | 30-60 |
| | | | Cast | | 320 | 35 | 30-60 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-60 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-60 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 30-60 |
| | | | Hardened | | 60HRC | 39 | 30-60 |
| | Chilled cast iron | | Cast | | 400 | 40 | 30-60 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | 30-60 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for T-DRILL 2,3,4xD**

| Feed (mm/rev) vs. drill diameter<br>Drill length 2,3,4xD | | | | | |
|---|---|---|---|---|---|
| SPMG 05<br>Ø12.5 - Ø15 | SPMG 06<br>Ø16 - Ø21 | SPMG 07<br>Ø22 - Ø27 | SPMG 09<br>Ø28 - Ø33 | SPMG 11<br>Ø34 - Ø41 | SPMG 14<br>Ø42 - Ø50 |
| 0.04-0.06 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.06-0.10 | 0.06-0.12 |
| 0.05-0.08 | 0.06-0.10 | 0.06-0.12 | 0.07-0.13 | 0.08-0.15 | 0.08-0.16 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.18 | 0.12-0.22 | 0.12-0.24 | 0.13-0.25 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.18 | 0.12-0.22 | 0.12-0.24 | 0.13-0.25 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.18 | 0.12-0.22 | 0.12-0.24 | 0.13-0.25 |
| 0.06-0.12 | 0.08-0.14 | 0.10-0.18 | 0.12-0.20 | 0.12-0.20 | 0.13-0.20 |
| 0.06-0.15 | 0.06-0.15 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.06-0.15 | 0.06-0.15 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.06-0.10 | 0.06-0.10 | 0.08-0.12 | 0.08-0.14 | 0.08-0.14 | 0.08-0.14 |
| 0.06-0.10 | 0.08-0.12 | 0.10-0.15 | 0.12-0.15 | 0.12-0.18 | 0.13-0.18 |
| 0.05-0.10 | 0.06-0.12 | 0.08-0.15 | 0.09-0.16 | 0.10-0.17 | 0.11-0.18 |
| 0.05-0.10 | 0.06-0.12 | 0.08-0.15 | 0.09-0.16 | 0.10-0.17 | 0.11-0.18 |
| 0.05-0.10 | 0.06-0.12 | 0.08-0.15 | 0.09-0.16 | 0.10-0.17 | 0.11-0.18 |
| 0.06-0.12 | 0.08-0.16 | 0.12-0.20 | 0.15-0.25 | 0.16-0.28 | 0.18-0.30 |
| 0.06-0.12 | 0.08-0.16 | 0.12-0.20 | 0.15-0.25 | 0.16-0.28 | 0.18-0.30 |
| 0.06-0.12 | 0.08-0.16 | 0.12-0.20 | 0.15-0.25 | 0.16-0.28 | 0.18-0.30 |
| 0.06-0.12 | 0.08-0.16 | 0.12-0.20 | 0.15-0.25 | 0.16-0.28 | 0.18-0.30 |
| 0.06-0.10 | 0.08-0.15 | 0.10-0.18 | 0.12-0.20 | 0.15-0.23 | 0.16-0.25 |
| 0.06-0.10 | 0.08-0.15 | 0.10-0.18 | 0.12-0.20 | 0.15-0.23 | 0.16-0.25 |
| 0.06-0.14 | 0.08-0.15 | 0.10-0.20 | 0.12-0.22 | 0.14-0.23 | 0.15-0.26 |
| 0.06-0.14 | 0.08-0.15 | 0.10-0.20 | 0.12-0.22 | 0.14-0.23 | 0.15-0.26 |
| 0.06-0.14 | 0.08-0.15 | 0.10-0.20 | 0.12-0.22 | 0.14-0.23 | 0.15-0.26 |
| 0.06-0.14 | 0.08-0.15 | 0.10-0.20 | 0.12-0.22 | 0.14-0.23 | 0.15-0.26 |
| 0.06-0.14 | 0.08-0.15 | 0.10-0.20 | 0.12-0.22 | 0.14-0.23 | 0.15-0.26 |
| 0.06-0.13 | 0.06-0.13 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.06-0.13 | 0.06-0.13 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.06-0.13 | 0.06-0.13 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.06-0.13 | 0.06-0.13 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.06-0.13 | 0.06-0.13 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.10 | 0.06-0.14 | 0.08-0.18 | 0.10-0.22 | 0.14-0.23 | 0.15-0.24 |
| 0.05-0.10 | 0.06-0.14 | 0.08-0.18 | 0.10-0.22 | 0.14-0.23 | 0.15-0.24 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.09 | 0.05-0.09 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |

# Recommended Cutting Conditions

T-DRILL

## Machining data for T-DRILL 5xD

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 250-350 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 180-250 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 160-220 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 160-220 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 160-220 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 150-220 |
| | | | Quenched and tempered | 930 | 275 | 7 | 120-160 |
| | | | | 1000 | 300 | 8 | 120-160 |
| | | | | 1200 | 350 | 9 | 120-160 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 140-180 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 130-180 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 170-240 |
| | | | Martensitic | 820 | 240 | 13 | 170-240 |
| | | | Austenitic | 600 | 180 | 14 | 170-240 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 180-250 |
| | | | Pearlitic | | 250 | 16 | 180-250 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 180-250 |
| | | | Pearlitic | | 260 | 18 | 180-250 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 130-200 |
| | | | Pearlitic | | 230 | 20 | 130-200 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 330-380 |
| | | | Cured | | 100 | 22 | 330-380 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 330-380 |
| | | | Cured | | 90 | 24 | 330-380 |
| | | >12% Si | High temp. | | 130 | 25 | 330-380 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 150-230 |
| | | | Brass | | 90 | 27 | 150-230 |
| | | | Electrolitic copper | | 100 | 28 | 150-230 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | 150-230 |
| | | | Hard rubber | | 55 Shore D | 30 | 150-230 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 30-60 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-60 |
| | | | Cured | | 350 | 34 | 30-60 |
| | | | Cast | | 320 | 35 | 30-60 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-60 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-60 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 30-60 |
| | | | Hardened | | 60HRC | 39 | 30-60 |
| | Chilled cast iron | | Cast | | 400 | 40 | 30-60 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | 30-60 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for T-DRILL 5xD**

| Feed (mm/rev) vs. drill diameter<br>Drill length 5xD | | | | | |
|---|---|---|---|---|---|
| SPMG 05<br>Ø12.5 - Ø15 | SPMG 06<br>Ø16 - Ø21 | SPMG 07<br>Ø22 - Ø27 | SPMG 09<br>Ø28 - Ø33 | SPMG 11<br>Ø34 - Ø41 | SPMG 14<br>Ø42 - Ø50 |
| 0.04-0.05 | 0.04-0.05 | 0.04-0.06 | 0.04-0.07 | 0.06-0.08 | 0.06-0.10 |
| 0.06-0.08 | 0.06-0.08 | 0.06-0.10 | 0.07-0.12 | 0.08-0.13 | 0.08-0.14 |
| 0.06-0.10 | 0.08-0.13 | 0.10-0.16 | 0.12-0.20 | 0.12-0.22 | 0.13-0.23 |
| 0.06-0.10 | 0.08-0.13 | 0.10-0.16 | 0.12-0.20 | 0.12-0.22 | 0.13-0.23 |
| 0.06-0.10 | 0.08-0.13 | 0.10-0.16 | 0.12-0.20 | 0.12-0.22 | 0.13-0.23 |
| 0.06-0.10 | 0.08-0.12 | 0.10-0.16 | 0.12-0.18 | 0.12-0.18 | 0.13-0.18 |
| 0.06-0.12 | 0.06-0.13 | 0.08-0.16 | 0.08-0.16 | 0.08-0.17 | 0.08-0.17 |
| 0.06-0.12 | 0.06-0.13 | 0.08-0.16 | 0.08-0.16 | 0.08-0.17 | 0.08-0.17 |
| 0.06-0.12 | 0.06-0.13 | 0.08-0.16 | 0.08-0.16 | 0.08-0.17 | 0.08-0.17 |
| 0.06-0.08 | 0.06-0.08 | 0.08-0.10 | 0.08-0.12 | 0.08-0.12 | 0.08-0.12 |
| 0.06-0.09 | 0.08-0.10 | 0.10-0.13 | 0.12-0.13 | 0.12-0.15 | 0.12-0.16 |
| 0.05-0.09 | 0.06-0.10 | 0.08-0.13 | 0.09-0.15 | 0.10-0.15 | 0.10-0.17 |
| 0.05-0.09 | 0.06-0.10 | 0.08-0.13 | 0.09-0.15 | 0.10-0.15 | 0.10-0.17 |
| 0.05-0.09 | 0.06-0.10 | 0.08-0.13 | 0.09-0.15 | 0.10-0.15 | 0.10-0.17 |
| 0.06-0.10 | 0.08-0.15 | 0.12-0.18 | 0.15-0.22 | 0.16-0.25 | 0.18-0.28 |
| 0.06-0.10 | 0.08-0.15 | 0.12-0.18 | 0.15-0.22 | 0.16-0.25 | 0.18-0.28 |
| 0.06-0.10 | 0.08-0.15 | 0.12-0.18 | 0.15-0.22 | 0.16-0.25 | 0.18-0.28 |
| 0.06-0.10 | 0.08-0.15 | 0.12-0.18 | 0.15-0.22 | 0.16-0.25 | 0.18-0.28 |
| 0.06-0.08 | 0.08-0.12 | 0.10-0.16 | 0.12-0.18 | 0.15-0.22 | 0.16-0.23 |
| 0.06-0.08 | 0.08-0.12 | 0.10-0.16 | 0.12-0.18 | 0.15-0.22 | 0.16-0.23 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.13 | 0.12-0.18 | 0.14-0.20 | 0.14-0.24 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.13 | 0.12-0.18 | 0.14-0.20 | 0.14-0.24 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.13 | 0.12-0.18 | 0.14-0.20 | 0.14-0.24 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.13 | 0.12-0.18 | 0.14-0.20 | 0.14-0.24 |
| 0.06-0.12 | 0.08-0.15 | 0.10-0.13 | 0.12-0.18 | 0.14-0.20 | 0.14-0.24 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.13 | 0.08-0.13 | 0.08-0.14 | 0.08-0.14 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.13 | 0.08-0.13 | 0.08-0.14 | 0.08-0.14 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.13 | 0.08-0.13 | 0.08-0.14 | 0.08-0.14 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.13 | 0.08-0.13 | 0.08-0.14 | 0.08-0.14 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.13 | 0.08-0.13 | 0.08-0.14 | 0.08-0.14 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 |
| 0.05-0.07 | 0.05-0.07 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 | 0.05-0.08 |
| 0.05-0.09 | 0.08-0.13 | 0.08-0.17 | 0.10-0.20 | 0.14-0.22 | 0.14-0.24 |
| 0.05-0.09 | 0.08-0.13 | 0.08-0.17 | 0.10-0.20 | 0.14-0.22 | 0.14-0.24 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |
| 0.05-0.08 | 0.05-0.08 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 | 0.05-0.09 |

# Recommended Cutting Conditions

T-DRILL

**Machining data for T-DRILL cartridge**

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 250-350 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 180-250 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 160-220 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 160-220 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 160-220 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 150-220 |
| | | | Quenched and tempered | 930 | 275 | 7 | 120-160 |
| | | | | 1000 | 300 | 8 | 120-160 |
| | | | | 1200 | 350 | 9 | 120-160 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 140-180 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 130-180 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 170-240 |
| | | | Martensitic | 820 | 240 | 13 | 170-240 |
| | | | Austenitic | 600 | 180 | 14 | 170-240 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 180-250 |
| | | | Pearlitic | | 250 | 16 | 180-250 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 180-250 |
| | | | Pearlitic | | 260 | 18 | 180-250 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 130-200 |
| | | | Pearlitic | | 230 | 20 | 130-200 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 330-380 |
| | | | Cured | | 100 | 22 | 330-380 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 330-380 |
| | | | Cured | | 90 | 24 | 330-380 |
| | | >12% Si | High temp. | | 130 | 25 | 330-380 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 150-230 |
| | | | Brass | | 90 | 27 | 150-230 |
| | | | Electrolitic copper | | 100 | 28 | 150-230 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | 150-230 |
| | | | Hard rubber | | 55 Shore D | 30 | 150-230 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 30-60 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-60 |
| | | | Cured | | 350 | 34 | 30-60 |
| | | | Cast | | 320 | 35 | 30-60 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-60 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-60 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 30-60 |
| | | | Hardened | | 60HRC | 39 | 30-60 |
| | Chilled cast iron | | Cast | | 400 | 40 | 30-60 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | 30-60 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for T-DRILL cartridge**

| Feed (mm/rev) vs. drill diameter<br>Drill length 5xD | | | | | |
|---|---|---|---|---|---|
| SPMG 07<br>Ø51 - Ø53 | SPMG 07<br>Ø54 - Ø56 | SPMG 09<br>Ø57 - Ø62 | SPMG 09<br>Ø63- Ø66 | SPMG 11<br>Ø67 - Ø73 | SPMG 12<br>Ø74 - Ø80 |
| 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.12 | 0.06-0.12 |
| 0.06-0.16 | 0.06-0.12 | 0.06-0.16 | 0.06-0.16 | 0.06-0.16 | 0.06-0.16 |
| 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 | 0.08-0.18 |
| 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 | 0.08-0.16 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.06-0.12 | 0.06-0.12 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 | 0.08-0.15 |
| 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.15-0.22 | 0.15-0.22 |
| 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.15-0.22 | 0.15-0.22 |
| 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.15-0.22 | 0.15-0.22 |
| 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.12-0.20 | 0.15-0.22 | 0.15-0.22 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.12-0.20 | 0.12-0.20 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.12-0.20 | 0.12-0.20 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 | 0.06-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 | 0.10-0.18 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 | 0.06-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |
| 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 |

# Recommended Cutting Conditions

TOPCAP

## Machining data for TOP-CAP

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

TOP-CAP

**Machining data for TOP-CAP**

| Drilling | | Turning & boring | | Grooving | |
|---|---|---|---|---|---|
| Vc (m/min) | Feed (mm/rev) | Vc (m/min) | Feed (mm/rev) | Vc (m/min) | Feed (mm/rev) |
| 120-260 | 0.05-0.06 | 140-280 | 0.04-0.14 | 120-250 | 0.04-0.25 |
| 80-190 | 0.05-0.15 | 90-200 | 0.04-0.12 | 80-180 | 0.04-0.25 |
| 100-280 | 0.06-0.18 | 100-200 | 0.04-0.15 | 80-180 | 0.04-0.25 |
| 100-280 | 0.06-0.18 | 100-200 | 0.04-0.15 | 80-180 | 0.04-0.25 |
| 100-280 | 0.06-0.18 | 100-200 | 0.04-0.15 | 80-180 | 0.04-0.25 |
| 100-280 | 0.06-0.18 | 100-200 | 0.04-0.15 | 80-180 | 0.04-0.25 |
| 60-180 | 0.04-0.15 | 80-180 | 0.07-0.12 | 60-160 | 0.04-0.25 |
| 60-180 | 0.04-0.15 | 80-180 | 0.07-0.12 | 60-160 | 0.04-0.25 |
| 60-180 | 0.04-0.15 | 80-180 | 0.07-0.12 | 60-160 | 0.04-0.25 |
| 80-190 | 0.05-0.15 | 80-200 | 0.04-0.12 | 80-160 | 0.04-0.25 |
| 50-150 | 0.04-0.14 | 60-150 | 0.04-0.12 | 50-120 | 0.04-0.25 |
| 50-210 | 0.04-0.15 | 60-230 | 0.07-0.12 | 50-200 | 0.04-0.25 |
| 50-210 | 0.04-0.15 | 60-230 | 0.07-0.12 | 50-200 | 0.04-0.25 |
| 50-210 | 0.04-0.15 | 60-230 | 0.07-0.12 | 50-200 | 0.04-0.25 |
| 100-300 | 0.06-0.23 | 120-230 | 0.07-0.2 | 100-200 | 0.04-0.25 |
| 100-300 | 0.06-0.23 | 120-230 | 0.07-0.2 | 100-200 | 0.04-0.25 |
| 100-300 | 0.06-0.23 | 120-230 | 0.07-0.2 | 100-200 | 0.04-0.25 |
| 100-300 | 0.06-0.23 | 120-230 | 0.07-0.2 | 100-200 | 0.04-0.25 |
| 100-200 | 0.06-0.15 | 120-230 | 0.04-0.13 | 100-200 | 0.04-0.25 |
| 100-200 | 0.06-0.15 | 120-230 | 0.04-0.13 | 100-200 | 0.04-0.25 |
| 120-500 | 0.05-0.3 | 120-700 | 0.04-0.25 | 100-700 | 0.04-0.25 |
| 120-500 | 0.05-0.3 | 120-700 | 0.04-0.25 | 100-700 | 0.04-0.25 |
| 120-500 | 0.05-0.3 | 120-700 | 0.04-0.25 | 100-700 | 0.04-0.25 |
| 120-500 | 0.05-0.3 | 120-700 | 0.04-0.25 | 100-700 | 0.04-0.25 |
| 120-500 | 0.05-0.3 | 120-700 | 0.04-0.25 | 100-700 | 0.04-0.25 |
| 80-380 | 0.05-0.23 | 80-500 | 0.04-0.2 | 80-350 | 0.04-0.25 |
| 80-380 | 0.05-0.23 | 80-500 | 0.04-0.2 | 80-350 | 0.04-0.25 |
| 80-380 | 0.05-0.23 | 80-500 | 0.04-0.2 | 80-350 | 0.04-0.25 |
| 50-140 | 0.04-0.14 | 50-160 | 0.04-0.12 | 50-140 | 0.04-0.25 |
| 50-140 | 0.04-0.14 | 50-160 | 0.04-0.12 | 50-140 | 0.04-0.25 |
| 20-50 | 0.04-0.05 | 20-80 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 20-50 | 0.04-0.05 | 20-80 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 20-50 | 0.04-0.05 | 20-80 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 20-50 | 0.04-0.05 | 20-80 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 20-50 | 0.04-0.05 | 20-80 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 30-60 | 0.04-0.05 | 30-100 | 0.04-0.05 | 30-80 | 0.04-0.05 |
| 30-60 | 0.04-0.05 | 30-100 | 0.04-0.05 | 30-80 | 0.04-0.05 |
| 20-40 | 0.04-0.05 | 20-70 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 20-40 | 0.04-0.05 | 20-70 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 20-40 | 0.04-0.05 | 20-70 | 0.04-0.05 | 20-50 | 0.04-0.05 |
| 20-40 | 0.04-0.05 | 20-70 | 0.04-0.05 | 20-50 | 0.04-0.05 |

# Recommended Cutting Conditions

**Machining data for DRILL-SFEED 3,5,8xD**

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55HRC | 38 |
| | | | Hardened | | 60HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for DRILL-SFEED 3,5,8xD**

| Cutting speed Vc (m/min) | Feed (mm/rev) vs. drill diameter | | | |
|---|---|---|---|---|
| | Ø12 - Ø13.9 | Ø14 - Ø15.9 | Ø16 - Ø19.9 | Ø20 - Ø25.9 |
| 80-140 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 |
| 80-130 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 |
| 80-120 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 |
| 70-110 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 |
| 50-90 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 |
| 80-120 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |
| 70-110 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |
| 50-90 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |
| 40-70 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |
| 50-90 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 |
| 40-80 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 |
| | | | | |
| | | | | |
| | | | | |
| 90-160 | 0.35-0.50 | 0.40-0.60 | 0.45-0.65 | 0.50-0.70 |
| 80-140 | 0.35-0.50 | 0.40-0.60 | 0.45-0.65 | 0.50-0.70 |
| 90-180 | 0.30-0.45 | 0.35-0.55 | 0.40-0.60 | 0.45-0.65 |
| 80-140 | 0.30-0.45 | 0.35-0.55 | 0.40-0.60 | 0.45-0.65 |
| 90-160 | 0.30-0.45 | 0.35-0.55 | 0.40-0.60 | 0.45-0.65 |
| 80-140 | 0.30-0.45 | 0.35-0.55 | 0.40-0.60 | 0.45-0.65 |

# Recommended Cutting Conditions

## Machining data for DRILL-RUSH

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 80-140 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 80-130 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 80-120 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 70-110 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 50-90 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 70-120 |
| | | | Quenched and tempered | 930 | 275 | 7 | 70-110 |
| | | | | 1000 | 300 | 8 | 50-90 |
| | | | | 1200 | 350 | 9 | 40-70 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 50-90 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 40-80 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 40-70 |
| | | | Martensitic | 820 | 240 | 13 | 40-70 |
| | | | Austenitic | 600 | 180 | 14 | 30-70 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 90-160 |
| | | | Pearlitic | | 250 | 16 | 80-140 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 90-180 |
| | | | Pearlitic | | 260 | 18 | 80-140 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 90-160 |
| | | | Pearlitic | | 230 | 20 | 80-140 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 90-220 |
| | | | Cured | | 100 | 22 | 90-220 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 90-220 |
| | | | Cured | | 90 | 24 | 90-220 |
| | | >12% Si | High temp. | | 130 | 25 | 80-160 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 90-220 |
| | | | Brass | | 90 | 27 | 90-220 |
| | | | Electrolitic copper | | 100 | 28 | 90-220 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 20-50 |
| | | Ni or Co based | Annealed | | 250 | 33 | 20-50 |
| | | | Cured | | 350 | 34 | 20-50 |
| | | | Cast | | 320 | 35 | 20-50 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 20-50 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 20-50 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 20-50 |
| | | | Hardened | | 60HRC | 39 | 20-50 |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

## Machining data for DRILL-RUSH

| Feed (mm/rev) vs. drill diameter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ø4 - Ø4.9 | Ø5 - Ø5.9 | Ø6 - Ø7.9 | Ø8 - Ø9.9 | Ø10 - Ø11.9 | Ø12 - Ø13.9 | Ø14 - Ø15.9 | Ø16 - Ø19.9 | Ø20 - Ø25.9 |
| 0.04-0.08 | 0.07-0.11 | 0.09-0.13 | 0.12-0.22 | 0.15-0.28 | 0.18-0.30 | 0.20-0.35 | 0.25-0.45 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.11 | 0.09-0.13 | 0.12-0.22 | 0.15-0.28 | 0.18-0.30 | 0.20-0.35 | 0.25-0.45 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.11 | 0.09-0.13 | 0.12-0.22 | 0.15-0.28 | 0.18-0.30 | 0.20-0.35 | 0.25-0.45 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.11 | 0.09-0.13 | 0.12-0.22 | 0.15-0.28 | 0.18-0.30 | 0.20-0.35 | 0.25-0.45 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.11 | 0.09-0.13 | 0.12-0.22 | 0.15-0.28 | 0.18-0.30 | 0.20-0.35 | 0.25-0.45 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.13 | 0.09-0.15 | 0.12-0.25 | 0.14-0.28 | 0.16-0.32 | 0.18-0.35 | 0.23-0.40 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.13 | 0.09-0.15 | 0.12-0.25 | 0.14-0.28 | 0.16-0.32 | 0.18-0.35 | 0.23-0.40 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.13 | 0.09-0.15 | 0.12-0.25 | 0.14-0.28 | 0.16-0.32 | 0.18-0.35 | 0.23-0.40 | 0.25-0.45 |
| 0.04-0.08 | 0.07-0.13 | 0.09-0.15 | 0.12-0.25 | 0.14-0.28 | 0.16-0.32 | 0.18-0.35 | 0.23-0.40 | 0.25-0.45 |
| 0.06-0.08 | 0.07-0.11 | 0.09-0.12 | 0.12-0.20 | 0.12-0.22 | 0.15-0.25 | 0.18-0.28 | 0.20-0.30 | 0.22-0.33 |
| 0.06-0.08 | 0.07-0.11 | 0.09-0.12 | 0.12-0.20 | 0.12-0.22 | 0.15-0.25 | 0.18-0.28 | 0.20-0.30 | 0.22-0.33 |
| 0.05-0.07 | 0.06-0.08 | 0.08-0.10 | 0.10-0.15 | 0.12-0.18 | 0.14-0.20 | 0.16-0.24 | 0.16-0.26 | 0.18-0.30 |
| 0.05-0.07 | 0.06-0.08 | 0.08-0.10 | 0.10-0.15 | 0.12-0.18 | 0.14-0.20 | 0.16-0.24 | 0.16-0.26 | 0.18-0.30 |
| 0.05-0.07 | 0.06-0.08 | 0.08-0.10 | 0.10-0.15 | 0.12-0.18 | 0.14-0.20 | 0.16-0.24 | 0.16-0.26 | 0.18-0.30 |
| 0.04-0.08 | 0.10-0.15 | 0.12-0.18 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.55 | 0.35-0.60 |
| 0.04-0.08 | 0.10-0.15 | 0.12-0.18 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.55 | 0.35-0.60 |
| 0.04-0.08 | 0.10-0.15 | 0.12-0.18 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.55 | 0.35-0.60 |
| 0.04-0.08 | 0.10-0.15 | 0.12-0.18 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.55 | 0.35-0.60 |
| 0.04-0.08 | 0.10-0.15 | 0.12-0.18 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.55 | 0.35-0.60 |
| 0.04-0.08 | 0.10-0.15 | 0.12-0.18 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.55 | 0.35-0.60 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 | 0.35-0.50 | 0.40-0.60 | 0.45-0.70 |
| | | | | | | | | |
| | | | | | | | | |
| | | 0.05-0.07 | 0.06-0.11 | 0.08-0.13 | 0.10-0.15 | 0.12-0.18 | 0.12-0.20 | 0.14-0.22 |
| | | 0.05-0.07 | 0.06-0.11 | 0.08-0.13 | 0.10-0.15 | 0.12-0.18 | 0.12-0.20 | 0.14-0.22 |
| | | 0.05-0.07 | 0.06-0.11 | 0.08-0.13 | 0.10-0.15 | 0.12-0.18 | 0.12-0.20 | 0.14-0.22 |
| | | 0.05-0.07 | 0.06-0.11 | 0.08-0.13 | 0.10-0.15 | 0.12-0.18 | 0.12-0.20 | 0.14-0.22 |
| | | 0.05-0.07 | 0.06-0.11 | 0.08-0.13 | 0.10-0.15 | 0.12-0.18 | 0.12-0.20 | 0.14-0.22 |
| | | 0.05-0.07 | 0.06-0.12 | 0.08-0.15 | 0.10-0.18 | 0.12-0.20 | 0.14-0.22 | 0.16-0.25 |
| | | 0.05-0.07 | 0.06-0.12 | 0.08-0.15 | 0.10-0.18 | 0.12-0.20 | 0.14-0.22 | 0.16-0.25 |
| | | 0.05-0.07 | 0.06-0.12 | 0.08-0.15 | 0.10-0.18 | 0.12-0.20 | 0.14-0.22 | 0.16-0.25 |
| | | 0.05-0.07 | 0.06-0.12 | 0.08-0.15 | 0.10-0.18 | 0.12-0.20 | 0.14-0.22 | 0.16-0.25 |
| | | | | | | | | |
| | | | | | | | | |

# Recommended Cutting Conditions

MODU-R-DRILL

## Machining data for MODU-R-DRILL

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 120-200 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 120-200 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 130-190 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 130-190 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 130-190 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 100-200 |
| | | | Quenched and tempered | 930 | 275 | 7 | 100-200 |
| | | | | 1000 | 300 | 8 | 100-200 |
| | | | | 1200 | 350 | 9 | 100-200 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 100-160 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 100-160 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 80-140 |
| | | | Martensitic | 820 | 240 | 13 | 80-140 |
| | | | Austenitic | 600 | 180 | 14 | 80-140 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 100-250 |
| | | | Pearlitic | | 250 | 16 | 100-250 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 100-250 |
| | | | Pearlitic | | 260 | 18 | 100-250 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 100-250 |
| | | | Pearlitic | | 230 | 20 | 100-250 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 160-260 |
| | | | Cured | | 100 | 22 | 160-260 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 160-260 |
| | | | Cured | | 90 | 24 | 160-260 |
| | | >12% Si | High temp. | | 130 | 25 | 160-260 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 160-260 |
| | | | Brass | | 90 | 27 | 160-260 |
| | | | Electrolitic copper | | 100 | 28 | 160-260 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 30-80 |
| | | Ni or Co based | Annealed | | 250 | 33 | 30-80 |
| | | | Cured | | 350 | 34 | 30-80 |
| | | | Cast | | 320 | 35 | 30-80 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-80 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-80 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 20-50 |
| | | | Hardened | | 60HRC | 39 | 20-50 |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for MODU-R-DRILL**

| Feed (mm/rev) vs. drill diameter | | | | | |
|---|---|---|---|---|---|
| SPGX 06<br>Ø26 - Ø28 | SPGX 07<br>Ø29 - Ø32 | SPGX 09<br>Ø33 - Ø36 | SPGX 11<br>Ø37 - Ø43 | SPGX 11<br>Ø44 - Ø45 | SPGX 14<br>Ø46 - Ø50 |
| 0.20-0.35 | 0.25-0.35 | 0.2-0.4 | 0.25-0.4 | 0.28-0.45 | 0.28-0.45 |
| 0.20-0.35 | 0.25-0.35 | 0.2-0.4 | 0.25-0.4 | 0.28-0.45 | 0.28-0.45 |
| 0.20-0.35 | 0.25-0.35 | 0.2-0.4 | 0.25-0.4 | 0.28-0.45 | 0.28-0.45 |
| 0.20-0.35 | 0.25-0.35 | 0.2-0.4 | 0.25-0.4 | 0.28-0.45 | 0.28-0.45 |
| 0.20-0.35 | 0.25-0.35 | 0.2-0.4 | 0.25-0.4 | 0.28-0.45 | 0.28-0.45 |
| 0.20-0.33 | 0.25-0.33 | 0.25-0.36 | 0.25-0.36 | 0.25-0.40 | 0.25-0.40 |
| 0.20-0.33 | 0.25-0.33 | 0.25-0.36 | 0.25-0.36 | 0.25-0.40 | 0.25-0.40 |
| 0.20-0.33 | 0.25-0.33 | 0.25-0.36 | 0.25-0.36 | 0.25-0.40 | 0.25-0.40 |
| 0.20-0.33 | 0.25-0.33 | 0.25-0.36 | 0.25-0.36 | 0.25-0.40 | 0.25-0.40 |
| 0.20-0.33 | 0.25-0.33 | 0.25-0.36 | 0.25-0.36 | 0.25-0.40 | 0.25-0.40 |
| 0.20-0.33 | 0.25-0.33 | 0.25-0.36 | 0.25-0.36 | 0.25-0.40 | 0.25-0.40 |
| 0.12-0.24 | 0.15-0.24 | 0.16-0.25 | 0.18-0.28 | 0.18-0.30 | 0.18-0.30 |
| 0.12-0.24 | 0.15-0.24 | 0.16-0.25 | 0.18-0.28 | 0.18-0.30 | 0.18-0.30 |
| 0.12-0.24 | 0.15-0.24 | 0.16-0.25 | 0.18-0.28 | 0.18-0.30 | 0.18-0.30 |
| 0.25-0.45 | 0.25-0.45 | 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 |
| 0.25-0.45 | 0.25-0.45 | 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 |
| 0.25-0.45 | 0.25-0.45 | 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 |
| 0.25-0.45 | 0.25-0.45 | 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 |
| 0.25-0.45 | 0.25-0.45 | 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 |
| 0.25-0.45 | 0.25-0.45 | 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| 0.3-0.5 | 0.3-0.5 | 0.35-0.55 | 0.35-0.55 | 0.4-0.6 | 0.4-0.6 |
| | | | | | |
| | | | | | |
| 0.1-0.16 | 0.10-0.18 | 0.15-0.20 | 0.15-0.22 | 0.16-0.24 | 0.16-0.24 |
| 0.1-0.16 | 0.10-0.18 | 0.15-0.20 | 0.15-0.22 | 0.16-0.24 | 0.16-0.24 |
| 0.1-0.16 | 0.10-0.18 | 0.15-0.20 | 0.15-0.22 | 0.16-0.24 | 0.16-0.24 |
| 0.1-0.16 | 0.10-0.18 | 0.15-0.20 | 0.15-0.22 | 0.16-0.24 | 0.16-0.24 |
| 0.1-0.16 | 0.10-0.18 | 0.15-0.20 | 0.15-0.22 | 0.16-0.24 | 0.16-0.24 |
| 0.1-0.16 | 0.10-0.18 | 0.15-0.20 | 0.15-0.22 | 0.16-0.24 | 0.16-0.24 |
| 0.1-0.16 | 0.10-0.18 | 0.15-0.20 | 0.15-0.22 | 0.16-0.24 | 0.16-0.24 |
| 0.1-0.16 | 0.12-0.18 | 0.14-0.20 | 0.14-0.20 | 0.16-0.22 | 0.16-0.22 |
| 0.1-0.16 | 0.12-0.18 | 0.14-0.20 | 0.14-0.20 | 0.16-0.22 | 0.16-0.22 |
| | | | | | |
| | | | | | |

# Recommended Cutting Conditions

SPADE RUSH

## Machining data for SPADE-RUSH

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 80-140 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 80-130 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 80-120 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 70-110 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 50-90 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 80-120 |
| | | | Quenched and tempered | 930 | 275 | 7 | 70-110 |
| | | | | 1000 | 300 | 8 | 50-90 |
| | | | | 1200 | 350 | 9 | 40-70 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 50-90 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 40-80 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 40-70 |
| | | | Martensitic | 820 | 240 | 13 | 40-70 |
| | | | Austenitic | 600 | 180 | 14 | 30-70 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 90-180 |
| | | | Pearlitic | | 250 | 16 | 80-140 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 90-165 |
| | | | Pearlitic | | 260 | 18 | 80-140 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 90-160 |
| | | | Pearlitic | | 230 | 20 | 80-140 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 90-220 |
| | | | Cured | | 100 | 22 | 90-220 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 90-220 |
| | | | Cured | | 90 | 24 | 90-220 |
| | | >12% Si | High temp. | | 130 | 25 | 80-160 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 90-220 |
| | | | Brass | | 90 | 27 | 90-220 |
| | | | Electrolitic copper | | 100 | 28 | 90-220 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 30-60 |
| | | | Cured | | 280 | 32 | 20-50 |
| | | Ni or Co based | Annealed | | 250 | 33 | 20-50 |
| | | | Cured | | 350 | 34 | 20-50 |
| | | | Cast | | 320 | 35 | 20-50 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 20-50 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 20-50 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 20-50 |
| | | | Hardened | | 60HRC | 39 | 20-50 |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

SPADE-RUSH

**Machining data for SPADE-RUSH**

| Feed (mm/rev) vs. drill diameter | | | | | | |
|---|---|---|---|---|---|---|
| Ø20 - Ø25.9 | | Ø26 - Ø29.9 | | Ø30 - Ø34.9 | | Ø35 - Ø41 |
| LCD…-P | LCD…-P+ | LCD…-P | LCD…-P+ | LCD…-P | LCD…-P+ | |
| 0.30-0.50 | 0.25-0.45 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.35-0.55 |
| 0.30-0.50 | 0.25-0.45 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.35-0.55 |
| 0.30-0.50 | 0.25-0.45 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.35-0.55 |
| 0.30-0.50 | 0.25-0.45 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.35-0.55 |
| 0.30-0.50 | 0.25-0.45 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.30-0.50 | 0.35-0.55 |
| 0.25-0.45 | 0.20-0.40 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.30-0.50 |
| 0.25-0.45 | 0.20-0.40 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.30-0.50 |
| 0.25-0.45 | 0.20-0.40 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.30-0.50 |
| 0.25-0.45 | 0.20-0.40 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.25-0.45 | 0.30-0.50 |
| 0.25-0.35 | 0.20-0.30 | 0.25-0.35 | 0.25-0.35 | 0.25-0.35 | 0.25-0.35 | 0.30-0.40 |
| 0.25-0.35 | 0.20-0.30 | 0.25-0.35 | 0.25-0.35 | 0.25-0.35 | 0.25-0.35 | 0.30-0.40 |
| 0.15-0.30 | | 0.15-0.30 | | 0.15-0.30 | | 0.20-0.35 |
| 0.15-0.30 | | 0.15-0.30 | | 0.15-0.30 | | 0.20-0.35 |
| 0.15-0.30 | | 0.15-0.30 | | 0.15-0.30 | | 0.20-0.35 |
| 0.35-0.55 | 0.30-0.50 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.40-0.60 |
| 0.35-0.55 | 0.30-0.50 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.40-0.60 |
| 0.35-0.55 | 0.30-0.50 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.40-0.60 |
| 0.35-0.55 | 0.30-0.50 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.40-0.60 |
| 0.35-0.55 | 0.30-0.50 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.40-0.60 |
| 0.35-0.55 | 0.30-0.50 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.35-0.55 | 0.40-0.60 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| 0.40-0.60 | | 0.40-0.60 | | 0.40-0.60 | | 0.50-0.70 |
| | | | | | | |
| | | | | | | |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| 0.10-0.20 | | 0.10-0.20 | | 0.15-0.25 | | 0.15-0.25 |
| | | | | | | |
| | | | | | | |

# Recommended Cutting Conditions

SOLID3DRILL

## Machining data for SOLID-3-DRILL

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 80-140 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 80-130 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 80-120 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 70-110 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 50-90 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 80-120 |
| | | | Quenched and tempered | 930 | 275 | 7 | 70-110 |
| | | | | 1000 | 300 | 8 | 50-90 |
| | | | | 1200 | 350 | 9 | 40-70 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 50-90 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 40-80 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | |
| | | | Martensitic | 820 | 240 | 13 | |
| | | | Austenitic | 600 | 180 | 14 | |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 80-140 |
| | | | Pearlitic | | 250 | 16 | 70-120 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 80-120 |
| | | | Pearlitic | | 260 | 18 | 70-110 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 80-120 |
| | | | Pearlitic | | 230 | 20 | 70-110 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | |
| | | | Cured | | 100 | 22 | |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | |
| | | | Cured | | 90 | 24 | |
| | | >12% Si | High temp. | | 130 | 25 | |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | |
| | | | Brass | | 90 | 27 | |
| | | | Electrolitic copper | | 100 | 28 | |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | |
| | | | Cured | | 280 | 32 | |
| | | Ni or Co based | Annealed | | 250 | 33 | |
| | | | Cured | | 350 | 34 | |
| | | | Cast | | 320 | 35 | |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | |
| H | Hardened steel | | Hardened | | 55HRC | 38 | |
| | | | Hardened | | 60HRC | 39 | |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for SOLID-3-DRILL**

| Feed (mm/rev) vs. drill diameter 3,5,8xD | | | | | Feed (mm/rev) vs. drill diameter 12xD | | | |
|---|---|---|---|---|---|---|---|---|
| Ø4 - Ø5 | Ø5.1 - Ø6 | Ø6.1 - Ø8 | Ø8.1 - Ø10 | Ø10.1 - Ø12 | Ø6 | Ø6.1 - Ø8 | Ø8.1 - Ø10 | Ø10.1 - Ø12 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.45 | 0.30-0.55 | 0.35-0.60 | 0.15-0.30 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.45 | 0.30-0.55 | 0.35-0.60 | 0.15-0.30 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.45 | 0.30-0.55 | 0.35-0.60 | 0.15-0.30 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.45 | 0.30-0.55 | 0.35-0.60 | 0.15-0.30 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.45 | 0.30-0.55 | 0.35-0.60 | 0.15-0.30 | 0.20-0.40 | 0.25-0.45 | 0.30-0.50 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.40 | 0.30-0.50 | 0.35-0.55 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.40 | 0.30-0.50 | 0.35-0.55 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.40 | 0.30-0.50 | 0.35-0.55 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 |
| 0.15-0.25 | 0.20-0.35 | 0.25-0.40 | 0.30-0.50 | 0.35-0.55 | 0.15-0.30 | 0.20-0.35 | 0.25-0.40 | 0.30-0.45 |
| 0.15-0.20 | 0.20-0.30 | 0.25-0.35 | 0.30-0.45 | 0.35-0.50 | 0.15-0.25 | 0.20-0.30 | 0.25-0.35 | 0.30-0.40 |
| 0.15-0.20 | 0.20-0.30 | 0.25-0.35 | 0.30-0.45 | 0.35-0.50 | 0.15-0.25 | 0.20-0.30 | 0.25-0.35 | 0.30-0.40 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 0.20-0.30 | 0.25-0.45 | 0.35-0.55 | 0.40-0.60 | 0.45-0.65 | 0.20-0.40 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 |
| 0.20-0.30 | 0.25-0.45 | 0.35-0.55 | 0.40-0.60 | 0.45-0.65 | 0.20-0.40 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 |
| 0.20-0.30 | 0.20-0.40 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 | 0.15-0.35 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |
| 0.20-0.30 | 0.20-0.40 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 | 0.15-0.35 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |
| 0.20-0.30 | 0.20-0.40 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 | 0.15-0.35 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |
| 0.20-0.30 | 0.20-0.40 | 0.30-0.50 | 0.35-0.55 | 0.40-0.60 | 0.15-0.35 | 0.25-0.45 | 0.30-0.50 | 0.35-0.55 |

# Recommended Cutting Conditions

HDRILL

## Machining data for H-DRILL

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 80-120 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 80-110 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 70-100 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 70-100 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 70-100 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 70-90 |
| | | | Quenched and tempered | 930 | 275 | 7 | 70-90 |
| | | | | 1000 | 300 | 8 | 50-80 |
| | | | | 1200 | 350 | 9 | 40-70 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 50-80 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 40-70 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 30-60 |
| | | | Martensitic | 820 | 240 | 13 | 30-60 |
| | | | Austenitic | 600 | 180 | 14 | 30-60 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 65-80 |
| | | | Pearlitic | | 250 | 16 | 65-80 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 85-105 |
| | | | Pearlitic | | 260 | 18 | 75-90 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 65-80 |
| | | | Pearlitic | | 230 | 20 | 65-80 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 70-200 |
| | | | Cured | | 100 | 22 | 70-200 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 70-200 |
| | | | Cured | | 90 | 24 | 70-200 |
| | | >12% Si | High temp. | | 130 | 25 | 70-150 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 70-200 |
| | | | Brass | | 90 | 27 | 70-200 |
| | | | Electrolitic copper | | 100 | 28 | 70-200 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 15-40 |
| | | | Cured | | 280 | 32 | 15-40 |
| | | Ni or Co based | Annealed | | 250 | 33 | 15-40 |
| | | | Cured | | 350 | 34 | 15-40 |
| | | | Cast | | 320 | 35 | 15-40 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 10-40 |
| | | | Hardened | | 60HRC | 39 | 10-40 |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for H-DRILL**

| Feed (mm/rev) vs. drill diameter | | |
|---|---|---|
| Ø3 - Ø5 | Ø5.1 - Ø8 | Ø8.1 - Ø12 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.08-0.18 | 0.10-0.20 | 0.15-0.25 |
| 0.08-0.18 | 0.10-0.20 | 0.15-0.25 |
| 0.06-0.12 | 0.10-0.15 | 0.12-0.18 |
| 0.06-0.12 | 0.10-0.15 | 0.12-0.18 |
| 0.06-0.12 | 0.10-0.15 | 0.12-0.18 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.20 | 0.15-0.25 | 0.20-0.30 |
| 0.10-0.25 | 0.15-0.35 | 0.25-0.45 |
| 0.10-0.25 | 0.15-0.35 | 0.25-0.45 |
| 0.10-0.25 | 0.15-0.35 | 0.25-0.45 |
| 0.10-0.25 | 0.15-0.35 | 0.25-0.45 |
| 0.10-0.25 | 0.15-0.35 | 0.25-0.45 |
| 0.08-0.18 | 0.15-0.25 | 0.20-0.35 |
| 0.08-0.18 | 0.15-0.25 | 0.20-0.35 |
| 0.08-0.18 | 0.15-0.25 | 0.20-0.35 |
| | | |
| | | |
| 0.02-0.08 | 0.04-0.10 | 0.06-0.12 |
| 0.02-0.08 | 0.04-0.10 | 0.06-0.12 |
| 0.02-0.08 | 0.04-0.10 | 0.06-0.12 |
| 0.02-0.08 | 0.04-0.10 | 0.06-0.12 |
| 0.02-0.08 | 0.04-0.10 | 0.06-0.12 |
| | | |
| | | |
| 0.02-0.08 | 0.04-0.10 | 0.06-0.12 |
| 0.02-0.08 | 0.04-0.10 | 0.06-0.12 |
| | | |
| | | |

# Recommended Cutting Conditions

## Machining data for TBTA 3/5/7/9 & TBTA-R

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 60-120 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 60-120 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 60-120 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 60-120 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 50-100 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 50-100 |
| | | | Quenched and tempered | 930 | 275 | 7 | 50-100 |
| | | | | 1000 | 300 | 8 | 50-100 |
| | | | | 1200 | 350 | 9 | 50-100 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 60-120 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 60-120 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 60-110 |
| | | | Martensitic | 820 | 240 | 13 | 60-110 |
| | | | Austenitic | 600 | 180 | 14 | 60-110 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 60-100 |
| | | | Pearlitic | | 250 | 16 | 60-100 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 60-100 |
| | | | Pearlitic | | 260 | 18 | 60-100 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 60-100 |
| | | | Pearlitic | | 230 | 20 | 60-100 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 60-130 |
| | | | Cured | | 100 | 22 | 60-130 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 60-130 |
| | | | Cured | | 90 | 24 | 60-130 |
| | | >12% Si | High temp. | | 130 | 25 | 60-130 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 60-130 |
| | | | Brass | | 90 | 27 | 60-130 |
| | | | Electrolitic copper | | 100 | 28 | 60-130 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 20-65 |
| | | | Cured | | 280 | 32 | 20-65 |
| | | Ni or Co based | Annealed | | 250 | 33 | 20-65 |
| | | | Cured | | 350 | 34 | 20-65 |
| | | | Cast | | 320 | 35 | 20-65 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-100 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-100 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | |
| | | | Hardened | | 60HRC | 39 | |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for TBTA 3/5/7/9 & TBTA-R**

| Feed (mm/rev) vs. drill diameter | | | | |
|---|---|---|---|---|
| Ø38.00 - Ø39.99 | Ø40.00 - Ø51.99 | Ø52.00 - Ø63.99 | Ø64.00 - Ø84.99 | Ø85.00 - |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.13 | 0.10-0.15 | 0.13-0.18 | 0.15-0.20 | 0.18-0.23 |
| 0.08-0.13 | 0.10-0.15 | 0.13-0.18 | 0.15-0.20 | 0.18-0.23 |
| 0.08-0.13 | 0.10-0.15 | 0.13-0.18 | 0.15-0.20 | 0.18-0.23 |
| 0.08-0.13 | 0.10-0.15 | 0.13-0.18 | 0.15-0.20 | 0.18-0.23 |
| 0.08-0.13 | 0.10-0.15 | 0.13-0.18 | 0.15-0.20 | 0.18-0.23 |
| 0.08-0.13 | 0.10-0.15 | 0.13-0.18 | 0.15-0.20 | 0.18-0.23 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| 0.08-0.20 | 0.10-0.25 | 0.13-0.28 | 0.15-0.30 | 0.18-0.33 |
| | | | | |
| | | | | |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| 0.08-0.15 | 0.10-0.20 | 0.13-0.23 | 0.15-0.25 | 0.18-0.30 |
| | | | | |
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| | | | | |
| | | | | |

# Recommended Cutting Conditions

## Machining data for TBTA-FB

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 70-130 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 70-130 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 70-130 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 70-130 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 70-130 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 70-120 |
| | | | Quenched and tempered | 930 | 275 | 7 | 60-120 |
| | | | | 1000 | 300 | 8 | 60-120 |
| | | | | 1200 | 350 | 9 | 60-120 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 70-130 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 70-130 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 70-130 |
| | | | Martensitic | 820 | 240 | 13 | 70-130 |
| | | | Austenitic | 600 | 180 | 14 | 70-130 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 60-110 |
| | | | Pearlitic | | 250 | 16 | 60-110 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 50-110 |
| | | | Pearlitic | | 260 | 18 | 50-110 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 70-110 |
| | | | Pearlitic | | 230 | 20 | 70-110 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 65-130 |
| | | | Cured | | 100 | 22 | 65-130 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 65-130 |
| | | | Cured | | 90 | 24 | 65-130 |
| | | >12% Si | High temp. | | 130 | 25 | 65-130 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 65-130 |
| | | | Brass | | 90 | 27 | 65-130 |
| | | | Electrolitic copper | | 100 | 28 | 65-130 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 20-50 |
| | | | Cured | | 280 | 32 | 20-50 |
| | | Ni or Co based | Annealed | | 250 | 33 | 20-50 |
| | | | Cured | | 350 | 34 | 20-50 |
| | | | Cast | | 320 | 35 | 20-50 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-60 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-60 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | |
| | | | Hardened | | 60HRC | 39 | |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for TBTA-FB**

| Feed (mm/rev) vs. drill diameter | | | |
|---|---|---|---|
| Ø25.00 - Ø43.00 | Ø43.01 - Ø65.00 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.30 | 0.12-0.35 | | |
| 0.10-0.25 | 0.12-0.35 | | |
| 0.10-0.25 | 0.12-0.35 | | |
| 0.10-0.25 | 0.12-0.35 | | |
| 0.10-0.25 | 0.12-0.35 | | |
| 0.10-0.25 | 0.12-0.35 | | |
| 0.10-0.25 | 0.12-0.35 | | |
| 0.10-0.25 | 0.12-0.35 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| | | | |
| | | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
| 0.08-0.23 | 0.12-0.27 | | |
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| | | | |
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# Recommended Cutting Conditions

## Machining data for BTA & BTS

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 70-120 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 70-120 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 40-70 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 70-120 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 55-100 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 70-100 |
| | | | Quenched and tempered | 930 | 275 | 7 | 55-100 |
| | | | | 1000 | 300 | 8 | 55-100 |
| | | | | 1200 | 350 | 9 | 55-100 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 50-85 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 55-100 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 60-100 |
| | | | Martensitic | 820 | 240 | 13 | 60-100 |
| | | | Austenitic | 600 | 180 | 14 | 60-100 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 60-100 |
| | | | Pearlitic | | 250 | 16 | 60-100 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 80-100 |
| | | | Pearlitic | | 260 | 18 | 80-100 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 50-100 |
| | | | Pearlitic | | 230 | 20 | 50-100 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 65-130 |
| | | | Cured | | 100 | 22 | 65-100 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 65-130 |
| | | | Cured | | 90 | 24 | 65-130 |
| | | >12% Si | High temp. | | 130 | 25 | 65-130 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 65-130 |
| | | | Brass | | 90 | 27 | 65-130 |
| | | | Electrolitic copper | | 100 | 28 | 65-130 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | 10-50 |
| | | | Cured | | 280 | 32 | 10-50 |
| | | Ni or Co based | Annealed | | 250 | 33 | 10-50 |
| | | | Cured | | 350 | 34 | 10-50 |
| | | | Cast | | 320 | 35 | 10-50 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-50 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-50 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | |
| | | | Hardened | | 60HRC | 39 | |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

**Machining data for BTA & BTS**

| Feed (mm/rev) vs. drill diameter | | | | |
|---|---|---|---|---|
| Ø8.00 - Ø20.00 | Ø15.60 - Ø20.00 | Ø20.01 - Ø31.00 | Ø31.01 - Ø43.00 | Ø43.01 - Ø65.00 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.10 | 0.08-0.12 | 0.10-0.15 | 0.13-0.17 | 0.15-0.28 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.10 | 0.08-0.12 | 0.10-0.15 | 0.13-0.17 | 0.15-0.28 |
| 0.05-0.10 | 0.08-0.12 | 0.10-0.15 | 0.13-0.17 | 0.15-0.28 |
| 0.05-0.10 | 0.08-0.12 | 0.10-0.15 | 0.13-0.17 | 0.15-0.28 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.10 | 0.08-0.12 | 0.10-0.15 | 0.13-0.17 | 0.15-0.28 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.28 | 0.13-0.30 | 0.16-0.35 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.28 | 0.13-0.30 | 0.16-0.35 |
| 0.05-0.12 | 0.05-0.12 | 0.08-0.25 | 0.10-0.28 | 0.15-0.33 |
| 0.05-0.13 | 0.06-0.13 | 0.08-0.18 | 0.10-0.20 | 0.15-0.25 |
| 0.05-0.13 | 0.06-0.13 | 0.08-0.18 | 0.10-0.20 | 0.15-0.25 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.17 | 0.13-0.20 | 0.16-0.30 |
| 0.05-0.13 | 0.06-0.13 | 0.08-0.18 | 0.10-0.20 | 0.15-0.25 |
| 0.05-0.13 | 0.06-0.13 | 0.08-0.18 | 0.10-0.20 | 0.15-0.25 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| 0.05-0.13 | 0.08-0.15 | 0.10-0.20 | 0.15-0.25 | 0.16-0.30 |
| | | | | |
| | | | | |
| 0.05-0.12 | 0.06-0.12 | 0.08-0.15 | 0.12-0.18 | 0.15-0.25 |
| 0.05-0.12 | 0.06-0.12 | 0.08-0.15 | 0.12-0.18 | 0.15-0.25 |
| 0.05-0.12 | 0.06-0.12 | 0.08-0.15 | 0.12-0.18 | 0.15-0.25 |
| 0.05-0.12 | 0.06-0.12 | 0.08-0.15 | 0.12-0.18 | 0.15-0.25 |
| 0.05-0.12 | 0.06-0.12 | 0.08-0.15 | 0.12-0.18 | 0.15-0.25 |
| 0.05-0.10 | 0.05-0.10 | 0.08-0.12 | 0.10-0.15 | 0.12-0.20 |
| 0.05-0.10 | 0.05-0.10 | 0.08-0.12 | 0.10-0.15 | 0.12-0.20 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# Recommended Cutting Conditions

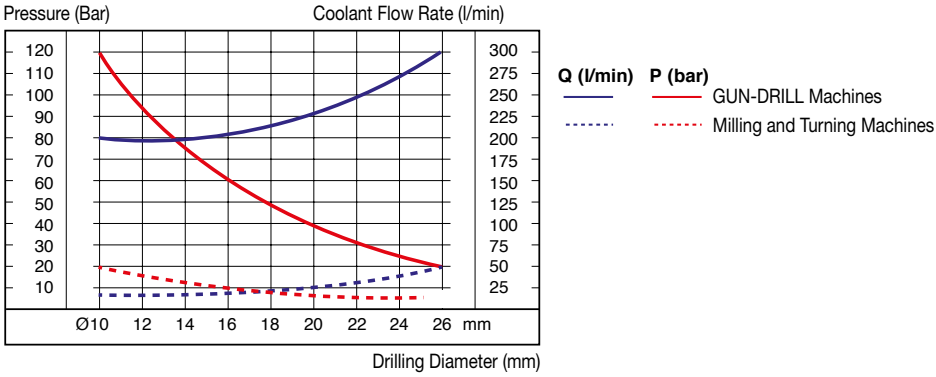
## Machining data for WIN-GUN

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 80-110-140 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 80-105-130 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 80-100-120 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 70-90-110 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 50-70-90 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 80-100-120 |
| | | | Quenched and tempered | 930 | 275 | 7 | 70-90-110 |
| | | | | 1000 | 300 | 8 | 50-70-90 |
| | | | | 1200 | 350 | 9 | 40-55-70 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 50-70-90 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 40-60-80 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 40-55-70 |
| | | | Martensitic | 820 | 240 | 13 | |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 90-125-160 |
| | | | Pearlitic | | 250 | 16 | 80-110-140 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 90-135-180 |
| | | | Pearlitic | | 260 | 18 | 80-110-140 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 90-125-160 |
| | | | Pearlitic | | 230 | 20 | 80-110-140 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 90-155-220 |
| | | | Cured | | 100 | 22 | |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | |
| | | | Cured | | 90 | 24 | |
| | | >12% Si | High temp. | | 130 | 25 | 80-120-160 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel | Stainless steel | Cast iron | Nonferrous

## Pressure and Coolant Flow Rate for WIN-GUN



# Recommended Cutting Conditions

**Machining data for WIN-GUN**

| Feed (mm/rev) vs. drill diameter | | | | |
|---|---|---|---|---|
| Ø10 - Ø11.9 | Ø12 - Ø13.9 | Ø14 - Ø15.9 | Ø16 - Ø19.9 | Ø20 - Ø25.9 |
| 0.15<br>0.18<br>0.21 | 0.18<br>0.21<br>0.24 | 0.20<br>0.23<br>0.27 | 0.25<br>0.30<br>0.35 | 0.25<br>0.30<br>0.35 |
| 0.14<br>0.17<br>0.21 | 0.16<br>0.20<br>0.24 | 0.18<br>0.22<br>0.26 | 0.23<br>0.27<br>0.31 | 0.25<br>0.30<br>0.35 |
| 0.12<br>0.14<br>0.17 | 0.15<br>0.17<br>0.20 | 0.18<br>0.20<br>0.23 | 0.20<br>0.22<br>0.25 | 0.22<br>0.24<br>0.27 |
| 0.12<br>0.13<br>0.15 | 0.14<br>0.15<br>0.17 | 0.16<br>0.18<br>0.20 | 0.16<br>0.19<br>0.21 | 0.18<br>0.21<br>0.24 |
| 0.20<br>0.23<br>0.27 | 0.25<br>0.28<br>0.32 | 0.30<br>0.33<br>0.37 | 0.35<br>0.40<br>0.45 | 0.35<br>0.42<br>0.47 |
| 0.25<br>0.28<br>0.32 | 0.30<br>0.33<br>0.37 | 0.35<br>0.38<br>0.42 | 0.40<br>0.45<br>0.50 | 0.45<br>0.50<br>0.57 |

- Red text: Recommended cutting data
- Mandatory use of emulsion or oil when drilling
- For the 400 mm long tools, please reduce the cutting speed by 20%

# Recommended Cutting Conditions

**Machining data for TRGD / TRGD3 / TRGDL / TBTA-TR**

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. |
|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 |
| | | | Quenched and tempered | 1000 | 300 | 5 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 |
| | | | Quenched and tempered | 930 | 275 | 7 |
| | | | | 1000 | 300 | 8 |
| | | | | 1200 | 350 | 9 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 |
| | | | Quenched and tempered | 1100 | 325 | 11 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 |
| | | | Martensitic | 820 | 240 | 13 |
| | | | Austenitic | 600 | 180 | 14 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 |
| | | | Pearlitic | | 250 | 16 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 |
| | | | Pearlitic | | 260 | 18 |
| | Malleable cast iron | | Ferritic | | 130 | 19 |
| | | | Pearlitic | | 230 | 20 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 |
| | | | Cured | | 100 | 22 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 |
| | | | Cured | | 90 | 24 |
| | | >12% Si | High temp. | | 130 | 25 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 |
| | | | Brass | | 90 | 27 |
| | | | Electrolitic copper | | 100 | 28 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 |
| | | | Hard rubber | | 55 Shore D | 30 |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 |
| | | | Cured | | 280 | 32 |
| | | Ni or Co based | Annealed | | 250 | 33 |
| | | | Cured | | 350 | 34 |
| | | | Cast | | 320 | 35 |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 |
| H | Hardened steel | | Hardened | | 55 HRC | 38 |
| | | | Hardened | | 60 HRC | 39 |
| | Chilled cast iron | | Cast | | 400 | 40 |
| | Cast iron nodular | | Hardened | | 55 HRC | 41 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

## Machining data for TRGD / TRGD3 / TRGDL / TBTA-TR

| Feed (mm/rev) vs. drill diameter | | | | | | | |
|---|---|---|---|---|---|---|---|
| TRGD / TRGD3 / TRGDL | | | | | | TBTA-TR | |
| Cutting speed Vc (m/min) | Ø10.00-Ø11.80 | Ø12.00-Ø13.99 | Ø14.00-Ø15.99 | Ø16.00-Ø28.00 | Ø28.01-Ø40.00 | Cutting speed Vc (m/min) | Ø16.00-Ø28.00 |
| 80-140 | 0.05-0.08 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.15 | 90-130 | 0.15-0.20 |
| 80-140 | 0.05-0.14 | 0.05-0.16 | 0.05-0.10 | 0.05-0.10 | 0.05-0.15 | 90-130 | 0.15-0.20 |
| 80-140 | 0.05-0.14 | 0.05-0.16 | 0.05-0.16 | 0.05-0.20 | 0.05-0.20 | 90-130 | 0.15-0.20 |
| 80-140 | 0.05-0.14 | 0.05-0.16 | 0.05-0.16 | 0.05-0.20 | 0.05-0.20 | 70-130 | 0.10-0.25 |
| 80-140 | 0.05-0.14 | 0.05-0.16 | 0.05-0.16 | 0.05-0.20 | 0.05-0.20 | 70-130 | 0.10-0.25 |
| 80-140 | 0.05-0.14 | 0.05-0.16 | 0.05-0.10 | 0.05-0.10 | 0.05-0.15 | 70-120 | 0.10-0.25 |
| 80-120 | 0.05-0.14 | 0.05-0.16 | 0.05-0.16 | 0.05-0.20 | 0.05-0.20 | 60-120 | 0.10-0.25 |
| 80-120 | | | 0.05-0.16 | 0.05-0.20 | 0.05-0.20 | 60-120 | 0.10-0.25 |
| 80-120 | | | 0.05-0.16 | 0.05-0.20 | 0.05-0.20 | 60-120 | 0.10-0.25 |
| 80-140 | | | 0.05-0.10 | 0.05-0.10 | 0.05-0.15 | 70-130 | 0.10-0.25 |
| 80-120 | | | 0.05-0.16 | 0.05-0.20 | 0.05-0.20 | 70-130 | 0.10-0.25 |
| 60-100 | 0.05-0.08 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.15 | 80-130 | 0.06-0.10 |
| 60-100 | 0.05-0.08 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.15 | 80-130 | 0.06-0.10 |
| 60-100 | 0.05-0.08 | 0.05-0.10 | 0.05-0.10 | 0.05-0.10 | 0.05-0.15 | 80-130 | 0.06-0.10 |
| 80-140 | 0.05-0.20 | 0.05-0.25 | 0.05-0.25 | 0.05-0.30 | 0.05-0.30 | 50-110 | 0.10-0.20 |
| 80-140 | 0.05-0.20 | 0.05-0.25 | 0.05-0.25 | 0.05-0.30 | 0.05-0.30 | 50-110 | 0.10-0.20 |
| 80-140 | 0.05-0.20 | 0.05-0.25 | 0.05-0.25 | 0.05-0.30 | 0.05-0.30 | 60-110 | 0.10-0.20 |
| 80-140 | 0.05-0.20 | 0.05-0.25 | 0.05-0.25 | 0.05-0.30 | 0.05-0.30 | 60-110 | 0.10-0.20 |
| 80-140 | | | 0.05-0.25 | 0.05-0.30 | 0.05-0.30 | 70-110 | 0.10-0.20 |
| 80-140 | | | 0.05-0.25 | 0.05-0.30 | 0.05-0.30 | 70-110 | 0.10-0.20 |
| 100-200 | 0.05-0.18 | 0.05-0.20 | 0.05-0.20 | 0.05-0.20 | 0.05-0.25 | 65-130 | 0.08-0.18 |
| 100-200 | 0.05-0.18 | 0.05-0.20 | 0.05-0.20 | 0.05-0.20 | 0.05-0.25 | 65-130 | 0.08-0.18 |
| 100-200 | 0.05-0.18 | 0.05-0.20 | 0.05-0.20 | 0.05-0.20 | 0.05-0.25 | 65-130 | 0.08-0.18 |
| 100-200 | 0.05-0.18 | 0.05-0.20 | 0.05-0.20 | 0.05-0.20 | 0.05-0.25 | 65-130 | 0.08-0.18 |
| | | | | | | 65-130 | 0.08-0.18 |
| | | | | | | 65-130 | 0.08-0.18 |
| | | | | | | 65-130 | 0.08-0.18 |
| | | | | | | 65-130 | 0.08-0.18 |
| | | | | | | 65-130 | 0.08-0.18 |
| | | | | | | 65-130 | 0.08-0.18 |
| 20-50 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | 20-50 | 0.08-0.18 |
| 20-50 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | 20-50 | 0.08-0.18 |
| 20-50 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | 20-50 | 0.08-0.18 |
| 20-50 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | 20-50 | 0.08-0.18 |
| 20-50 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | 20-50 | 0.08-0.18 |
| 30-60 | 0.04-0.10 | 0.05-0.13 | 0.05-0.13 | 0.05-0.15 | 0.05-0.18 | 30-60 | 0.08-0.18 |
| 30-60 | 0.04-0.10 | 0.05-0.13 | 0.05-0.13 | 0.05-0.15 | 0.05-0.18 | 30-60 | 0.08-0.18 |
| 50-100 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | | |
| 50-100 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | | |
| 50-100 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | | |
| 50-100 | 0.04-0.06 | 0.04-0.08 | 0.04-0.08 | 0.04-0.10 | 0.04-0.13 | | |

# Recommended Cutting Conditions

HDRILL

**Machining data for CDF**

| Material | Tensile strength ($N/mm^2$) | Hardness HB | Cutting speed Vc (m/min) | Feed (mm/rev) vs. drill diameter | | | |
|---|---|---|---|---|---|---|---|
| | | | | Ø3.0 - Ø6.0 | Ø6.1- Ø8.0 | Ø8.1- Ø10.0 | Ø10.1- Ø12.7 |
| CFRP | 420 | 125 | 50-150 | 0.02-0.07 | 0.03-0.08 | 0.03-0.08 | 0.04-0.10 |
| GFRP | 650 | 190 | 40-120 | 0.02-0.07 | 0.03-0.08 | 0.03-0.08 | 0.04-0.10 |

# Recommended Cutting Conditions

XM-REAM

## Machining data for XM-REAM

| ISO | Material | | Condition | Tensile strength (N/mm²) | Hardness HB | Material No. | Cutting speed Vc (m/min) | Feed (mm/rev) vs. reamer diameter | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Ø8-9.99 | Ø10-11.99 | Ø12-12.99 |
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | | | Quenched and tempered | 1000 | 300 | 5 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | | | Quenched and tempered | 930 | 275 | 7 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | | | | 1000 | 300 | 8 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | | | | 1200 | 350 | 9 | 50-150 | 0.25-0.50 | 0.30-0.60 | 0.35-0.80 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 20-60 | 0.20-0.30 | 0.25-0.40 | 0.30-0.50 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 20-60 | 0.20-0.30 | 0.25-0.40 | 0.30-0.50 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 20-40 | 0.20-0.30 | 0.25-0.40 | 0.30-0.50 |
| | | | Martensitic | 820 | 240 | 13 | 20-40 | 0.20-0.30 | 0.25-0.40 | 0.30-0.50 |
| | | | Austenitic | 600 | 180 | 14 | 20-40 | 0.20-0.30 | 0.25-0.40 | 0.30-0.50 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 50-200 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | | Pearlitic | | 250 | 16 | 50-200 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 50-200 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | | Pearlitic | | 260 | 18 | 50-200 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 50-200 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | | Pearlitic | | 230 | 20 | 50-200 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | | Cured | | 100 | 22 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | | Cured | | 90 | 24 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | >12% Si | High temp. | | 130 | 25 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | | Brass | | 90 | 27 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | | | Electrolitic copper | | 100 | 28 | 100-250 | 0.30-0.60 | 0.35-0.80 | 0.40-1.00 |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | | | | |
| | | | Hard rubber | | 55 Shore D | 30 | | | | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | | | | |
| | | | Cured | | 280 | 32 | | | | |
| | | Ni or Co based | Annealed | | 250 | 33 | | | | |
| | | | Cured | | 350 | 34 | | | | |
| | | | Cast | | 320 | 35 | | | | |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | | | | |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | | | | |
| H | Hardened steel | | Hardened | | 55 HRC | 38 | | | | |
| | | | Hardened | | 60 HRC | 39 | | | | |
| | Chilled cast iron | | Cast | | 400 | 40 | | | | |
| | Cast iron nodular | | Hardened | | 55 HRC | 41 | | | | |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

TM-REAM

## Machining data for TM-REAM - Through hole

| ISO | Material | | Condition | Material No. | Through hole | | Interrupted through Hole | |
|---|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 1 | TT9030 | BL | TT9030 | BL |
| | | >=0.25%C | Annealed | 2 | Vc = 80 - 200 | | Vc = 60 - 120 | |
| | | <0.55%C | Quenched and tempered | 3 | B4 - B6 | fz = 0.08 - 0.21 | B4 - B6 | fz = 0.08 - 0.21 |
| | | >=0.55%C | Annealed | 4 | | | | |
| | | | Quenched and tempered | 5 | B7 - B9 | fz = 0.12 - 0.27 | B7 - B9 | fz = 0.09 - 0.21 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 6 | TT9030 | BL | TT9030 | BL |
| | | | Quenched and tempered | 7 | Vc = 80 - 200 | | Vc = 60 - 120 | |
| | | | | 8 | B4 - B6 | fz = 0.08 - 0.21 | B4 - B6 | fz = 0.08 - 0.21 |
| | | | | 9 | B7 - B9 | fz = 0.12 - 0.27 | B7 - B9 | fz = 0.09 - 0.21 |
| | High alloy steel, cast steel and tool steel | | Annealed | 10 | TT9030 | BL | TT9030 | BL |
| | | | | | Vc = 20 - 60 | | Vc = 20 - 60 | |
| | | | Quenched and tempered | 11 | B4 - B6 | fz = 0.05 - 0.13 | B4 - B6 | fz = 0.04 - 0.11 |
| | | | | | B7 - B9 | fz = 0.07 - 0.17 | B7 - B9 | fz = 0.05 - 0.14 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 12 | TT9030 | BL | TT9030 | BL |
| | | | | | Vc = 20 - 40 | | Vc = 20 - 40 | |
| | | | Martensitic | 13 | B4 - B6 | fz = 0.05 - 0.13 | B4 - B6 | fz = 0.04 - 0.11 |
| | | | Austenitic | 14 | B7 - B9 | fz = 0.07 - 0.17 | B7 - B9 | fz = 0.05 - 0.14 |
| K | Gray cast iron (GG) | | Ferritic | 15 | TT9030 | BL | TT9030 | BL |
| | | | | | Vc = 120 - 220 | | Vc = 80 - 200 | |
| | | | Pearlitic | 16 | B4 - B6 | fz = 0.08 - 0.18 | B4 - B6 | fz = 0.05 - 0.13 |
| | | | | | B7 - B9 | fz = 0.10 - 0.24 | B7 - B9 | fz = 0.07 - 0.17 |
| | Cast iron nodular (GGG) | | Ferritic | 17 | TT9030 | AS or BL | TT9030 | BL |
| | | | | | Vc = 160 - 280 | | Vc = 150 - 250 | |
| | | | Pearlitic | 18 | B4 - B6 | fz = 0.11 - 0.20 | B4 - B6 | fz = 0.06 - 0.15 |
| | | | | | B7 - B9 | fz = 0.11 - 0.24 | B7 - B9 | fz = 0.08 - 0.19 |
| | Malleable cast iron | | Ferritic | 19 | TT9030 | AS or BL | TT9030 | BL |
| | | | | | Vc = 100 - 220 | | Vc = 100 - 220 | |
| | | | Pearlitic | 20 | B4 - B6 | fz = 0.11 - 0.20 | B4 - B6 | fz = 0.06 - 0.15 |
| | | | | | B7 - B9 | fz = 0.11 - 0.24 | B7 - B9 | fz = 0.08 - 0.20 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

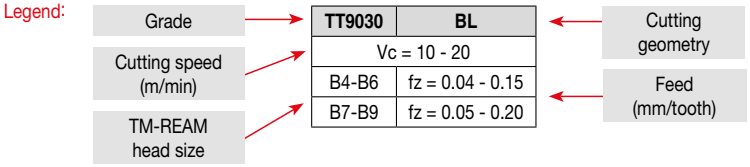
TM-REAM

## Machining data for TM-REAM - Through hole

| ISO | Material | | Condition | Material No. | Through hole | | Interrupted through Hole | |
|---|---|---|---|---|---|---|---|---|
| N | Aluminum - Wrought alloy | | Not cureable | 21 | B7 - B9 | BL or GS | UF10 | BL |
| | | | Cured | 22 | Vc = 150 - 400 | | Vc = 150 - 400 | |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | 23 | B4 - B6 | fz = 0.08 - 0.16 | B4 - B6 | fz = 0.08 - 0.16 |
| | | | Cured | 24 | | | | |
| | | >12% Si | High temp. | 25 | B7 - B9 | fz = 0.10 - 0.20 | B7 - B9 | fz = 0.10 - 0.20 |
| | Copper alloys | >1% Pb | Free cutting | 26 | TT9030 | BL | TT9030 | BL |
| | | | | | Vc = 50 - 200 | | Vc = 50 - 200 | |
| | | | Brass | 27 | B4 - B6 | fz = 0.08 - 0.18 | B4 - B6 | fz = 0.05 - 0.13 |
| | | | Electrolitic copper | 28 | B7 - B9 | fz = 0.10 - 0.23 | B7 - B9 | fz = 0.07 - 0.16 |
| | Non-metallic | | Duroplastics, fiber plastics | 29 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 25 - 80 | | Vc = 25 - 80 | |
| | | | Hard rubber | 30 | B4 - B6 | fz = 0.05 - 0.10 | B4 - B6 | fz = 0.05 - 0.10 |
| | | | | | B7 - B9 | fz = 0.10 - 0.20 | B7 - B9 | fz = 0.10 - 0.20 |
| S | High temp. alloys | Fe based | Annealed | 31 | TT9030 | L * | TT9030 | L * |
| | | | Cured | 32 | Vc = 15 - 50 | | Vc = 15 - 50 | |
| | | Ni or Co based | Annealed | 33 | | | | |
| | | | Cured | 34 | B4 - B6 | fz = 0.04 - 0.10 | B4 - B6 | fz = 0.03 - 0.08 |
| | | | Cast | 35 | | | | |
| | Titanium, Ti alloys | | Pure | 36 | B7 - B9 | fz = 0.05 - 0.13 | B4 - B6 | fz = 0.04 - 0.11 |
| | | | Alpha+beta alloys cured | 37 | | | | |
| H | Hardened steel | | Hardened | 38 | TT9030 | BL | TT9030 | BL |
| | | | Hardened | 39 | Vc = 25 - 50 | | Vc = 25 - 50 | |
| | Chilled cast iron | | Cast | 40 | B4 - B6 | fz = 0.06 - 0.15 | B4 - B6 | fz = 0.06 - 0.15 |
| | Cast iron nodular | | Hardened | 41 | B7 - B9 | fz = 0.10 - 0.20 | B7 - B9 | fz = 0.10 - 0.20 |

* Standard edge geometries are not suitable for reaming titanium and high temperature alloys.
In order to choose a proper geometry, please ask for our recommendations.

- The given cutting data recommendations refer to the short holders (3xD effective reaming overhang).
For longer holders, the cutting speed to be reduced proportionally.
- For relatively large leading angles (spot-facing geometries), the feed to be reduced up to 30%.
- All the given cutting data recommendations refer to the machines with spindle through coolant supply.



# Recommended Cutting Conditions

TM-REAM

## Machining data for TM-REAM - Blind hole

| ISO | Material | | Condition | Material No. | Blind hole | | Interrupted blind hole | |
|---|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 1 | TT9030 | AS | TT9030 | AS |
| | | >=0.25%C | Annealed | 2 | Vc = 60-160 | | Vc = 60 - 120 | |
| | | <0.55%C | Quenched and tempered | 3 | B4 - B6 | fz = 0.06 - 0.18 | B4 - B6 | fz = 0.05 - 0.15 |
| | | >=0.55%C | Annealed | 4 | | | | |
| | | | Quenched and tempered | 5 | B7 - B9 | fz = 0.08 - 0.20 | B7 - B9 | fz = 0.07 - 0.16 |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 6 | TT9030 | AS | TT9030 | AS |
| | | | Quenched and tempered | 7 | Vc = 60-160 | | Vc = 60 - 120 | |
| | | | | 8 | B4 - B6 | fz = 0.06 - 0.18 | B4 - B6 | fz = 0.05 - 0.15 |
| | | | | 9 | B7 - B9 | fz = 0.08 - 0.20 | B7 - B9 | fz = 0.07 - 0.16 |
| | High alloy steel, cast steel and tool steel | | Annealed | 10 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 20 - 60 | | Vc = 20 - 60 | |
| | | | Quenched and tempered | 11 | B4 - B6 | fz = 0.04 - 0.10 | B4 - B6 | fz = 0.03 - 0.08 |
| | | | | | B7 - B9 | fz = 0.05 - 0.13 | B7 - B9 | fz = 0.04 - 0.10 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 12 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 20 - 40 | | Vc = 20 - 40 | |
| | | | Martensitic | 13 | B4 - B6 | fz = 0.04 - 0.10 | B4 - B6 | fz = 0.03 - 0.08 |
| | | | Austenitic | 14 | B7 - B9 | fz = 0.05 - 0.13 | B7 - B9 | fz = 0.05 - 0.10 |
| K | Gray cast iron (GG) | | Ferritic | 15 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 80 - 200 | | Vc = 60 - 120 | |
| | | | Pearlitic | 16 | B4 - B6 | fz = 0.06 - 0.18 | B4 - B6 | fz = 0.05 - 0.13 |
| | | | | | B7 - B9 | fz = 0.08 - 0.23 | B7 - B9 | fz = 0.08 - 0.18 |
| | Cast iron nodular (GGG) | | Ferritic | 17 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 160 - 280 | | Vc = 160 - 240 | |
| | | | Pearlitic | 18 | B4 - B6 | fz = 0.06 - 0.18 | B4 - B6 | fz = 0.06 - 0.16 |
| | | | | | B7 - B9 | fz = 0.08 - 0.23 | B7 - B9 | fz = 0.08 - 0.18 |
| | Malleable cast iron | | Ferritic | 19 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 100 - 220 | | Vc = 100 - 220 | |
| | | | Pearlitic | 20 | B4 - B6 | fz = 0.06 - 0.18 | B4 - B6 | fz = 0.05 - 0.15 |
| | | | | | B7 - B9 | fz = 0.08 - 0.23 | B7 - B9 | fz = 0.08 - 0.20 |

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

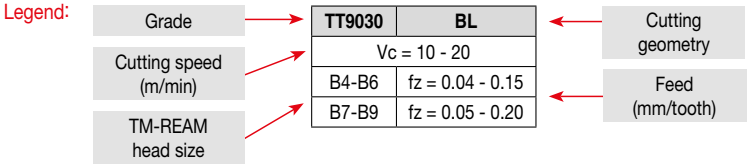
TM-REAM

## Machining data for TM-REAM - Blind hole

| ISO | Material | | Condition | Material No. | Blind hole | | Interrupted blind hole | |
|---|---|---|---|---|---|---|---|---|
| N | Aluminum - Wrought alloy | | Not cureable | 21 | UF10 | GS or AS | UF10 | GS or AS |
| | | | Cured | 22 | Vc = 150 - 400 | | Vc = 150 - 300 | |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | 23 | B4 - B6 | fz = 0.08 - 0.16 | B4 - B6 | fz = 0.07 - 0.15 |
| | | | Cured | 24 | | | | |
| | | >12% Si | High temp. | 25 | B7 - B9 | fz = 0.11 - 0.20 | B7 - B9 | fz = 0.11 - 0.20 |
| | Copper alloys | >1% Pb | Free cutting | 26 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 50 - 200 | | Vc = 50 - 200 | |
| | | | Brass | 27 | B4 - B6 | fz = 0.08 - 0.16 | B4 - B6 | fz = 0.08 - 0.16 |
| | | | Electrolitic copper | 28 | B7 - B9 | fz = 0.10 - 0.20 | B7 - B9 | fz = 0.10 - 0.20 |
| | Non-metallic | | Duroplastics, fiber plastics | 29 | TT9030 | AS | TT9030 | AS |
| | | | | | Vc = 25 - 80 | | Vc = 25 - 80 | |
| | | | Hard rubber | 30 | B4 - B6 | fz = 0.05 - 0.10 | B4 - B6 | fz = 0.05 - 0.10 |
| | | | | | B7 - B9 | fz = 0.10 - 0.20 | B7 - B9 | fz = 0.10 - 0.20 |
| S | High temp. alloys | Fe based | Annealed | 31 | TT9030 | L * | TT9030 | L * |
| | | | Cured | 32 | Vc = 15 - 50 | | Vc = 15 - 50 | |
| | | Ni or Co based | Annealed | 33 | | | | |
| | | | Cured | 34 | B4 - B6 | fz = 0.03 - 0.08 | B4 - B6 | fz = 0.03 - 0.08 |
| | | | Cast | 35 | | | | |
| | Titanium, Ti alloys | | Pure | 36 | B7 - B9 | fz = 0.04 - 0.11 | B7 - B9 | fz = 0.04 - 0.11 |
| | | | Alpha+beta alloys cured | 37 | | | | |
| H | Hardened steel | | Hardened | 38 | TT9030 | AS | TT9030 | AS |
| | | | Hardened | 39 | Vc = 25 - 50 | | Vc = 25 - 50 | |
| | Chilled cast iron | | Cast | 40 | B4 - B6 | fz = 0.05 - 0.13 | B4 - B6 | fz = 0.05 - 0.13 |
| | Cast iron nodular | | Hardened | 41 | B7 - B9 | fz = 0.10 - 0.20 | B7 - B9 | fz = 0.10 - 0.20 |

* Standard edge geometries are not suitable for reaming titanium and high temperature alloys.
In order to choose a proper geometry, please ask for our recommendations.

- The given cutting data recommendations refer to the short holders (3xD effective reaming overhang).
For longer holders, the cutting speed to be reduced proportionally.
- For relatively large leading angles (spot-facing geometries), the feed to be reduced up to 30%.
- All the given cutting data recommendations refer to the machines with spindle through coolant supply.



# Recommended Cutting Conditions

## Machining data for TB-REAM

| ISO | Material | Material No. | Lead A (15°/3°) (Reaming allowance: 0.1 ~ 0.3) Feed (mm/rev) | Rake (°) | Cutting speed Vc (m/min) Carbide | Coated carbide | Cermet | PCD | CBN |
|---|---|---|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | 1 - 5 | 0.1-0.4 | 6 | 40-60 | 60-80 | 110-160 | | |
| P | Low alloy steel and cast steel (Less than 5% of alloying elements) | 6 - 9 | 0.1-0.4 | 6 | 20-40 | 40-60 | 110-160 | | |
| P | High alloyed steel, cast steel and tool steel | 10 - 11 | 0.1-0.4 | 6 | 20-40 | 20-60 | 20-60 | | |
| M | Stainless steel, cast steel | 12 - 14 | 0.1-0.3 | 12 | 20-40 | 40-60 | 20-60 | | |
| K | Grey cast iron (GG) | 15 - 16 | 0.1-0.3 | 0 / 6 | 40-60 | 60-100 | | | Please ask |
| K | Cast iron nodular (GGG) | 17 - 18 | 0.1-0.3 | 0 / 6 | 40-60 | 60-100 | | | |
| K | Malleable cast iron | 19 - 20 | 0.1-0.3 | 0 / 6 | 40-60 | 60-100 | | | |
| N | Aluminum wrought alloy | 21 - 22 | | | | | | Please ask | |
| N | Aluminum-cast,alloyed | 23 - 25 | | | | | | | |
| N | Copper alloys | 26 - 28 | | | | | | | |
| N | Non-metallic | 29 - 30 | | | | | | | |

| ISO | Material | Material No. | Lead C (75°) (Reaming allowance: 0.2 ~ 0.4) Feed (mm/rev) | Rake (°) | Cutting speed Vc (m/min) Carbide | Coated carbide | Cermet | PCD | CBN |
|---|---|---|---|---|---|---|---|---|---|
| P | Non-alloy steel and cast steel, free cutting steel | 1 - 5 | | | | | | | |
| P | Low alloy steel and cast steel (Less than 5% of alloying elements) | 6 - 9 | | | | | | | |
| P | High alloyed steel, cast steel and tool steel | 10 - 11 | | | | | | | |
| M | Stainless steel, cast steel | 12 - 14 | | | | | | | |
| K | Grey cast iron (GG) | 15 - 16 | | | | | | | Please ask |
| K | Cast iron nodular (GGG) | 17 - 18 | | | | | | | |
| K | Malleable cast iron | 19 - 20 | | | | | | | |
| N | Aluminum wrought alloy | 21 - 22 | 0.15-0.3 | 12 | 150-250 | | | Please ask | |
| N | Aluminum-cast,alloyed | 23 - 25 | 0.15-0.3 | 12 | 150-250 | | | | |
| N | Copper alloys | 26 - 28 | | | | | | | |
| N | Non-metallic | 29 - 30 | | | | | | | |

▸ The cutting conditions in the table below should be used to start a new application.
Optimal conditions for a specific application should be evaluated by examining the results and changing the machining conditions accordingly.

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous

# Recommended Cutting Conditions

TB-REAM

## Machining data for TB-REAM

| | | | Lead B (30°/3°) (Reaming allowance: 0.1 ~ 0.3) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Feed (mm/rev) | Rake (°) | Cutting speed Vc (m/min) | | | | |
| ISO | Material | Material No. | | | Carbide | Coated carbide | Cermet | PCD | CBN |
| P | Non-alloy steel and cast steel, free cutting steel | 1 - 5 | 0.1-0.4 | 6 | 60-80 | 80-120 | 110-160 | | |
| P | Low alloy steel and cast steel (Less than 5% of alloying elements) | 6 - 9 | 0.1-0.4 | 6 | 60-80 | 80-120 | 110-160 | | |
| P | High alloyed steel, cast steel and tool steel | 10 - 11 | 0.1-0.4 | 6 | 40-60 | 40-80 | 40-80 | | |
| M | Stainless steel, cast steel | 12 - 14 | 0.1-0.3 | 12 | 40-60 | 60-80 | 60-80 | | |
| K | Grey cast iron (GG) | 15 - 16 | 0.1-0.3 | 0 / 6 | 60-80 | 80-120 | | | Please ask |
| K | Cast iron nodular (GGG) | 17 - 18 | 0.1-0.3 | 0 / 6 | 60-80 | 80-120 | | | |
| K | Malleable cast iron | 19 - 20 | 0.1-0.3 | 0 / 6 | 60-80 | 80-120 | | | |
| N | Aluminum wrought alloy | 21 - 22 | | 12 | 160-200 | | | Please ask | |
| N | Aluminum-cast,alloyed | 23 - 25 | | 12 | 160-200 | | | | |
| N | Copper alloys | 26 - 28 | | 0 | 80-100 | | | | |
| N | Non-metallic | 29 - 30 | | 0 | 10-70 | | | | |

| | | | Lead D (30°/3°) (Reaming allowance: 0.1 ~ 0.2) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Feed (mm/rev) | Rake (°) | Cutting speed Vc (m/min) | | | | |
| ISO | Material | Material No. | | | Carbide | Coated carbide | Cermet | PCD | CBN |
| P | Non-alloy steel and cast steel, free cutting steel | 1 - 5 | 0.1-0.4 | 6 | 60-80 | 80-120 | 110-160 | | |
| P | Low alloy steel and cast steel (Less than 5% of alloying elements) | 6 - 9 | 0.1-0.4 | 6 | 60-80 | 80-120 | 110-160 | | |
| P | High alloyed steel, cast steel and tool steel | 10 - 11 | 0.1-0.4 | 6 | 40-60 | 40-80 | 40-80 | | |
| M | Stainless steel, cast steel | 12 - 14 | 0.1-0.3 | 12 | 40-60 | 60-80 | 60-80 | | |
| K | Grey cast iron (GG) | 15 - 16 | 0.1-0.3 | 0 / 6 | 60-80 | 80-120 | | | Please ask |
| K | Cast iron nodular (GGG) | 17 - 18 | 0.1-0.3 | 0 / 6 | 60-80 | 80-120 | | | |
| K | Malleable cast iron | 19 - 20 | 0.1-0.3 | 0 / 6 | 60-80 | 80-120 | | | |
| N | Aluminum wrought alloy | 21 - 22 | | 12 | 110-200 | | | Please ask | |
| N | Aluminum-cast,alloyed | 23 - 25 | | 12 | 160-200 | | | | |
| N | Copper alloys | 26 - 28 | | 0 | 80-100 | | | | |
| N | Non-metallic | 29 - 30 | | | | | | | |

▸ The cutting conditions in the table below should be used to start a new application. Optimal conditions for a specific application should be evaluated by examining the results and changing the machining conditions accordingly.

▸ For more information of material groups, see the materials & grades "material conversion table"

Steel Stainless steel Cast iron Nonferrous

# Recommended Cutting Conditions

TS REAM

## Machining data for TS-REAM

| ISO | Material | | Condition | Tensile strength ($N/mm^2$) | Hardness HB | Material No. | Cutting speed Vc (m/min) |
|---|---|---|---|---|---|---|---|
| P | Non-alloy steel, cast steel, free cutting steel | <0.25%C | Annealed | 420 | 125 | 1 | 120-250 |
| | | >=0.25%C | Annealed | 650 | 190 | 2 | 120-250 |
| | | <0.55%C | Quenched and tempered | 850 | 250 | 3 | 120-250 |
| | | >=0.55%C | Annealed | 750 | 220 | 4 | |
| | | | Quenched and tempered | 1000 | 300 | 5 | |
| | Low alloy steel and cast steel (Less than 5% of alloying elements) | | Annealed | 600 | 200 | 6 | 120-250 |
| | | | Quenched and tempered | 930 | 275 | 7 | 120-250 |
| | | | | 1000 | 300 | 8 | 120-250 |
| | | | | 1200 | 350 | 9 | 120-250 |
| | High alloy steel, cast steel and tool steel | | Annealed | 680 | 200 | 10 | 120-250 |
| | | | Quenched and tempered | 1100 | 325 | 11 | 120-250 |
| M | Stainless steel and cast steel | | Ferritic / martensitic | 680 | 200 | 12 | 60-120 |
| | | | Martensitic | 820 | 240 | 13 | 60-120 |
| | | | Austenitic | 600 | 180 | 14 | 60-120 |
| K | Gray cast iron (GG) | | Ferritic | | 160 | 15 | 60-120 |
| | | | Pearlitic | | 250 | 16 | 60-120 |
| | Cast iron nodular (GGG) | | Ferritic | | 180 | 17 | 60-120 |
| | | | Pearlitic | | 260 | 18 | 60-120 |
| | Malleable cast iron | | Ferritic | | 130 | 19 | 60-120 |
| | | | Pearlitic | | 230 | 20 | 60-120 |
| N | Aluminum - Wrought alloy | | Not cureable | | 60 | 21 | 250-500 |
| | | | Cured | | 100 | 22 | 250-500 |
| | Aluminum-cast, alloyed | <=12% Si | Not cureable | | 75 | 23 | 250-500 |
| | | | Cured | | 90 | 24 | 250-500 |
| | | >12% Si | High temp. | | 130 | 25 | |
| | Copper alloys | >1% Pb | Free cutting | | 110 | 26 | |
| | | | Brass | | 90 | 27 | |
| | | | Electrolitic copper | | 100 | 28 | |
| | Non-metallic | | Duroplastics, fiber plastics | | 70 Shore D | 29 | |
| | | | Hard rubber | | 55 Shore D | 30 | |
| S | High temp. alloys | Fe based | Annealed | | 200 | 31 | |
| | | | Cured | | 280 | 32 | |
| | | Ni or Co based | Annealed | | 250 | 33 | 25-50 |
| | | | Cured | | 350 | 34 | 25-50 |
| | | | Cast | | 320 | 35 | |
| | Titanium, Ti alloys | | Pure | Rm 400 | 190 | 36 | 30-80 |
| | | | Alpha+beta alloys cured | Rm 1050 | 310 | 37 | 30-80 |
| H | Hardened steel | | Hardened | | 55HRC | 38 | 25-60 |
| | | | Hardened | | 60HRC | 39 | |
| | Chilled cast iron | | Cast | | 400 | 40 | |
| | Cast iron nodular | | Hardened | | 55HRC | 41 | |

▸ For more information of material groups, see the materials & grades "material conversion table"

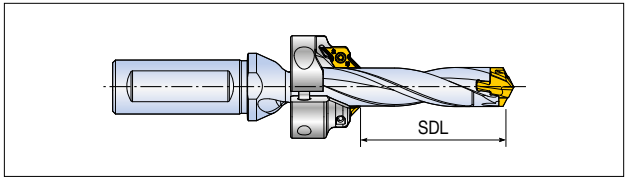
Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

# Recommended Cutting Conditions

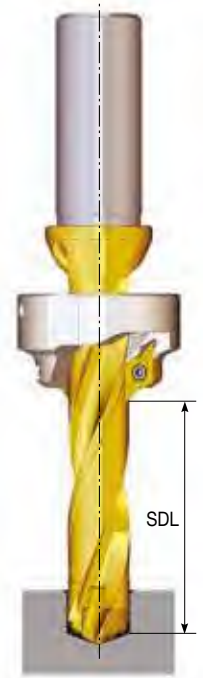
**Machining data for TS-REAM**

| Feed (mm/rev) vs. reamer diameter | | | |
|---|---|---|---|
| Ø3.0 - Ø5.0 | Ø6.0 - Ø7.0 | Ø8.0 - Ø10.0 | Ø10.5 - Ø12.0 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| | | | |
| | | | |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| | | | |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| 0.10-0.40 | 0.15-0.70 | 0.50-1.40 | 0.80-1.60 |
| | | | |
| | | | |
| | | | |

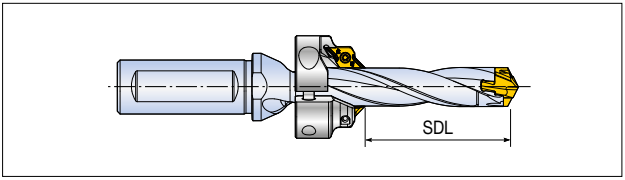
## Chamfering ring designation - DRILL-RUSH



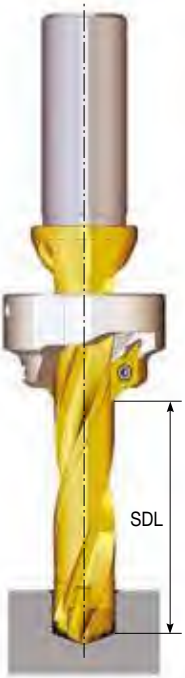

| | Designation | CFR designation | SDL | |
|---|---|---|---|---|
| | | | min | max |
| 3D | TCD 130-134-16T3/S0-3D | CFR D130-A45 | 19 | 19 |
| | 135-139-16T3/S0-3D | CFR D135-A45 | 19 | 20 |
| | 140-144-16T3/S0-3D | CFR D140-A45 | 21 | 22 |
| | 145-149-16T3/S0-3D | CFR D145-A45 | 22 | 23 |
| | 150-159-20T3/S0-3D | CFR D150-A45 | 23 | 23 |
| | 160-169-20T3/S0-3D | CFR D160-A45 | 24 | 25 |
| | 170-179-20T3/S0-3D | CFR D170-A45 | 26 | 28 |
| | 180-189-25T2/S0-3D | CFR D180-A45 | 27 | 30 |
| | 190-199-25T2/S0-3D | CFR D190-A45 | 29 | 33 |
| | 200-209-25T2/S0-3D | CFR D200-A45 | 30 | 36 |
| | 210-219-25T2/S0-3D | CFR D210-A45 | 32 | 39 |
| | 220-229-25T2/S0-3D | CFR D220-A45 | 33 | 42 |
| | 230-239-32T2/S0-3D | CFR D230-A45 | 35 | 45 |
| | 240-249-32T2/S0-3D | CFR D240-A45 | 36 | 48 |
| | 250-259-32T2/S0-3D | CFR D250-A45 | 38 | 51 |
| 5D | TCD 100-104-16T3/S0-5D | CFR D100-A45 | 28 | 28 |
| | 105-109-16T3/S0-5D | CFR D105-A45 | 29 | 30 |
| | 110-114-16T3/S0-5D | CFR D110-A45 | 31 | 33 |
| | 115-119-16T3/S0-5D | CFR D115-A45 | 32 | 35 |
| | 120-124-16T3/S0-5D | CFR D120-A45 | 33 | 45 |
| | 125-129-16T3/S0-5D | CFR D125-A45 | 34 | 40 |
| | 130-134-16T3/S0-5D | CFR D130-A45 | 36 | 43 |
| | 135-139-16T3/S0-5D | CFR D135-A45 | 37 | 43 |
| | 140-144-16T3/S0-5D | CFR D140-A45 | 38 | 48 |
| | 145-149-16T3/S0-5D | CFR D145-A45 | 39 | 48 |
| | 150-159-20T3/S0-5D | CFR D150-A45 | 41 | 53 |
| | 160-169-20T3/S0-5D | CFR D160-A45 | 43 | 58 |
| | 170-179-20T3/S0-5D | CFR D170-A45 | 46 | 63 |
| | 180-189-25T2/S0-5D | CFR D180-A45 | 48 | 68 |
| | 190-199-25T2/S0-5D | CFR D190-A45 | 51 | 73 |
| | 200-209-25T2/S0-5D | CFR D200-A45 | 53 | 78 |
| | 210-219-25T2/S0-5D | CFR D210-A45 | 56 | 79 |
| | 220-229-25T2/S0-5D | CFR D220-A45 | 58 | 84 |
| | 230-239-32T2/S0-5D | CFR D230-A45 | 61 | 89 |
| | 240-249-32T2/S0-5D | CFR D240-A45 | 63 | 94 |
| | 250-259-32T2/S0-5D | CFR D250-A45 | 66 | 99 |



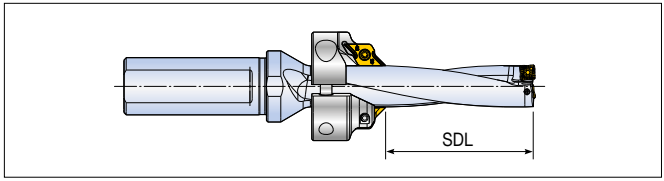
## Chamfering ring designation - DRILL-RUSH



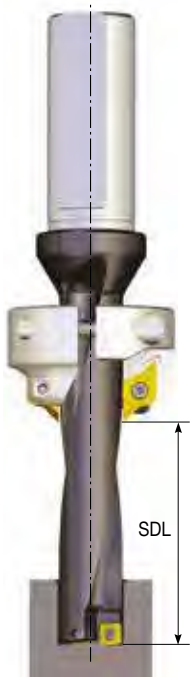

| | Designation | CFR designation | SDL | |
|---|---|---|---|---|
| | | | min | max |
| 8D | TCD 100-104-16T3/S0-8D | CFR D100-A45 | 45 | 58 |
| | 105-109-16T3/S0-8D | CFR D105-A45 | 49 | 62 |
| | 110-114-16T3/S0-8D | CFR D110-A45 | 49 | 66 |
| | 115-119-16T3/S0-8D | CFR D115-A45 | 53 | 70 |
| | 120-124-16T3/S0-8D | CFR D120-A45 | 53 | 74 |
| | 125-129-16T3/S0-8D | CFR D125-A45 | 57 | 78 |
| | 130-134-16T3/S0-8D | CFR D130-A45 | 57 | 82 |
| | 135-139-16T3/S0-8D | CFR D135-A45 | 61 | 84 |
| | 140-144-16T3/S0-8D | CFR D140-A45 | 61 | 88 |
| | 145-149-16T3/S0-8D | CFR D145-A45 | 65 | 92 |
| | 150-159-20T3/S0-8D | CFR D150-A45 | 65 | 96 |
| | 160-169-20T3/S0-8D | CFR D160-A45 | 69 | 103 |
| | 170-179-20T3/S0-8D | CFR D170-A45 | 73 | 111 |
| | 180-189-25T2/S0-8D | CFR D180-A45 | 77 | 118 |
| | 190-199-25T2/S0-8D | CFR D190-A45 | 81 | 126 |
| | 200-209-25T2/S0-8D | CFR D200-A45 | 85 | 134 |
| | 210-219-25T2/S0-8D | CFR D210-A45 | 89 | 142 |
| | 220-229-25T2/S0-8D | CFR D220-A45 | 93 | 150 |
| | 230-239-32T2/S0-8D | CFR D230-A45 | 97 | 158 |
| | 240-249-32T2/S0-8D | CFR D240-A45 | 101 | 166 |
| | 250-259-32T2/S0-8D | CFR D250-A45 | 105 | 174 |
| 12D | TCD 120-124-16S0-12D | CFR D120-A45 | 87 | 121 |
| | 125-129-16S0-12D | CFR D125-A45 | 90 | 127 |
| | 130-134-16S0-12D | CFR D130-A45 | 93 | 133 |
| | 135-139-16S0-12D | CFR D135-A45 | 96 | 137 |
| | 140-144-16S0-12D | CFR D140-A45 | 99 | 143 |
| | 145-149-16S0-12D | CFR D145-A45 | 102 | 149 |
| | 150-159-20S0-12D | CFR D150-A45 | 105 | 155 |
| | 160-169-20S0-12D | CFR D160-A45 | 111 | 166 |
| | 170-179-20S0-12D | CFR D170-A45 | 117 | 178 |
| | 180-189-25S0-12D | CFR D180-A45 | 123 | 189 |
| | 190-199-25S0-12D | CFR D190-A45 | 129 | 201 |
| | 200-209-25S0-12D | CFR D200-A45 | 135 | 213 |
| | 210-219-25S0-12D | CFR D210-A45 | 141 | 225 |
| | 220-229-25S0-12D | CFR D220-A45 | 147 | 237 |



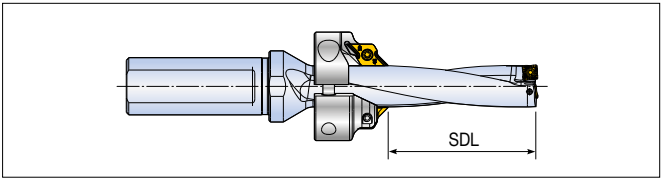
## Chamfering ring designation - TOP-DRILL and T-DRILL




| | TOP-DRILL | | T-DRILL | | CFR designation | SDL | |
|---|---|---|---|---|---|---|---|
| | | | | | | min | max |
| 3D | TOP | - | TDR | 3125-20T2-05 | CFR D125-A45 | 16 | 16 |
| | | - | | 3130-20T2-05 | CFR D130-A45 | 16 | 16 |
| | | - | | 3135-20T2-05 | CFR D135-A45 | 17 | 18 |
| | | 3140-20T2-05 | | 3140-20T2-05 | CFR D140-A45 | 17 | 18 |
| | | 3145-20T2-05 | | 3145-20T2-05 | CFR D145-A45 | 18 | 19 |
| | | 3150-20T2-05 | | 3150-20T2-05 | CFR D150-A45 | 18 | 19 |
| | | 3155-20T2-05 | | 3155-25T2-06 | CFR D160-A45 | 19 | 21 |
| | | 3160-20T2-05 | | 3160-25T2-06 | CFR D160-A45 | 19 | 21 |
| | | 3165-25T2-06 | | 3165-25T2-06 | CFR D170-A45 | 21 | 24 |
| | | 3170-25T2-06 | | 3170-25T2-06 | CFR D170-A45 | 22 | 24 |
| | | 3175-25T2-06 | | 3175-25T2-06 | CFR D180-A45 | 23 | 27 |
| | | 3180-25T2-06 | | 3180-25T2-06 | CFR D180-A45 | 23 | 26 |
| | | 3185-25T2-06 | | 3185-25T2-06 | CFR D180-A45 | 24 | 29 |
| | | 3190-25T2-06 | | 3190-25T2-06 | CFR D190-A45 | 25 | 29 |
| | | 3195-25T2-07 | | 3195-25T2-06 | CFR D190-A45 | 25 | 32 |
| | | 3200-25T2-07 | | 3200-25T2-06 | CFR D200-A45 | 26 | 32 |
| | | 3205-25T2-07 | | 3205-25T2-06 | CFR D200-A45 | 27 | 35 |
| | | 3210-25T2-07 | | 3210-25T2-06 | CFR D210-A45 | 27 | 35 |
| | | 3215-25T2-07 | | 3215-25T2-07 | CFR D210-A45 | 28 | 38 |
| | | 3220-25T2-07 | | 3220-25T2-07 | CFR D220-A45 | 29 | 38 |
| | | 3225-25T2-08 | | 3225-25T2-07 | CFR D220-A45 | 29 | 41 |
| | | 3230-25T2-08 | | 3230-25T2-07 | CFR D230-A45 | 30 | 41 |
| | | 3235-25T2-08 | | 3235-25T2-07 | CFR D230-A45 | 31 | 44 |
| | | 3240-25T2-08 | | 3240-25T2-07 | CFR D240-A45 | 31 | 44 |
| | | 3245-25T2-08 | | 3245-25T2-07 | CFR D240-A45 | 32 | 47 |
| | | 3250-25T2-08 | | 3250-25T2-07 | CFR D250-A45 | 33 | 47 |



## Chamfering ring designation - TOP-DRILL and T-DRILL




| | TOP-DRILL | | T-DRILL | | CFR designation | SDL | |
|---|---|---|---|---|---|---|---|
| | | | | | | min | max |
| 4D | TOP | - | TDR | 4125-20T2-05 | CFR D125-A45 | 25 | 26 |
| | | - | | 4130-20T2-05 | CFR D130-A45 | 25 | 26 |
| | | - | | 4135-20T2-05 | CFR D135-A45 | 27 | 30 |
| | | 4140-20T2-05 | | 4140-20T2-05 | CFR D140-A45 | 28 | 30 |
| | | 4145-20T2-05 | | 4145-20T2-05 | CFR D145-A45 | 29 | 34 |
| | | 4150-20T2-05 | | 4150-20T2-05 | CFR D150-A45 | 30 | 34 |
| | | 4155-20T2-05 | | 4155-25T2-06 | CFR D160-A45 | 31 | 37 |
| | | 4160-20T2-05 | | 4160-25T2-06 | CFR D160-A45 | 32 | 37 |
| | | 4165-25T2-06 | | 4165-25T2-06 | CFR D170-A45 | 33 | 41 |
| | | 4170-25T2-06 | | 4170-25T2-06 | CFR D170-A45 | 34 | 41 |
| | | 4175-25T2-06 | | 4175-25T2-06 | CFR D180-A45 | 35 | 45 |
| | | 4180-25T2-06 | | 4180-25T2-06 | CFR D180-A45 | 36 | 44 |
| | | 4185-25T2-06 | | 4185-25T2-06 | CFR D180-A45 | 37 | 48 |
| | | 4190-25T2-06 | | 4190-25T2-06 | CFR D190-A45 | 38 | 48 |
| | | 4195-25T2-07 | | 4195-25T2-06 | CFR D190-A45 | 39 | 52 |
| | | 4200-25T2-07 | | 4200-25T2-06 | CFR D200-A45 | 40 | 52 |
| | | 4205-25T2-07 | | 4205-25T2-06 | CFR D200-A45 | 41 | 56 |
| | | 4210-25T2-07 | | 4210-25T2-06 | CFR D210-A45 | 42 | 56 |
| | | 4215-25T2-07 | | 4215-25T2-07 | CFR D210-A45 | 43 | 60 |
| | | 4220-25T2-07 | | 4220-25T2-07 | CFR D220-A45 | 44 | 60 |
| | | 4225-25T2-08 | | 4225-25T2-07 | CFR D220-A45 | 45 | 64 |
| | | 4230-25T2-08 | | 4230-25T2-07 | CFR D230-A45 | 46 | 64 |
| | | 4235-25T2-08 | | 4235-25T2-07 | CFR D230-A45 | 47 | 68 |
| | | 4240-25T2-08 | | 4240-25T2-07 | CFR D240-A45 | 48 | 68 |
| | | 4245-25T2-08 | | 4245-25T2-07 | CFR D240-A45 | 49 | 72 |
| | | 4250-25T2-08 | | 4250-25T2-07 | CFR D250-A45 | 50 | 72 |



## Modular head replacement instructions

1. Remove both outer inserts, then remove the center drill head. (When clamping, go in the reverse order)



2. Use a wrench to turn the screw counter-clock-wise to remove the modular head.



3. Insert the setting gauge into the bottom of the disconnected modular head.



4. Rotate the screw to adjust to the same height with the setting gauge.





Setting gauge

| Drill dia. | Designation |
|---|---|
| D26-D29 | SG TNDH D26-29-TP |
| D30-D35 | SG TNDH D30-35-TP |
| D36-D39 | SG TNDH D36-39-TP |
| D40-D43 | SG TNDH D40-43-TP |
| D44-D50 | SG TNDH D44-50-TP |

5. Remove the height adjusted modular head from the setting gauge and attach it to the holder.



## Modular head disassembly in the event of center drill damage

If the modular head cannot be unclamped due to center drill damage, insert the wrench into the rear section of the shank. Then, turn it clock-wise to disassemble the modular head.





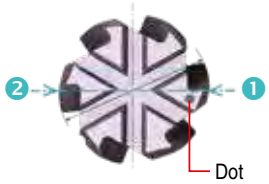
**Damaged center drill**




▸ Disassembling wrench and handle are included with the modular drill holder. (MDB Dxx/xx…)

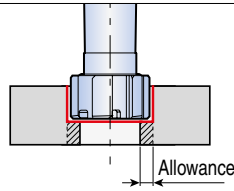
## XM-REAM user guide and notice

### How to check reamer diameter




Measure the dot side edge ❶ and opposite side edge ❷.

### Reaming allowance




| Material | Diameter | |
|---|---|---|
| | < Ø10 | Ø10-12 |
| Steel & Cast iron | 0.07-0.10 | 0.07-0.15 |
| Aluminum & brass | 0.07-0.10 | 0.10-0.15 |

* Based on diameter

Ex) Ø9.85-9.93 mm pre-hole is recommended for Ø10H7 reaming in cast iron.

### Caution

- To ensure smooth coolant flow, the dot and slot orientation of the head must be aligned as illustrated.

**O**



Dot orientation match between head and holder



Coolant hole slightly visible through flutes



Smooth coolant flow

**X**



Dot orientation mismatch between head and holder



Coolant hole is hidden by the flute

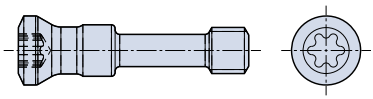


Reduced coolant flow

## Screw torque

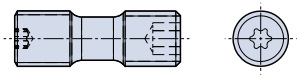
### For SPADE-RUSH

| Designation | Thread | Length | Torx | Tightening Torque |
|---|---|---|---|---|
| **TS 30138D33** | M3 | 13.8 | Torx 10 | 2.0 Nm |
| **TS 40178D25** | M4 | 17.8 | Torx 20 | 4.5 Nm |
| **TS 40198D28** | M4 | 19.8 | Torx 20 | 4.5 Nm |
| **TS 40210D3** | M4 | 21 | Torx 20 | 5.0 Nm |
| **TS 50230D3** | M5 | 23 | Torx 20 | 5.0 Nm |
| **TS 50250D35** | M5 | 25 | Torx 25 | 5.5 Nm |
| **TS 60265D4** | M6 | 26.5 | Torx 25 | 6.0 Nm |
| **TS 60285D42** | M6 | 28.5 | Torx 25 | 6.0 Nm |
| **TS 60320D5** | M6 | 31 | Torx 25 | 6.0 Nm |
| **TS 80340D6** | M8 | 34 | Torx 25 | 7.0 Nm |



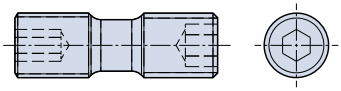
### For MODU-R-DRILL

| Designation | Thread | Length | Torx | Tightening Torque |
|---|---|---|---|---|
| **TDPS 0512-T7** | M5 | 12 | Torx 7 | 1.0 Nm |
| **TDPS 0618-T8** | M6 | 18 | Torx 8 | 2.0 Nm |



### For MODU-R-DRILL

| Designation | Thread | Length | Torx | Tightening Torque |
|---|---|---|---|---|
| **TDPS 0722-W3.0** | M7 | 22 | Hexa 3.0 mm | 5.0 Nm |



# Technical Data

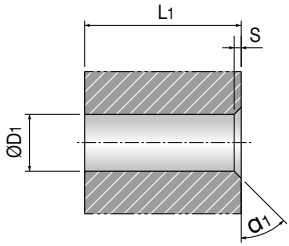
## Hole tolerance

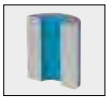
| Diameter D(mm) | | Tolerance (μm) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| >D | ≤D | B10 | C9 | C10 | D8 | D9 | D10 | E7 | E8 | E9 | F6 | F7 | F8 | G6 | G7 | H6 | H7 |
| – | 3 | +180<br>+140 | +85<br>+60 | +100<br>+60 | +34<br>+20 | +45<br>+20 | +60<br>+20 | +24<br>+14 | +28<br>+14 | +39<br>+14 | +12<br>+6 | +16<br>+6 | +20<br>+6 | +8<br>+2 | +12<br>+2 | +6<br>0 | +10<br>0 |
| 3 | 6 | +180<br>+140 | +100<br>+70 | +118<br>+70 | +48<br>+30 | +60<br>+30 | +78<br>+30 | +32<br>+20 | +38<br>+20 | +50<br>+20 | +18<br>+10 | +22<br>+10 | +28<br>+10 | +12<br>+4 | +16<br>+4 | +8<br>0 | +12<br>0 |
| 6 | 10 | +208<br>+150 | +116<br>+80 | +138<br>+80 | +62<br>+40 | +76<br>+40 | +98<br>+40 | +40<br>+25 | +47<br>+25 | +61<br>+25 | +22<br>+13 | +28<br>+13 | +35<br>+13 | +14<br>+5 | +20<br>+5 | +9<br>0 | +15<br>0 |
| 10 | 14 | +220<br>+150 | +138<br>+95 | +165<br>+95 | +77<br>+50 | +93<br>+50 | +120<br>+50 | +50<br>+32 | +59<br>+32 | +75<br>+32 | +27<br>+16 | +34<br>+16 | +43<br>+16 | +17<br>+6 | +24<br>+6 | +11<br>0 | +18<br>0 |
| 14 | 18 | | | | | | | | | | | | | | | | |
| 18 | 24 | +244<br>+160 | +162<br>+110 | +194<br>+110 | +98<br>+65 | +117<br>+65 | +149<br>+65 | +61<br>+40 | +73<br>+40 | +92<br>+40 | +33<br>+20 | +41<br>+20 | +53<br>+20 | +20<br>+7 | +28<br>+7 | +13<br>0 | +21<br>0 |
| 24 | 30 | | | | | | | | | | | | | | | | |
| 30 | 40 | +270<br>+170 | +182<br>+120 | +220<br>+120 | +119<br>+80 | +142<br>+80 | +180<br>+80 | +75<br>+50 | +89<br>+50 | +112<br>+50 | +41<br>+25 | +50<br>+25 | +64<br>+25 | +25<br>+9 | +34<br>+9 | +16<br>0 | +25<br>0 |
| 40 | 50 | +280<br>+180 | +192<br>+130 | +230<br>+130 | | | | | | | | | | | | | |
| 50 | 65 | +310<br>+190 | +214<br>+140 | +260<br>+140 | +146<br>+100 | +174<br>+100 | +220<br>+146 | +90<br>+60 | +106<br>+60 | +134<br>+60 | +49<br>+30 | +60<br>+30 | +76<br>+30 | +29<br>+10 | +40<br>+10 | +19<br>0 | +30<br>0 |
| 65 | 80 | +320<br>+200 | +224<br>+150 | +270<br>+150 | | | | | | | | | | | | | |

## Hole tolerance

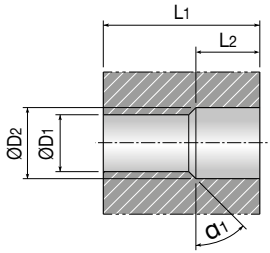
| Tolerance (μm) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H8 | H9 | H10 | JS6 | JS7 | K6 | K7 | M6 | M7 | N6 | N7 | P6 | P7 | R7 | S7 | T7 | U7 | X7 |
| +14<br>0 | +25<br>0 | +40<br>0 | ±3 | ±5 | 0<br>-6 | 0<br>-10 | -2<br>-8 | -2<br>-12 | -4<br>-10 | -4<br>-14 | -6<br>-12 | -6<br>-16 | -10<br>-20 | -14<br>-24 | – | -18<br>-28 | -20<br>-30 |
| +18<br>0 | +30<br>0 | +48<br>0 | ±4 | ±6 | +2<br>-6 | +3<br>-9 | -1<br>-9 | 0<br>-12 | -5<br>-13 | -4<br>-16 | -9<br>-17 | -8<br>-20 | -11<br>-23 | -15<br>-27 | – | -19<br>-31 | -24<br>-36 |
| +22<br>0 | +36<br>0 | +58<br>0 | ±4.5 | ±7.5 | +2<br>-7 | +5<br>-10 | -3<br>-12 | 0<br>-15 | -7<br>-16 | -4<br>-19 | -12<br>-21 | -9<br>-24 | -13<br>-28 | -17<br>-32 | – | -22<br>-37 | -28<br>-43 |
| +27<br>0 | +43<br>0 | +70<br>0 | ±5.5 | ±9 | +2<br>-9 | +6<br>-12 | -4<br>-15 | 0<br>-18 | -9<br>-20 | -5<br>-23 | -15<br>-26 | -11<br>-29 | -16<br>-34 | -21<br>-39 | – | -26<br>-44 | -33<br>-51<br>-38<br>-56 |
| +33<br>0 | +52<br>0 | +84<br>0 | ±6.5 | ±10.5 | +2<br>-11 | +6<br>-15 | -4<br>-17 | 0<br>-21 | -11<br>-24 | -7<br>-28 | -18<br>-31 | -14<br>-35 | -20<br>-41 | -27<br>-48 | –<br>-33<br>-54 | -33<br>-54<br>-40<br>-61 | -46<br>-67<br>-56<br>-77 |
| +39<br>0 | +62<br>0 | +100<br>0 | ±8 | ±12.5 | +3<br>-13 | +7<br>-18 | -4<br>-20 | 0<br>-25 | -12<br>-28 | -8<br>-33 | -21<br>-37 | -17<br>-42 | -25<br>-50 | -34<br>-59 | -39<br>-64<br>-45<br>-70 | -51<br>-76<br>-61<br>-86 | – |
| +46<br>0 | +74<br>0 | +120<br>0 | ±9.5 | ±15 | +4<br>-15 | +9<br>-21 | -5<br>-24 | 0<br>-30 | -14<br>-33 | -9<br>-39 | -26<br>-45 | -21<br>-51 | -30<br>-60<br>-32<br>-62 | -42<br>-72<br>-48<br>-78 | -55<br>-85<br>-64<br>-94 | -76<br>-106<br>-91<br>-121 | – |

## Specific dimensions

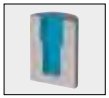


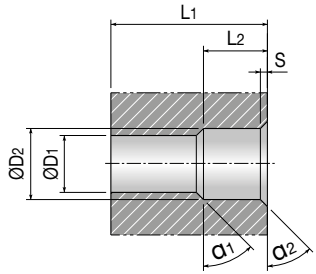

Through ☐ Blind ☐
ØD1 L1
α1 S
•Hole tolerance







Through ☐ Blind ☐
ØD1 ØD2
L1 L2
α1
•Hole tolerance







Through ☐ Blind ☐
ØD1 ØD2
L1 L2
α1 α2
S
•Hole tolerance

**Comment**

**Drill type**

•TOPDRILL ☐
•T-DRILL ☐

**Technical data**

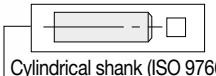
•Machine type
MCT ☐ Lathe ☐
Vertical ☐ Horizontal ☐
Machine name
Power kW

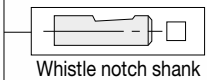
•Coolant supply
Internal ☐ External ☐
Coolant pressure bar
Coolant type

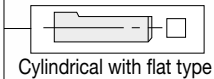
**Workpiece**

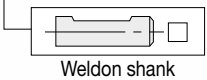
•Part
•Material
•Hardness

**Shank type**


Cylindrical shank (ISO 9766)


Whistle notch shank

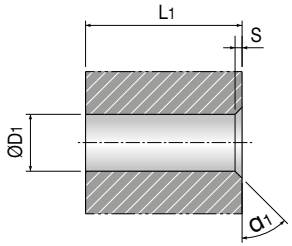

Cylindrical with flat type

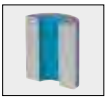
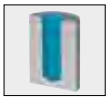

Weldon shank

# Tailor-made Order Form

DRILLRUSH

## Specific dimensions



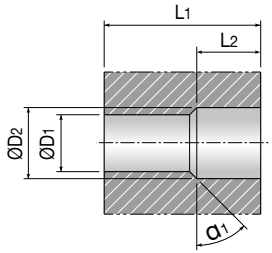




Through ☐ Blind ☐

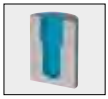
ØD1 _____ L1 _____

α1 _____ S _____

•Hole tolerance _____







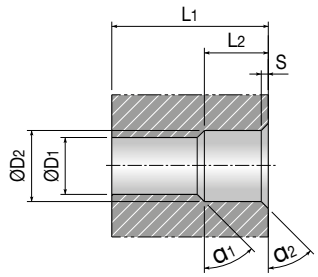
Through ☐ Blind ☐

ØD1 _____ ØD2 _____

L1 _____ L2 _____

α1 _____

•Hole tolerance _____







Through ☐ Blind ☐

ØD1 _____ ØD2 _____

L1 _____ L2 _____

α1 _____ α2 _____

S _____

•Hole tolerance _____

**Comment**

**Technical data**

•Machine type

MCT ☐ Lathe ☐

Vertical ☐ Horizontal ☐

Machine name _____

Power _____ kW

•Coolant supply

Internal ☐ External ☐

Coolant pressure _____ bar

Coolant type _____

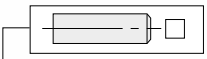
**Workpiece**

•Part _____

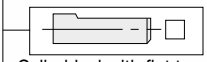
•Material _____

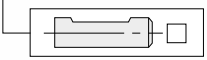
•Hardness _____

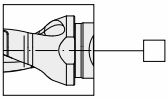
**Shank type**

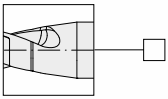

Cylindrical shank (ISO 9766)


Whistle notch shank


Cylindrical with flat type


Weldon shank



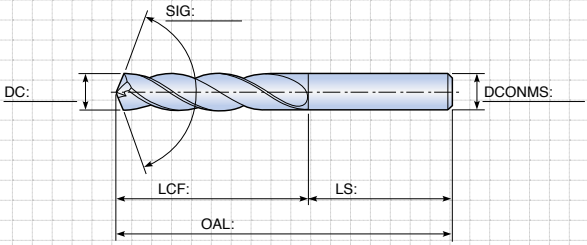


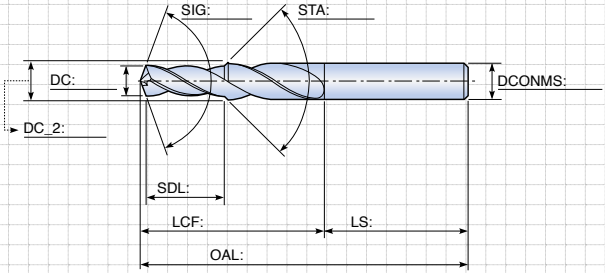
•Shank dia: _____

•Shank length: _____

# Tailor-made Order Form

## Specific dimensions




• DC, DC_2 would be hole dimensions and please note hole tolerance if possible

**Technical data**

- Machine type
  - MCT ☐ Lathe ☐
  - Vertical ☐ Horizontal ☐
  - Machine name _____
  - Power _____ kW
- Coolant supply
  - Internal ☐ External ☐
  - Coolant pressure _____ bar
  - Coolant type _____

**Workpiece**

- Part _____
- Material _____
- Hardness _____

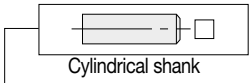
**Hole type**

- Blind hole _____ ☐
- Through hole _____ ☐

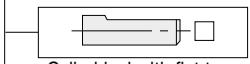
**Coating**

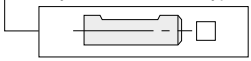
- TiAlN _____ ☐
- Non-coated _____ ☐

**Shank type**


Cylindrical shank


Whistle notch shank


Cylindrical with flat type


Weldon shank

**Comment**

# Tailor-made Order Form

## Deep hole drilling order form

★: Mandatory data field

| | |
|---|---|
| Campany name : | Inquiry number : |
| Address : | Inquiry date : |
| Contact person : | Customer No : |

| Workpiece (If possible,please attach a drawing) | | | |
|---|---|---|---|
| Product name | | | |
| Hole diameter (ø) | (mm) | | |
| Hole depth (drilling length) | (mm) | | |
| No. of holes | | | |
| Tolerance (of hole) | | | |
| Surface finish (Rz,Ra...) | | | |
| Deviation (mm/100) | | | |
| Straightness (mm/100) | | | |
| **Material** | | | |
| Material (DIN,AISI,JIS...) | | | |
| Hardness (HB,HS,HRC...) | | | |
| Condition ★ | ☐ Annealed | ☐ Quenched | ☐ Tempered |
| | ☐ Cast | ☐ | |
| | ☐ Other | ☐ | |

| Machine | | | |
|---|---|---|---|
| Machine supplier name | | | |
| Machine type/model | | | |
| Rigidity | ☐ Good | ☐ Normal | ☐ Bad |
| Date of manufacture | | | |
| Retrofitted | ☐ NC lathe | ☐ M/C | ☐ Other |
| Double rotation (TR/WR) | ☐ Tool and workpiece | | |
| Rotating workpiece (WR) | ☐ | | |
| Rotating tool (TR) | ☐ | | |
| Safety devices | | | |
| Motor power | (kW) | | |

| Type of coolant | | | |
|---|---|---|---|
| Coolant supplier name | | | |
| Water based | ☐ Soluble | ☐ Emulsion | % |
| Oil based | ☐ | | |
| Coolant pressure | (bar) | | |
| Coolant volume | (L/min) | | |

# Tailor-made Order Form

## ▶ Deep hole drilling order form

★: Mandatory data field

| Tool (Drill head) | | | |
|---|---|---|---|
| Drill diameter(ø) | | (mm) | |
| Thread | ☐ Inner | ☐ Outer | |
| Brazed | ☐ | | |
| Indexable | ☐ Adjustable | ☐ Direct mount | ☐ |
| Coating | ☐ Coated | ☐ Uncoated | |
| Coating type | ☐ TiN | ☐ TiAlN | ☐ Other |
| • Solid drilling | ☐ | | |
| • Counterboring | ☐ | | |
| Cutting angle★<br>Brazed indexable | ☐ 20° | ☐ 45° | |
| | ☐ Nomal angle | ☐ Close angle | |
| Pre-bored size(per side) | | (mm) | |
| Bottom finishing★ | ☐ Fullball R | ☐ Flatbottom R | ☐ Corner R |
| | ☐ Compound R | | |
| • Trepanning | ☐ | | |
| Core size(ø) | | (mm) | ☐ |
| Tube inner dia(ø) | | (mm) | |
| Tube outer dia(ø) | | (mm) | |
| **Tube** | | | |
| Outside dia(ø) | | (mm) | |
| Total length(L) | | (mm) | |
| Internal thread | ☐ | | |
| External thread | ☐ 4 Starts | ☐ 2 Starts | ☐ 1 Starts |
| Tube thread | ☐ 1 end | ☐ Both ends | |
| Inner tube length | | (mm) | |
| Inner tube slit | ☐ 1 end | ☐ Both ends | |

| Drilling system | | |
|---|---|---|
| Single tube system | ☐ | STS |
| Double tube system | ☐ | DTS |

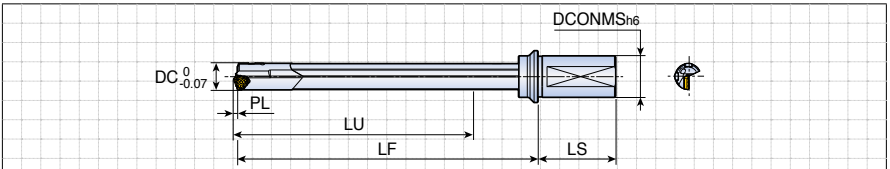
| Boring conditions | |
|---|---|
| Through hole drilling | ☐ |
| Blind hole drilling | ☐ |
| Cross hole drilling★ | ☐ |

★ **Please sketch your drilling application**

| General information | Production | | | |
|---|---|---|---|---|
| Quantity per year: | | | | |
| Present performance status: | | | | |
| grade, tool life, etc: | | | | |
| Cutting data: | Vc= | m/min, | N= | rpm |
| | f= | mm/rev, | F= | mm/min |

# Tailor-made Order Form

## ▶ Deep hole drilling order form




Sketch of drilling application

• Note: It may be necessary to change several of the parameters that you indicated based on our experience with your application.

| Tool | |
|---|---|
| Quantity | |
| Nominal diameter and tolerance | |
| - Please fill in dimensions on the sketch above. | |
| Driver | |
| Code No | |

- For standard drivers, please use codes from next pages and for special drivers, please attach sketch and specifications.

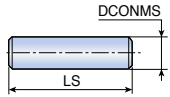
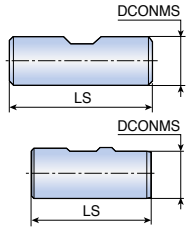
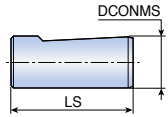
| Workpiece (If possible, please attach a drawing) | | |
|---|---|---|
| Material description (DIN material number or any other standard) | | |
| Hardness and properties | | |
| Hole type | | ☐ Blind hole ☐ Through hole ☐ Drilling into pre-hole<br>☐ Angled entry ☐ Drilling into solid ☐ Boring<br>☐ Angled exit |
| Drilling depth | | mm |
| Hole tolerance | | |
| Application | Workpiece | ☐ Stationary ☐ Rotating |
| | Tool | ☐ Stationary ☐ Rotating |

| Machine | | | |
|---|---|---|---|
| Machine type | | | |
| Power | | kW | |
| Cutting data | Cutting speed (Vc) | m/min | |
| | Revolutions | **N**min : RPM | **N**max : RPM |
| | Feed | **F**min : mm/rev | **F**min : mm/rev |
| | Feed rate (VF) | mm/min | |
| Coolant | Coolant type | ☐ Oil ☐ Soluble oil ☐ Other | |
| | Coolant pressure | Bar | |
| | Coolant volume | liter/min | |

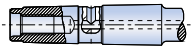
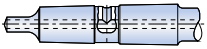
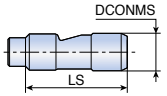
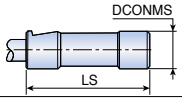
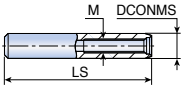
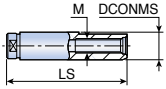
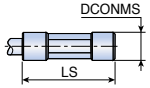
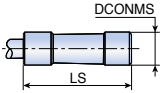
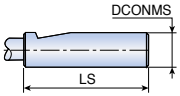
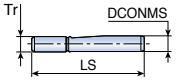
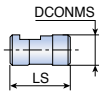
## Standard gundrill drivers for machining centers and lathes

### Drivers

Drivers are available for dedicated and CNC machines as well as any specified diameter or length. Please note that the driver codes and technical data can be found in the chart below.

| Driver type | Drawing | DCONMS x LS | Driver code |
|---|---|---|---|
| Cylindrical DIN1835A DIN6535HA |  | 20x50 | 10 |
| | | 25x56 | 11 |
| | | 32x60 | 12 |
| | | 40x70 | 13 |
| | | .75x2.03" | 95 |
| | | 1.00x2.28" | 96 |
| | | 1.25x2.28" | 97 |
| Weldon DIN1835B DIN6535HB |  | 20x50 | 22 |
| | | 25x56 | 23 |
| | | 32x60 | 24 |
| | | 40x70 | 25 |
| | | .75x2.03" | 99 |
| | | 1.00x2.28" | 100 |
| | | 1.25x2.28" | 101 |
| Whistle notch DIN1835E |  | 20x50 | 34 |
| | | 25x56 | 35 |
| | | 32x60 | 36 |
| | | 40x70 | 37 |

## Standard drivers for gundrill machines

| Driver type | Drawing | DCONMS x LS | Driver code |
|---|---|---|---|
| DIN228AK |  | CM2 | 46 |
| | | CM3 | 47 |
| | | CM4 | 48 |
| DIN228BK |  | CM2 | 50 |
| | | CM3 | 51 |
| | | CM4 | 52 |
| Central clamping surface 15° |  | .750x2.75” | 56 |
| | | 25x70 | 57 |
| | | 1.00x2.75” | 58 |
| | | 1.25x2.75” | 59 |
| | | 1.50x2.75” | 60 |
| Frontal clamping surface 15° |  | 16x50 | 61 |
| Cylindrical with thread |  | 25x100 M16x1.5 | 66 |
| | | 36x120 M24x1.5 | 67 |
| VDI design |  | 25x112 M16x1.5 | 70 |
| | | 36x135 M24x1.5 | 71 |
| Central clamping hexagonal |  | 25x70 | 72 |
| | | 32x70 | 73 |
| Central clamping tapered |  | .75x2.75” | 76 |
| | | 20x70 | 77 |
| Frontal clamping surface 2° |  | 1.00x2.75” | 80 |
| | | 1.00x3.94” | 81 |
| | | 1.25x2.75” | 82 |
| | | 1.25x3.94” | 83 |
| | | 1.50x2.75” | 84 |
| | | 1.50x3.94” | 85 |
| Trapezoidal thread |  | 28x126 Tr 28x2 | 88 |
| | | 36x162 Tr 36x2 | 89 |
| Spraymist driver |  | 25x50 | 91 |
| | | 35x60 | 92 |

## Reamer order form

★: Mandatory data field

Date: Subsidiary:

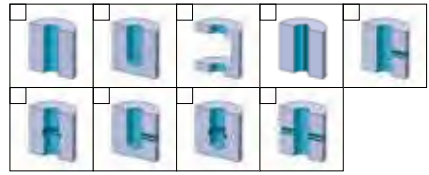
Company★ : Enquiry dead line:

Contact person:

Address:

| Request reason | |
|---|---|
| New tool ☐ | Problem ☐ |
| Quality | |
| Cycle time | |
| Alternative supplier | |
| Other | |

| Existing tool | |
|---|---|
| Maker | |
| Tool type | |
| Speed & Feed | |
| Tool life | |
| No of teeth | |
| Coolant type | |

| Workpiece | |
|---|---|
| Description★ | |
| Hardness★ | |
| Pre-hole size★ | (Tolerance : ) |
| Depth★ | |
| Bore type |  |
| Clamping information | |

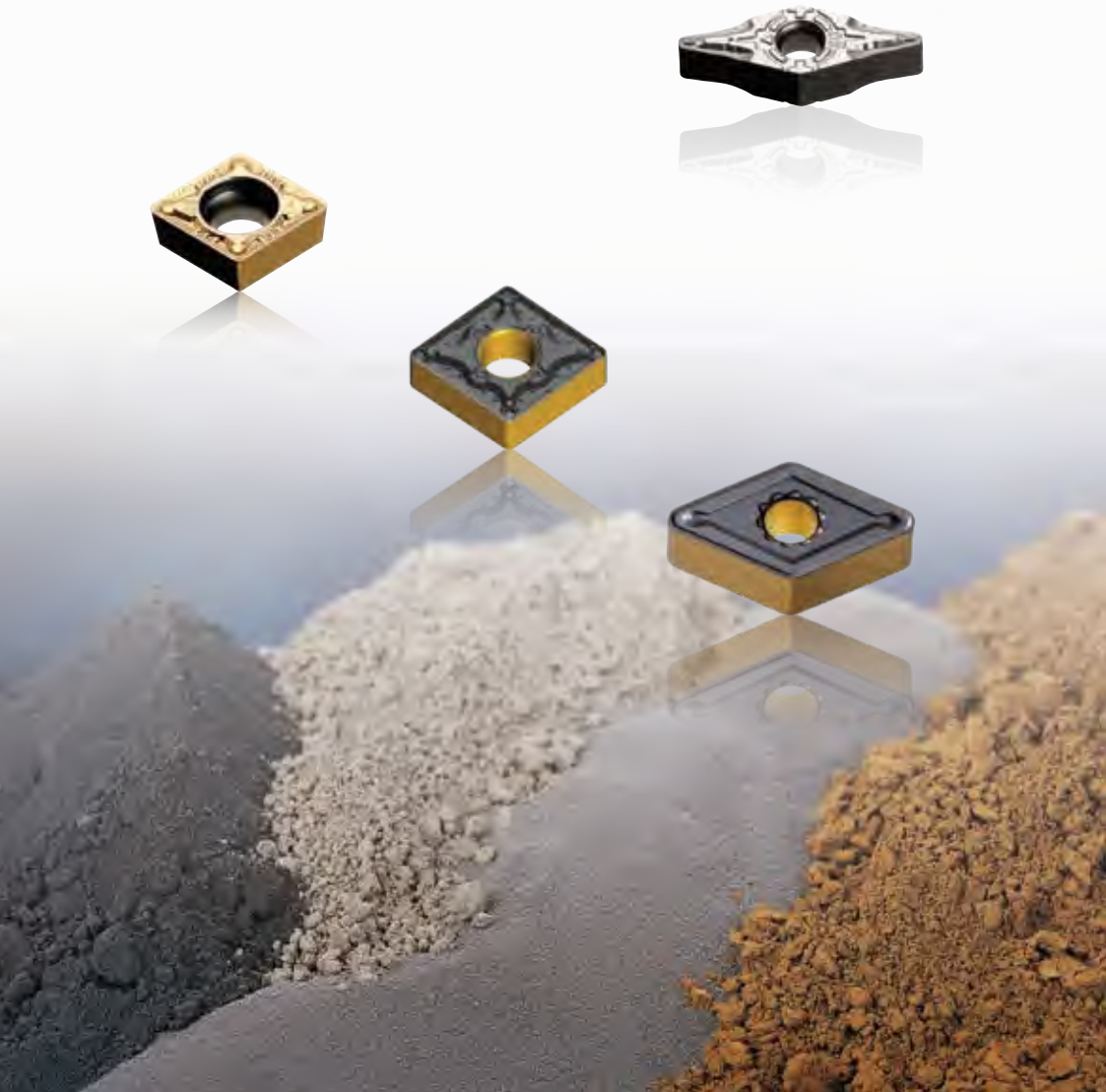
| Machine | | |
|---|---|---|
| Model | | |
| Type★ | vertical | ☐ |
| | horizontal | ☐ |
| | multi-spindle | ☐ |
| Adaption★ | | |
| Max RPM | | |
| Power | | |
| Spindle accuracy | | |
| Coolant | | |

| Lubricant | |
|---|---|
| Oil | ☐ |
| MQL | ☐ |
| Emulsion | ☐ |
| Ratio of mixture | |
| Coolant pressure | |

| Quality requirement | |
|---|---|
| Tolerance★ | |
| Surface finish(Ra)★ | |
| Roundness | |
| Straightness | |
| Cylindricity | |
| Concentricity | |

| Tool | | | | |
|---|---|---|---|---|
| Type★ | TM(Index multi-edge) ☐ | TB(Single blade) ☐ | TS(Solid) ☐ | Other ☐ ( ) |
| Diameter★ | | | | |
| Depth of cut★ | | | | |
| Coolant★ | Internal ☐ | External ☐ | | |
| Shank type★ | | | | |
| Holder type | Collet ☐ | Hydraulic ☐ | Other ☐ | |
| Adjustable adaptor | Yes ☐ | No ☐ | | |

# MATERIALS & GRADES



# Grade Comparison Table

## Turning grades

| ISO class | TaeguTec | Sandvik | Walter | Seco | Kennametal | MMC | Sumitomo | Tungaloy | Kyocera | Korloy | Iscar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | TT8105B<br>TT8105 | GC4305<br>GC4205 | WKP01G<br>WPP05S<br>WPP05 | TP0501<br>TP0500 | KCP05 | UE6105<br>UE6005 | AC810P | T9205<br>T9105<br>T9005 | CA510<br>CA5505 | | |
| | TT8115B<br>TT8115 | GC4415<br>GC4315 | WKP10G<br>WEP10C<br>WPP10S<br>WPP10<br>WPV10 | TP1501<br>TP1500 | KCP10<br>KCP10B | MC6115<br>MC6015<br>UE6110 | AC8015P<br>AC820<br>AC1000 | T9215<br>T9115<br>T9015 | VP5115<br>CA515<br>CA5515<br>PR1705 | NC3215<br>NC3010 | IC807<br>IC8150<br>IC9150 |
| | TT8125B<br>TT8125<br>TT5100<br>TT9080 | GC4425<br>GC4325 | WNN10<br>WPP20G<br>WPP20S<br>WMP20S<br>WPV20 | TP2501<br>TP2500<br>TP25 | KCU10B<br>KCP25<br>KCP25B | MC6125<br>MC6025<br>UE6020<br>VP10RT<br>MS7025<br>VP15TF | AC8025P<br>AC2000<br>AC1030U<br>ACZ150<br>AC5005S<br>AC5025S<br>AC520U | T9225<br>T9125<br>T9025<br>AH7025<br>AH730 | CA025P<br>VP5125<br>CA525<br>CA5525<br>PR930<br>PR1025<br>PR1725 | NC3225<br>NC3220<br>NC5330<br>NC3120<br>PC5300 | IC8250<br>IC9250 |
| | TT8135B<br>TT8135<br>TT7100<br>TT8080<br>TT8020 | GC4335<br>GC4235<br>GC2135 | WPP30G<br>WPP30S<br>WPP30 | TP3501<br>TP3500 | KCP30<br>KCP30B<br>KCP40 | MC6035<br>UH6400 | AC8035P<br>AC830P<br>AC3000 | T9235<br>T9135<br>T9035 | CA530<br>CA5535<br>PR1535 | NC500H<br>NC5340<br>NC5350<br>NC3030<br>PC5400 | IC8350<br>IC9350<br>IC830 |
| M | TT9215<br>TT5080<br>TT3020 | GC2015<br>GC1115 | WNN10<br>WSM01<br>WSM10<br>WSM10S<br>WAM10 | TM1501<br>TM2000<br>TH1000<br>TS2000<br>TS2050<br>CP200 | KCM15B<br>KCM15<br>KCU10<br>KCU10B<br>KCS10<br>KC5510<br>KC5010 | MC7015<br>US7020<br>VP10RT<br>MS6015 | AC6020M<br>AC610M<br>AC5005S<br>AC5015S<br>AC510U<br>ACZ150<br>AC520U | T6120<br>AH110<br>AH120<br>AH8005<br>AH8015 | KX409<br>CA6515<br>PR930 | NC9115<br>NC9020<br>PC8105<br>PC8110 | IC6015<br>IC807<br>IC804 |
| | TT9225<br>TT9080 | GC2025<br>GC2220<br>GC1125 | WMP20S<br>WSM20<br>WSM21 | TM2501<br>TS2500<br>CP500 | KCM25B<br>KCM25<br>KCU25<br>KC5525<br>KC5025 | MC7025<br>US735<br>MH515<br>MS7025<br>MS9025<br>VP15TF<br>VP20MF<br>VP20RT<br>UP20M | AC6030M<br>AC630M<br>AC5025S<br>AC6040M<br>AC1030U<br>AC530U | T6130<br>AH630<br>AH725<br>AH7025<br>GH110 | CA6525<br>PR1025<br>PR1125<br>PR1225<br>PR1425<br>PR1725<br>PR120S | NC9125<br>NC5330<br>NC5340<br>PC8115<br>PC5300<br>PC9030<br>PC9035 | IC6025 |
| | TT9235<br>TT8080<br>TT8020 | GC2135<br>GC2035<br>GC30 | WSM30<br>WAM30 | TM3501<br>TM4000<br>CP600 | KCM35B<br>KCM35 | MP7035<br>UH6400<br>MP7035 | AC6040M | AH6030<br>T6030<br>AH645 | PR1325<br>PR1535 | NC9135<br>NC5350<br>PC5400 | IC5400<br>IC3028<br>IC830 |
| K | TT7005 | GC3205<br>GC3005 | WKK10S<br>WAK10 | TK0501<br>TK1001<br>TK1000 | KCK05 | MC5005<br>UC5105 | AC405K | T5105<br>T5010 | CA310<br>CA4505<br>CA4010 | NC6310<br>NC6205<br>NC6105 | IC5005<br>IC4028 |
| | TT7015 | GC3210<br>GC3015 | WKK20S<br>WAK20 | TK1501<br>TK2001<br>TK2000 | KCK15<br>KCK15B | MC5015<br>UC5115 | AC410K<br>AC415K | T5115<br>T5020<br>T515 | CA315<br>CA4515<br>CA4115 | NC6315<br>NC6210<br>NC6110 | IC5010 |
| | TT7025 | GC3215<br>GC3225 | WAK30 | | KCK20B<br>KCK20 | MH515 | AC420K | T5125 | CA320<br>CA4120 | NC6215 | IC8150 |
| S | TT3005<br>TT5080<br>TT3010 | GCS05F<br>GC1105<br>GC1115 | WNN10<br>WSM01 | CP200<br>CP250<br>TH1000<br>TH1500<br>TS2000<br>TS2050<br>TS2500 | KCU10<br>KCU10B<br>KCS10<br>KCS10B<br>KC5510<br>KC5010 | MV9005<br>US905<br>MP9005<br>MP9015<br>VP05RT<br>VP10RT | AC5005S<br>AC5015S<br>AC510U<br>ACZ1500 | AH8005<br>AH110<br>AH905<br>AH8015 | PR1305<br>PR115S | PC8105<br>PC8110 | IC804<br>IC807<br>IC806<br>IC1007<br>IC907 |
| H | TT3020<br>TT9080<br>TT8080 | GC15<br>GC1125<br>GC1135<br>GC1515<br>GC1525<br>S205 | WSM10<br>WSM10S<br>WSM21<br>WSM20<br>WSM20S<br>WSM30<br>WSM30S | TS2500<br>CP500<br>CP600 | KCU25<br>KCU30<br>KC5525<br>KC5025 | MS6015<br>VP15TF<br>VP20RT<br>MP9025<br>MS9025<br>MS7025 | AC520U<br>AC5025S<br>AC6040M<br>AC1030U<br>AC530U | AH9030<br>AH120<br>AH725<br>AH7025<br>SH730<br>AH7025<br>AH6030 | PR1310<br>PR005S<br>PR015S<br>PR115S<br>PR120S<br>PR1125<br>PR1325<br>PR1535 | PC8115<br>PC5300<br>PC5400<br>PC9035 | IC808<br>IC908<br>IC830 |

# Grade Comparison Table

## ▶ Miniature turning grades

| ISO class | TaeguTec | ARNO | Diametal | Kyocera | NTK | Tungaloy | Sumitomo | Horn |
|---|---|---|---|---|---|---|---|---|
| P | TT4410<br>TT4430<br>TT9020 | AM5015<br>AM5025<br>AM5020<br>AM5120<br>AM5120+<br>AP7220<br>AP5030<br>AM5040 | D60<br>D30<br>D10 | PR1705<br>PR1725<br>PR1425<br>PR1005<br>PR1025<br>PR1115<br>PR1225<br>PR930<br>PR1535 | VM1<br>DM4<br>DT4<br>TM4<br>ZM3<br>QM3<br>CP7 | AH710<br>SH725<br>SH730<br>AH725<br>AH7025<br>AH730<br>AH9030<br>AH120<br>AH130<br>AH3135 | ACZ150<br>AC5015S<br>AC5025S<br>AC530U<br>AC1030U | TH35 (TiAlN)<br>TI25(TiCN)<br>TN35(TiN) |
| M | TT4410<br>TT4430<br>TT9020 | AM5110<br>AN5015<br>AM5025<br>AM5020<br>AM5120<br>AM5120+<br>AM5220<br>AM5130<br>AP7220<br>AP5030<br>AM5040 | D60<br>D30<br>D20<br>D10 | PR1705<br>PR1725<br>PR1425<br>PR1025<br>PR1125<br>PR1225<br>PR930<br>PR1535 | ST4<br>VM1<br>DM4<br>DT4<br>TM4<br>ZM3<br>QM3 | AH710<br>SH725<br>AH725<br>AH120<br>AH130 | ACZ150<br>AC5015S<br>AC5025S<br>AC530U<br>AC1030U | TH35 (TiAlN)<br>TI25(TiCN)<br>TN35(TiN) |
| S | TT4410<br>TT4430<br>TT9020 | AM5110<br>AM5015<br>AM5025<br>AM5120<br>AM5120+<br>AM5220<br>AM5130<br>AP7220<br>AP5030 | D60<br>D30<br>D20 | PR1305<br>PR1310<br>PR1325<br>PR1125<br>PR1535 | DM4<br>DT4<br>TM4<br>QM3<br>ZM3 | AH905<br>AH8005<br>AH8015<br>AH110<br>SH730<br>AH725<br>AH120 | ACZ150<br>AC5015S<br>AC5025S<br>AC530U<br>AC1030U | TH35 (TiAlN)<br>TI25(TiCN)<br>TN35(TiN) |

# Grade Comparison Table

## ▶ Parting & Grooving Grades

| ISO class | TaeguTec | Sandvik | Walter | Seco | Kennametal | MMC | Sumitomo | Tungaloy | Kyocera | Korloy | Iscar |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P | TT5100<br>TT9080<br>TT9030<br>TT4430<br>TT9010<br>TT7220<br>TT8020 | CT525<br>GC3115<br>GC5015<br>GC4325<br>GC4225<br>GC1125<br>GC1225<br>GC2135<br>GC1135<br>GC1145 | WSM13S<br>WKP23S<br>WSM23S<br>WKP33S<br>WSM33G<br>WSM33S<br>WSM43S | CP200<br>TGP25<br>TGP35<br>TGP45<br>CP30<br>T25M<br>T350M<br>CP500<br>CP600 | KCP10<br>KCP10B<br>KCP25<br>KCP25B<br>KT315<br>KC9110<br>KC9125<br>KC5010<br>KC5025<br>KCU10<br>KCU25<br>KCM35B | NX2525<br>NY5015<br>VP10RT<br>VP20RT<br>RT9010<br>RT9020 | AC8025P<br>AC830P<br>AC8035P<br>AC530U<br>ACZ150<br>AC510U<br>AC520U<br>AC5025S<br>AC530U<br>AC1030U<br>T2500A | AH8005<br>GH130<br>AH725<br>T9215<br>AH725<br>AH7025<br>T9225<br>SH730<br>GH730<br>SH730<br>NS9530<br>T9530<br>AH6235<br>AH710<br>J740<br>TX10S<br>UX30 | PV7040<br>PR915<br>PR1115<br>PR1215<br>TN620<br>TN6020<br>TN60<br>TN90<br>TC40<br>TC60<br>CR9025<br>PR1025<br>PR1225<br>PR1625<br>PR930<br>PR630<br>PR660<br>PR1535 | CN20<br>A30<br>NC3020<br>NC3120<br>NC3225<br>NC3030<br>NC5330<br>NC9025<br>PC8110<br>PC3535<br>PC5300<br>PC9030<br>PC3035<br>PC230 | IC20N<br>IC907, IC507<br>IC1007<br>IC9015,<br>IC9025,<br>IC9054<br>IC807(907)<br>IC808(908)<br>IC1008<br>IC8250<br>IC250(950)<br>IC5400<br>IC354, IC328<br>IC830(928)<br>IC228 |
| M | TT5100<br>TT3010<br>TT9080<br>TT9030<br>TT4430<br>TT3020<br>TT7220<br>TT8020 | H13A<br>GC1005<br>GC1105<br>GC5015<br>GC1125<br>GC1225<br>GC2135<br>GC1135<br>GC1145 | WSM13S<br>WSM23S<br>WSM33G<br>WSM33S<br>WSM43S | CP200<br>TGP25<br>TGP35<br>TGP45<br>TGS2050<br>T25M<br>T350M<br>890<br>CP500<br>HX<br>883<br>CP600 | K313<br>KCU10<br>KC5010<br>KCU25<br>KC5025<br>KCM35B | VP10RT<br>VP20RT | AC8035P<br>ACZ150<br>AC510U<br>AC5015S<br>AC520U<br>AC5025S<br>AC530U<br>AC1030U<br>AC6040M | AH8005<br>GH130<br>AH725<br>SH725<br>SH7025<br>AH6235<br>SH730<br>GH730<br>J740<br>AH710 | PV7040<br>PR915<br>PR1115<br>PR1215<br>TN620<br>TN6020<br>TN60<br>TN90<br>TC40<br>TC60<br>CR9025<br>PR1025<br>PR1225<br>PR930<br>PR630<br>PR660<br>PR1535 | NC9025<br>NC5330<br>PC8110<br>PC9030<br>PC3035<br>PC5300 | IC1007<br>IC807<br>IC907<br>IC808(908)<br>IC1008<br>IC8250<br>IC5400<br>IC1028(830,<br>928)<br>IC354, IC328<br>IC228 |
| K | K10<br>TT7505<br>TT6080<br>TT9080<br>TT9030 | H13A<br>GC3115<br>GC4225<br>GC4425<br>GC1125<br>GC1225<br>GC1025<br>GC1125<br>GC1135 | WTA33<br>WKP13S<br>WAK20<br>WKP23S<br>WAK30<br>WKP33S<br>WSM33G<br>WSM33S<br>WPP23 | TGH1050<br>TGK1500<br>CBN200<br>CP200<br>890<br>HX<br>TGP25<br>TGP35<br>TGP45<br>TGS2050<br>883<br>CP500<br>CP600 | K313<br>KCU10<br>KCP25B<br>KCU25<br>KC5010<br>KC5025 | MY5015<br>VP10RT<br>VP20RT | G10E<br>AC510U<br>AC8025P<br>AC5015S<br>AC520U<br>AC5025S<br>AC530U<br>AC1030U<br>AC425K | AH8005<br>GH130<br>AH725<br>AH710<br>SH730<br>GH730<br>AH6235<br>T515<br>TH10 | A65<br>A66N<br>PT600M<br>PV7040<br>PR905<br>TN60<br>TC40<br>KW10<br>GW15<br>PR1215 | NC5330<br>PC5300<br>A30<br>NC6110<br>PC9030<br>PC215K<br>PC6510 | IC20<br>IC1007<br>IC5010<br>IC428, IC418<br>IC807, IC907<br>IC9015<br>IC808(908)<br>IC8250<br>IC250(950)<br>IC228 |
| N | K10<br>TT9080<br>TT9030 | H13A<br>GC1005<br>GC1105<br>GC1115<br>GC1025<br>GC1225 | WK1 | 890<br>883<br>HX | K313<br>KCU10<br>KC5010<br>KC5025<br>KCU25<br>KCM35B | RT9010<br>RT9020 | ACZ150<br>G10E<br>AC530U | TH10<br>KC05F<br>KS05F<br>TH10<br>SH725<br>SH730 | KPD001<br>KPD010<br>KW10<br>GW15<br>PDL025 | G10E<br>H01<br>A30<br>PC215K | ID5<br>IC20<br>IC08<br>IC228<br>IC28 |
| S | K10<br>TT3010<br>TT9080<br>TT9030<br>TT4430<br>TT3020<br>TT8020 | GC1005<br>GC1105<br>S205<br>GC1115<br>GC1025<br>GC1225<br>GC1145 | WSM13S<br>WSM23S<br>WSM33G<br>WSM33S<br>WSM43S | TGH1050<br>890<br>CP200<br>TGS2050<br>HX<br>CP500<br>883<br>CP600<br>CBN010<br>CBN170<br>CBN170C | K313<br>KCU10<br>KC5010<br>KCU25<br>KC5025 | RT9010<br>MP9015<br>RT9020<br>MP9025<br>VP10RT<br>VP20RT | AC425K<br>G10E<br>AC5015S<br>AC5025S<br>AC1030U | AH8005<br>AH905<br>GH130<br>AH725<br>AH7025<br>SH725<br>SH730<br>TH10 | KPD001<br>KPD010<br>KW10<br>GW15 | PC5300<br>PC3035 | IC804<br>IC806<br>IC1007<br>IC807, IC907<br>IC07<br>IC20<br>IC08<br>IC808(908)<br>IC1008<br>IC830(928) |
| H | TT6080 | CB7015<br>CB7115 | WAK20 | CBN10<br>TGH1050<br>T350M<br>TGS2050<br>HX<br>CBN200<br>CP200<br>890<br>883 | KCU10<br>KC5010<br>KCU25 | BC8110 | H10 | BXA10<br>BX360 | KBN510<br>KBN525<br>A65<br>A66N<br>PT600M | | IB50<br>IC428<br>IC1007<br>IC807, IC907<br>IC808(908) |

# Grade Comparison Table

## Cermet grades

| ISO class | TaeguTec | Sandvik | Kennametal | Sumitomo | Kyocera | Tungaloy | Mitsubishi | Korloy | Seco | NTK | Ceramtec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| P01 | "PV3010 PV3030" | | KT315 | T110A T1000A T1500Z | PV720 PV710 PV7040 CCX | NS520 | AP25N NX1010 NX2525 | CC1500 | | T3N | SC35 |
| P10 | CT3000 | CT5005 CT5015 CT525 GC1525 | KT5020 KT125 KT150 | T1500A T1200A T2000Z | TN60 TN610 TN620 TN6020 TC40N | AT9530 GT9530 J9530 | MP3025 UP35N | CC2500 CN1500 CN2000 | TP1030 CMP CM | T15 C30 Q50 | SC15 SC8015 SC7035 SC40 |
| M01 | PV3010 PV3030 | | KT315 | | PV30 TN30 PV7010 | NS520 | AP25N NX2525 | CC1500 | | T3N | SC35 |
| M10 | CT3000 | CT5005 CT5015 CT525 GC1525 | KT5020 KT125 KT150 | T1500A | PV7020 PV60 TN6010 TN6020 TN60 | AT9530 GT9530 J9530 | MP3025 UP35N | CC2500 CN1500 CN2000 | TP1030 CMP CM | T15 C30 Q50 | SC15 SC8015 SC7035 SC40 |
| K01 | PV3030 | | KT315 | T1000A | PV30 PV7005 PV7020 PV60 | NS520 | AP25 NX2525 | CN1500 | CM | T3N Q15 | SC8015 |
| K10 | CT3000 | CT5015 | KT125 | | TN60 TN6020 | AT9530 GT9530 J9530 NS9530 | | CN2500 | C15M | T15 Z15 C7Z | SC7015 |

# Grade Comparison Table

## ▶ Ceramic grades

| ISO class | Composition | TaeguTec | Sandvik | Kennametal | Ceramtec | NTK | Kyocera | Sumitomo | Tungaloy |
|---|---|---|---|---|---|---|---|---|---|
| K | $Al_2O_3$, $ZrO_2$ | AW120 | CC620 | | SN60<br>SN80 | HC1<br>HW2 | KA30 | | TZ120 |
| | $Al_2O_3$, TiC | AB30 | CC650 | KY1615 | SH2<br>SH4 | HC2<br>HC5<br>HC6 | A65 | NB90S<br>NB90M | LX21 |
| | $Si_3N_4$, $Al_2O_3$, $Y_2O_3$, AlN | AS500 | | KY1310<br>KY3000 | SL506<br>SL508<br>SL606<br>SL608 | SX9 | | | |
| | $Si_3N_4$, $ZrO_2$, $Al_2O_3$, $Y_2O_3$ | AS10 | CC6090<br>CC6190 | KY1320<br>KY3500<br>KYK10 | SL500<br>SL808 | SX1<br>SX6<br>SX8 | KS6000<br>KS6050 | SN2000K<br>SN2100K<br>NS260 | FX105<br>CX710 |
| | CVD coated | SC10 | CC1690 | KY3400<br>KYK25 | SL550C<br>SL554C<br>SL654C<br>SL658C<br>SL854C<br>SL858C | SP2<br>SP9 | CS7050 | NS260C | CXC73 |
| H | $Al_2O_3$, TiCN | AB20 | CC6050 | | SH2<br>SH4 | HC2<br>HC5<br>HC7 | | | LX10 |
| | PVD coated | AB2010 | CC670 | KY4400 | | ZC4<br>ZC7 | A66N<br>PT600M | NB100C | LX11 |
| S | $Al_2O_3$, SiC whisker | TC430 | CC6060<br>CC6065<br>CC6160 | KY4300 | | WA1<br>WA5 | | WX2000 | |
| | $Si_3N_4$, TiN | TC3020<br>TC3030 | CC6220<br>CC6230 | KY2100<br>KY1540<br>KYS30<br>KYS25<br>KYS30P | | SX3<br>SX5<br>SX7<br>SX9 | KS6030<br>KS6040 | SN1000S<br>SN2000S | TS200<br>TS300 |

# Grade Comparison Table

## ▶ CBN grades

| ISO class | TaeguTec | Iscar | Tungaloy | Sumitomo | Sandvik | Kennametal | Mitsubishi | Kyocera | Seco |
|---|---|---|---|---|---|---|---|---|---|
| H | TB610 | IB10H<br>IB50 | BX310 | BN1000<br>BNX10 | CB7105<br>CB7015 | KB1610 | MBC010 | KBN510 | CBN010 |
| | | IB10HC | BXC30<br>BXA30 | BNC80<br>BNC100<br>BNC2010 | | KB5610<br>KB9610 | MB8025<br>BC8105<br>BC8210 | KBN10M<br>KBN10C<br>KBN25C | CBN050C<br>CH0550 |
| | TB2015<br>TB650 | IB20H<br>IB55 | BX330<br>BX530 | BN250<br>BN2000<br>BNX20 | CB7115<br>CB7025 | KB1625 | MB810 | KBN525 | CBN100 |
| | | IB25HA | BXM10<br>BXC30<br>BXA40 | BNC160<br>BNC2020 | | KB5625 | MB820<br>BC8110<br>BC8220 | KBN05M<br>KBN25M | CBN160C<br>CH2540 |
| | TB670 | IB25HC | BX360<br>BX380 | BNX25<br>BN350 | CB7125<br>CB7135<br>CB50<br>CB7525<br>CB7925 | | MB825<br>MB8025<br>BC8120<br>BC8220 | | CBN150<br>CBN170 |
| | | | BXM20<br>BXA20<br>BXA40<br>BXC50 | BNC200<br>BNC300 | | | MB835<br>BC8020<br>BC8130 | KBN30M | CBN060K<br>CBN100P |
| K | TB7015<br>TB730 | IB90 | BX930<br>BX850<br>BX950 | BN500<br>BN7500<br>BN7000 | CB50<br>CB7525 | KB1630<br>KB1345 | MB4020<br>MB710 | KBN475<br>KBN60M<br>KBN65B | CBN200 |
| | | IB05S<br>IB10S | BX470<br>BX480 | BN700<br>BNC500 | CB7050 | KB5630<br>KB9640 | MB730 | KBN65M<br>KBN70M<br>KBN570 | CH3515 |
| | KB90A<br>TB7020 | | BX90S<br>BXC90 | BNS800 | CB7925 | | MBS140 | KBN900 | CBN200<br>CBN300<br>CBN300P<br>CBN350<br>CBN400C |

# Grade Comparison Table

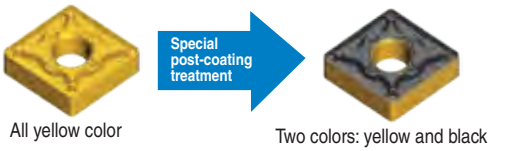
## PCD grades

| ISO class | TaeguTec | Iscar | Tungaloy | Sumitomo | Sandvik | Kennametal | Mitsubishi | Kyocera | Seco | NTK |
|---|---|---|---|---|---|---|---|---|---|---|
| **N01-N10** | TC1010 | ID8 | DX180<br>DX160 | DA90 | | KD1405 | MD203 | KPD230 | PCD30M<br>PCD30 | |
| **N05-N20** | TC1020 | ID5 | DX140 | DA150 | CD10 | KD1400 | MD220 | KPD010 | PCD20 | PD1 |
| **N15-N30** | TC1030 | | DX120<br>DX110 | DA2200<br>DA1000 | | KD1425 | MD205 | KPD001 | PCD10<br>PCD05 | PD2 |

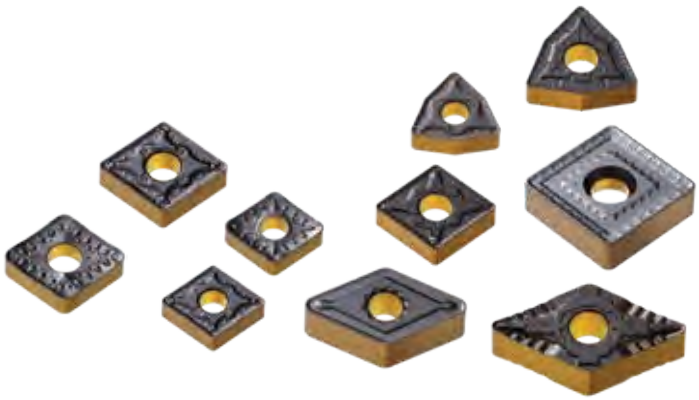
# SFEED-RUSH Grades

## Turning SFEED-RUSH grades

SFEED-RUSH grades have upgraded toughness and chipping resistance through special post-coating treatment process of CVD grades. Through the post-coating treatment process, single color inserts have been transformed into two different colors, on the side and the top (see the illustrations below).

| ISO class | Grade | ISO Rage | Insert color |
|---|---|---|---|
| P | TT8105B | P05-P15 |  |
| | TT8115B | P05-P20 | |
| | TT8125B | P15-P30 | |
| | TT8135B | P25-P40 | |
| | | | |
| | | | |





# Turning Chip Breaker Comparison Table

## ▶ Negative insert

| ISO classfication | | Cutting mode | TaeguTec | Sandvik | Kennametal | Seco |
|---|---|---|---|---|---|---|
| P | Double sided | Finishing with wiper | WS, WA | WF | FW | W-MF2 |
| | | Medium with wiper | WT | WMX, WM | MW, RW | W-M3, W-M6, W-MF5 |
| | | Finishing | FLP, FA, FS,GG-FU<br>FX | | FF, FS | FF1, FF2 |
| | | | FLP, FG<br>FM | QF | FP<br>MP-K, LF, FN | MF2 |
| | | Semi-finishing | MLP, FC, FT | PF, XF | | |
| | | Medium | VF, DNUX | K | | UX |
| | | | MLP, MC | | MN | MR3 |
| | | | MGP, PC<br>MM | PM, XM<br>QM | P | MF3<br>MF5, M3 |
| | | | MGP, MT | HM, XMR | MP<br>RP, RM | |
| | | | MGP, MG- | | MG-, UN | M4<br>MR4 |
| | | Roughing | RGP, RT | PR | RN | M5<br>MR7, M6 |
| | | Low carbon steel | FLP, FS,GG-FU<br>MLP, FC | WL, LC | | |
| | Single sided | Heavy | RX | PR | RM | |
| | | | RH | QR<br>MR | MR, RP | R6, RR9<br>R4, R5, 37<br>RR6 |
| | | | HT, HD | HR, 31 | RH | R8, 56, 57<br>R7 |
| | | | HY, HZ | | | |
| M | Double sided | Finishing | EA, SF | MF | FP | MF1 |
| | | Medium | EM, ML | MM | MP, UP, MR | MF4 |
| | | Roughing | ET | MR<br>MM-MR | RP | MR6, MF5<br>MM-RR6 |
| K | Double sided | Finishing-medium | MT | KF<br>KM | FN | MF5<br>M4 |
| | | Medium | MG- | | MG-,RN | M5 |
| | | Roughing | KT<br>RT | KR | UN | MR7 |
| N | Double sided | Medium | ML | QM, 23 | MS, MP | |
| S | Double sided | Finishing | EA, SF | SF | GG-FS | MF1 |
| | | Medium | GG-ML<br>MGS, MP,MK | SGF, GP-<br>QM, SM, 23 | MS, GP-K<br>UP, P | M1<br>MF4, MF5 |
| | | Roughing | ET | SR, SMR | RP | M5, MR3, MR4 |

| Walter | Mitsubishi | Sumitomo | Kyocera | Tungaloy | Korloy | Iscar |
|---|---|---|---|---|---|---|
| FW5, NF | SW | LU-W, SE-W | WP | FW, AFW | VW | WF |
| MW5, NM | MW | GU-W | WQ, WE | SW, ASW | LW | WG |
| FP5<br>FV5 | FH, FP<br>FS, FY | FA<br>FL | DP, GP, PP<br>VF | TF, 01, CB<br>ZF | VL | SF |
| NF3, NF4 | LP<br>SH | SP, SU, FE | HQ | NS, 11<br>TS, AS, TSF, TQ<br>PS | VF<br>VQ | NF, F3P |
| NS6 | SA | LU<br>SE, SX | CQ, PQ<br>CJ | SS, NM<br>ZM | VB, VC, LP, CP | |
| MV5 | ES | GX, HM | | S | | |
| MP3 | | | GS | | | |
| MP5<br>MM5, NM4 | MP, MV<br>MA | GU<br>UG | PG<br>PS | PM<br>TM, AM | MP, VM | M3P<br>TF |
| MU5, NM6<br>NM9 | MH | UX, GE | HS<br>CS | | HM, GM | GN |
| MG- | MG- | UZ | MG-<br>C | 33, 37, 38<br>DM, MG- | B25 | MG- |
| NR4, RP5<br>RP7 | RP<br>GH | ME<br>MU, MX | PT, GT<br>PH, HT | TH | GR | NR, R3P |
| | FS, FY<br>SY | FL | XF, XP,XP-T<br>XQ, XS | 17 | VL | |
| NRF | | | PX | THS | | |
| NR6 | HZ | MP<br>HG<br>HP | HX | TRS<br>57 | GH | R3P<br>NM |
| NRR | HCS<br>HX, HBS, HL | HF<br>HU | | 65<br>TU | VT | |
| | HV, HDS, HXD, HM | HW | | | VH | T3P |
| FM5, NF4 | FS, LM | SU | MQ, GU | SF | MP, VM | SF, F3M |
| MM5, NM4 | MS, GM, MA | EX, UP, GU | MS, MU, SK | SS, S | MM | TF, VL, M3M |
| RM5, NR4<br>NRS | RM | MU, HM | HU | SM, SH | RM | NR, R3M |
| NM, MK5 | LK<br>MA, MK | UZ | KQ<br>MG- | CF<br>CM | MP | M3P, GN |
| NM5, RK5 | MG-, GK | | KG, C | MG- | | MG- |
| MV7, RK7 | GH, RK | GZ | KH<br>ZS, GC | CH | B25, MK, VR<br>RK, -MA | |
| MN3 | MJ | UP, GX, AG | A3, AH | P, 28 | HA | PP |
| NF4 | FJ, LS | EF | MQ | HRF | VP1 | SF, F3S |
| NFT | MJ | SU, UP | TK | | VP2 | PP |
| NMS, MS3, NMT | MA, MS | EG, EX | MS, MU, SQ | HRM, HMM, SDM | VP3 | TF, VL |
| RM5,NRS,NRT | GJ, RS | MU | | | VP4 | MR |

# Turning Chip Breaker Comparison Table

## ▶ Positive insert

| ISO classfication | Cutting mode | TaeguTec | Sandvik | Kennametal | Seco |
|---|---|---|---|---|---|
| P | Medium with wiper | WT | WM | MW | W-F2, W-M3 |
| | Finishing | FA<br>FX | PF, UF | UF, 11, GM | FF1 |
| | | GT-SL<br>GT-SA, GT-SM | | | |
| | | FG | UM<br>XF | FP<br>LF | F1 |
| | Medium | PC, GT-SH<br>FM | PM | MP | |
| | | GT-SH<br>MT | XM<br>PR, UR<br>XR | MF | F2, MF2, M5 |
| | | PMR- | PMR- | PMR- | |
| N | Finishing - Medium - G Tol. | GT-SA, FL | AL | HP | AL |
| S | Finishing - G Tol. | GT-FGS, SA | GT-UM | GT-HP, LF | GT-F1 |
| | Finishing | FG | MF, UM | FP, LF | F1, F2 |
| | Medium | PC | MM | | MF2 |

| Walter | Mitsubishi | Sumitomo | Kyocera | Tungaloy | Korloy | Iscar |
|---|---|---|---|---|---|---|
| MW4, PM | MW | | | | | WG |
| PF4, FP4 | FV<br>FP | LU<br>FB, FP | XP<br>GK, GP, DP<br>VF | 01, PSF | VL, FP | F3P<br>PF |
| FV4 | SMG | FC | CF<br>GF<br>CK | JS | FS<br>VP1 | |
| PS5 | LP, SV<br>SQ, SV | FK<br>LB, SU<br>SC, SK | XQ<br>GK | | VF<br>HMP | SM<br>16, GT- |
| MP4, FP6, MV4 | | GU<br>UG | GQ<br>HQ | PSS<br>PS | MP | |
| PM5<br>MP6, E47, MT- | MQ, MV<br>MT-<br>G | SF, MU | MT- | PM | C25 | 14, 17<br>19, M3P |
| PMR- | PMR- | UJ | G, PMR- | 23 | | |
| FN2, MN2, GW-FS-1 | AZ | AW, AG, AY | AH | AL | AK, AM, AR | AF, AS |
| GT-FM2, FM4, FM6, PF2 | GT-FJ, LS, FS | GT-SI | | | GT-VP1, MS | |
| MM4, PF4, PS5 | FM, LM, SV | SU | MQ | PSF | VL | PF, F3M |
| RM4, PM5 | MM, MV | MU | | PSS, PS, PM | MP | |

# Hardness Conversion Table

| Vickers 50kg HV | Brinell HB10mm ball LOAD 3000kgf | | Rockwell | | | | Shore's | Tensile strength $N/mm^2$ ($kgf/mm^2$) |
|---|---|---|---|---|---|---|---|---|
| | Standard ball | Tungsten carbide ball | A scale 60kgf diamond brale HRA | B scale 100kgf 1/16in ball HRB | C scale 150kgf diamond brale HRC | D scale 100kgf diamond brale HRD | HS | |
| 1900 | | | 93.1 | | 80.5 | | | |
| 1800 | | | 92.6 | | 79.2 | | | |
| 1700 | | | 91.9 | | 77.9 | | | |
| 1600 | | | 91.3 | | 76.6 | | | |
| 1500 | | | 90.5 | | 75.3 | | | |
| 1450 | | | 90.1 | | 74.6 | | | |
| 1400 | | | 89.6 | | 74.0 | | | |
| 1350 | | | 89.1 | | 73.4 | | | |
| 1300 | | | 88.7 | | 72.7 | | | |
| 1250 | | | 88.3 | | 72.1 | | | |
| 1200 | | | 87.9 | | 71.5 | | | |
| 1150 | | | 87.5 | | 70.9 | | | |
| 1100 | | | 87.1 | | 70.3 | | | |
| 1050 | | | 86.6 | | 69.6 | | | |
| 1000 | | | 86.2 | | 68.9 | | | |
| 940 | | | 85.6 | | 68.0 | 76.9 | 97 | |
| 920 | | | 85.3 | | 67.5 | 76.5 | 96 | |
| 900 | | | 85.0 | | 67.0 | 76.1 | 95 | |
| 880 | | (767) | 84.7 | | 66.4 | 75.7 | 93 | |
| 860 | | (757) | 84.4 | | 65.9 | 75.3 | 92 | |
| 840 | | (745) | 84.1 | | 65.3 | 74.8 | 91 | |
| 820 | | (733) | 83.8 | | 64.7 | 74.3 | 90 | |
| 800 | | (722) | 83.4 | | 64.0 | 74.8 | 88 | |
| 780 | | (710) | 83.0 | | 63.3 | 73.3 | 87 | |
| 760 | | (698) | 82.6 | | 62.5 | 72.6 | 86 | |
| 740 | | (684) | 82.2 | | 61.8 | 72.1 | 84 | |
| 720 | | (670) | 81.8 | | 61.0 | 71.5 | 83 | |
| 700 | | (656) | 81.3 | | 60.1 | 70.8 | 81 | |
| 690 | | (647) | 81.1 | | 59.7 | 70.5 | | |
| 680 | | (638) | 80.8 | | 59.2 | 70.1 | 80 | |
| 670 | | 630 | 80.6 | | 58.8 | 69.8 | | |
| 660 | | 620 | 80.3 | | 58.3 | 69.4 | 79 | |
| 650 | | 611 | 80.0 | | 57.8 | 69.0 | | |
| 640 | | 601 | 79.8 | | 57.3 | 68.7 | 77 | 2205(210) |
| 630 | | 591 | 79.5 | | 56.8 | 68.3 | | 2020(206) |
| 620 | | 582 | 79.2 | | 56.3 | 67.9 | 75 | 1985(202) |
| 610 | | 573 | 78.9 | | 55.7 | 67.5 | | 1950(199) |
| 600 | | 564 | 78.6 | | 55.2 | 67.0 | 74 | 1905(194) |
| 590 | | 554 | 78.4 | | 54.7 | 66.7 | | 1860(190) |
| 580 | | 515 | 78.0 | | 54.1 | 66.2 | 72 | 1825(186) |
| 570 | | 535 | 77.8 | | 53.6 | 65.8 | | 1795(183) |
| 560 | | 525 | 77.4 | | 53.0 | 65.4 | 71 | 1750(179) |
| 550 | (505) | 517 | 77.0 | | 52.3 | 64.8 | | 1750(174) |
| 540 | (496) | 507 | 76.7 | | 51.7 | 64.4 | 69 | 1660(169) |
| 530 | (488) | 497 | 76.4 | | 51.1 | 66.2 | | 1620(165) |
| 520 | (480) | 488 | 76.1 | | 50.5 | 63.5 | 67 | 1570(160) |
| 510 | (473) | 479 | 75.7 | | 49.8 | 62.9 | | 1530(156) |
| 500 | (465) | 471 | 75.3 | | 49.1 | 62.2 | 66 | 1459(153) |
| 490 | (456) | 460 | 74.9 | | 48.4 | 61.6 | | 1460(149) |
| 480 | 488 | 452 | 74.5 | | 47.7 | 61.3 | 64 | 1410(144) |

▸ Note: Gray figures come from ASTM E 140 table (Calculated by SAE-ASM-ASTM together)

| Vickers 50kg HV | Brinell HB10mm ball LOAD 3000kgf | | Rockwell | | | | Shore's HS | Tensile strength N/mm² (kgf/mm²) |
|---|---|---|---|---|---|---|---|---|
| | Standard ball | Tungsten carbide ball | A scale 60kgf diamond brale HRA | B scale 100kgf 1/16in ball HRB | C scale 150kgf diamond brale HRC | D scale 100kgf diamond brale HRD | | |
| 470 | 441 | 442 | 74.1 | | 46.9 | 60.7 | | 1570(160) |
| 460 | 433 | 433 | 73.6 | | 46.1 | 60.1 | 62 | 1530(156) |
| 450 | 425 | 425 | 73.3 | | 45.3 | 59.4 | | 1459(153) |
| 440 | 415 | 415 | 72.8 | | 44.5 | 58.8 | 59 | 1460(149) |
| 430 | 405 | 405 | 72.3 | | 43.6 | 58.2 | | 1410(144) |
| 420 | 397 | 397 | 71.8 | | 42.7 | 57.5 | 57 | 1370(140) |
| 410 | 388 | 388 | 71.4 | | 41.8 | 56.8 | | 1330(136) |
| 400 | 379 | 379 | 70.8 | | 40.8 | 56.0 | 55 | 1290(131) |
| 390 | 369 | 369 | 70.3 | | 39.8 | 55.2 | | 1240(127) |
| 380 | 360 | 360 | 69.8 | (110.0) | 38.8 | 54.4 | 52 | 1250(123) |
| 370 | 350 | 350 | 69.2 | | 37.7 | 53.6 | | 1170(120) |
| 360 | 341 | 341 | 68.7 | (109.0) | 36.6 | 52.8 | 50 | 1130(115) |
| 350 | 331 | 331 | 68.1 | | 35.5 | 51.9 | | 1095(112) |
| 340 | 322 | 322 | 67.6 | (108.0) | 34.4 | 51.1 | 47 | 1070(109) |
| 330 | 313 | 313 | 67.0 | | 33.3 | 50.2 | | 1035(105) |
| 320 | 303 | 303 | 66.4 | (107.0) | 32.2 | 49.4 | 45 | 1005(103) |
| 310 | 294 | 294 | 65.8 | | 31.0 | 48.4 | | 980 (100) |
| 300 | 284 | 284 | 65.2 | (105.5) | 29.8 | 47.5 | 42 | 950 (97) |
| 295 | 280 | 280 | 64.8 | | 29.2 | 47.1 | | 935 (96) |
| 290 | 275 | 275 | 64.5 | (104.5) | 28.5 | 46.5 | 41 | 915 (94) |
| 285 | 270 | 270 | 64.2 | | 27.8 | 46.0 | | 905 (92) |
| 280 | 265 | 265 | 63.8 | (103.5) | 27.1 | 45.3 | 40 | 890 (91) |
| 275 | 261 | 261 | 63.5 | | 26.4 | 44.9 | | 875 (89) |
| 270 | 256 | 256 | 63.1 | (102.0) | 25.6 | 44.3 | 38 | 855 (87) |
| 265 | 252 | 252 | 62.7 | | 24.8 | 43.7 | | 840 (86) |
| 260 | 247 | 247 | 62.4 | (101.0) | 24.0 | 43.1 | 37 | 825 (84) |
| 255 | 243 | 243 | 62.0 | | 23.1 | 42.2 | | 805 (82) |
| 250 | 238 | 238 | 61.6 | 99.5 | 22.2 | 41.7 | 36 | 795 (81) |
| 245 | 233 | 233 | 61.2 | | 21.3 | 41.1 | | 780 (79) |
| 240 | 228 | 228 | 60.7 | 98.1 | 20.3 | 40.3 | 34 | 765 (78) |
| 230 | 219 | 219 | | 96.7 | (18.0) | | 33 | 730 (75) |
| 220 | 209 | 209 | | 95.0 | (15.7) | | 32 | 695 (71) |
| 210 | 200 | 200 | | 93.4 | (13.4) | | 30 | 670 (68) |
| 200 | 190 | 190 | | 91.5 | (11.0) | | 29 | 635 (65) |
| 190 | 181 | 181 | | 89.5 | (8.5) | | 28 | 605 (62) |
| 180 | 171 | 171 | | 87.1 | (6.0) | | 26 | 580 (59) |
| 170 | 162 | 162 | | 85.0 | (3.0) | | 25 | 545 (56) |
| 160 | 152 | 152 | | 81.7 | (0.0) | | 24 | 515 (53) |
| 150 | 143 | 143 | | 78.7 | | | 22 | 490 (50) |
| 140 | 133 | 133 | | 75.0 | | | 21 | 455 (45) |
| 130 | 124 | 124 | | 71.2 | | | 20 | 425 (44) |
| 127 | 121 | | | 69.8 | | | 19 | (42) |
| 122 | 116 | | | 67.6 | | | 18 | (41) |
| 117 | 111 | | | 65.7 | | | 15 | (39) |

▸ Note: Gray figures come from ASTM E 140 table (Calculated by SAE-ASM-ASTM together)

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 1 | A 366 (1012)<br>1008 | 0.0030 | C10 | 040 A 10<br>045 M 10<br>1449 10 CS | AF 34 C 10<br>XC 10 |
| 1 | | 1.0028 | Ust 34-2 (S250G1T) | | A 34-2 |
| 1 | | 1.0034 | RSt 34-2 (S250G2T) | 1449 34/20 HR,<br>HS, CR, CS | A 34-2 NE |
| 1 | | 1.0035 | St185 (Fe 310-0)<br>St 33 | Fe 310-0<br>1449 15 HR, HS | A 33 |
| 1 | A 570<br>Gr. 33,36 | 1.0036 | S235JRG1 (Fe 360 B)<br>Ust 37-2 | Fe 360 B<br>4360-40 B | |
| 1 | | 1.0037 | S235JR (Fe 360 B)<br>St 37-2 | Fe 360 B<br>4360-40 B | E 24-2 |
| 1 | 1115 | 1.0038 | GS-CK16 | 030A04 1A | |
| 1 | A 570 Gr. 40 | 1.0044 | S275JR (Fe 430 B)<br>St44-2 | Fe 430 B FN<br>1449 43/25 HR, HS<br>4360-43 B | E 28-2 |
| 1 | | 1.0045 | S355JR | 4360-50 B | E 36-2 |
| 1 | A 570 Gr.50<br>A 572 Gr.50 | 1.0050 | E295 (Fe 490-2)<br>St 50-2 | Fe 490-2 FN<br>4360-50 B | A 50-2 |
| 1 | A 572 Gr. 65 | 1.0060 | E335 (Fe 590-2)<br>St 60-2 | Fe 60-2<br>4360-55 E; 55 C | A 60-2 |
| 1 | | 1.0060 | St 60-2 | | |
| 1 | | 1.0070 | E360 (Fe 690-2)<br>St 70-2 | Fe 690-2 FN | A 70-2 |
| 1 | | 1.0112 | P235S | 1501-164-360B LT20 | A37AP |
| 1 | | 1.0114 | S235JU;St 37-3 U | 4360-40C | E 24-3 |
| 1 | A 284 Gr.D<br>A 573 Gr.58<br>A 570 Gr 36;C<br>A 611 Gr. C | 1.0116 | S235J2G3 (Fe 360 D 1)<br>St 37-3 | Fe 360 D1 FF<br>1449 37/23 CR<br>4360-40 D | E 24-3<br>E 24-4 |
| 1 | | 1.0130 | P265S | 1501-164-400B LT 20 | A 42 AP |
| 1 | | 1.0143 | S275J0; St 44-3 U | 4360-43C | E 28-3 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| | C 10<br>1 C 10 | F.1511<br>F.151A | S 10C | SM 10C | 10 |
| | Fe 330,Fe 330 B FU | | SS 330 | SS 330 | |
| | Fe 330 B FU | | | | St2sp |
| 1300 | Fe 320 | Fe 310-0 | | | St0 |
| 1311<br>1312 | FE37BFU | AE 235 B<br>Fe 360 B | | | 16D, 18Kp<br>St3Kp |
| 1311 | Fe 360 B<br>1449 37/23 HR | AE 235 B<br>Fe 360 B | STKM 12A;C | STKM 12A;C | |
| 1325 | Fe 330,Fe 330 B FU | | SS 330 | SS 330 | |
| 1412 | Fe 430 B<br>Fe 430 B FN | AE 275 B<br>Fe 430 B FN | SM 400 A;B;C | SM 400 A;B;C | St4ps; sp |
| 2172 | Fe 510 B | AE 355 B | | | |
| 1550<br>2172 | Fe 490 | a 490-2<br>Fe 490-2 FN | SS 490 | SS 490 | ST5ps; sp |
| 1650 | Fe 60-2<br>Fe 590 | A 590-2<br>Fe 590-2 FN | SM 570 | SM 570 | St6ps; sp |
| | Fe 60-2 | | | | |
| 1655 | Fe 70-2<br>Fe 690 | A 690-2<br>Fe 690-2 FN | | | |
| | Fe 360 C | AE 235 C | | | |
| | Fe 360 C | AE 235 C | | | |
| 1312<br>1313 | Fe 360 D1 FF<br>Fe 360 C FN<br>Fe 360 D FF<br>Fe 37-2 | AE 235 D<br>Fe 360 D1 FF | | | St3kp; ps; sp<br>16D |
| | | SPH 265 | | | |
| 1414-01 | Fe 430 D | AE 275 D | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 1 | A 573 Gr. 70<br>A 611 Gr.D | 1.0144 | S275J2G3 (Fe 430 D 1)<br>St 44-3 | Fe 430 D1 FF<br>4360-43 C; 43 D | E 28-3<br>E 28-4 |
| 1 | | 1.0149 | S275JOH; RoSt 44-2 | 4360-43C | |
| 1 | | 1.0226 | DX51D; St 02 Z | Z2 | GC |
| 1 | M 1010 | 1.0301 | C10 | 040 A 10<br>045 M 10<br>1449 10 CS | AF 34 C 10<br>XC 10 |
| 1 | A 621 (1008) | 1.0330 | DC 01<br>St 2; St 12 | 1449 4 CR<br>1449 3 CS | <br>TE |
| 1 | A 619 (1008) | 1.0333 | Ust 3 (DC03G1)<br>Ust 13 | 1449 2 CR;3 CR | E |
| 1 | A 621 (1008) | 1.0334 | UStW 23 (DD12G1) | | SC |
| 1 | A 622 (1008) | 1.0335 | DD13; StW 24 | 1449 1 HR | 3C |
| 1 | A 620 (1008) | 1.0338 | DC04<br>St4; St 14 | 1449 1 CR;2 CR | ES |
| 1 | A 516 Gr. 65; 55<br>A 515 Gr. 65;55<br>A 414 Gr. C<br>A 442 Gr.55 | 1.0345 | P235GH<br>HI | 1501 Gr. 141-360<br>1501 Gr. 161-360; 151-360<br>1501 Gr. 161-400; 154-360<br>1501 Gr. 164-360; 161-360 | A 37 CP;AP |
| 1 | (M) 1020<br>M 1023 | 1.0402 | C22 | 055 M 15, 070 M 20 2C/2D<br>1499 22 HS, CS | AF 42 C 20;<br>XC 25;1 C 22 |
| 1 | 1020 | 1.0402 | C22 | 050A20 2C/2D | CC20 |
| 1 | 1020;1023 | 1.0402 | C22 | 055 M 15, 070 M 20 2C | AF 42 C 20;<br>XC 25;1 C 22 |
| 1 | | 1.0425 | P265GH H II | 1501 Gr. 161-400;151-400<br>1501 Gr. 164-360; 161-400<br>1501 Gr. 164-400;154-400 | A 42 CP; AP |
| 1 | A27 65-35 | 1.0443 | GS-45 | A1 | E 23-45 M |
| 1 | | 1.0539 | S355NH;StE 335 | | TSE 355-4 |
| 1 | | 1.0545 | S355N; StE 355 | 4360-50E | E 355 R |
| 1 | | 1.0546 | S355NL;TStE 355 | 4360-50EE | E 355 FP |
| 1 | | 1.0547 | S355JOH | 4360-50C | TSE 355-3 |
| 1 | | 1.0549 | S355 NLH;TStE 355 | | |
| 1 | | 1.0553 | S355JO;St 52-3U | 4360-50C | E 36-3 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 1411, 1412<br>1414 | Fe 430 B, Fe 430 C (FN)<br>Fe 430 D (FF) | AE 275 D<br>Fe 430 D1 FF | SM 400 A;B;C | SM 400 A;B;C | St4kp> ps; sp |
| 1412-04 | Fe 430 C | Fe 430 C | | | |
| 1151 10 | FeP 02 G | FeP 02 G | | | |
| | C 10<br>1 C 10 | F.1511<br>F.151.A | S 10C | SM 10C | 10 |
| 1142 | FeP 00<br>FeP 01 | AP 11 | SPHD | SPHD | 15kp |
| | FeP 02 | AP 02 | SPCD | SPCD | |
| | FeP 12 | AP 12 | SPHE | SPHE | 10kp |
| | FeP 13 | AP 13 | SPHE | SPHE | 08kp |
| 1147 | FeP 04 | AP 04 | SPCE | SPCE | 08jU; JUA |
| 1331<br>1330 | FeE235, Fe 360 1 KW;KG<br>Fe 360 2 KW;KG | A 37 RC I<br>RA II | SGV 410, SGV 450, SGV 48, SPV 450;SPV 480 | SGV 410, SGV 450, SGV 480, SPPV 450;SPPV 480 | |
| 1450 | C 20<br>C 21, C 25 | 1 C 22 F.112 | S20C | SM 20C | 20 |
| 1450 | C20, C21 | F.112 | S22C | SM 22C | 20 |
| 1450 | C 20;<br>C 21;C 25 | 1 C 22F.112 | S 20 C;S 22 C | SM 20 C;SM 22C | |
| 1431<br>1430<br>1432 | Fe 410 1 KW; KG;<br>KT Fe 410 2 KW; KG | A 42 RC I<br>A 42 RC II | SPV 315; SPV 355<br>SG 295; SGV 410<br>SGV 450; SGV 480 | SPPV 315; SPPV 355<br>SG 295; SGV 410<br>SGV 450; SGV 480 | 16K<br>20K |
| 1305 | | | | | |
| 2134-04 | Fe 510 B | Fe 355 KGN | | | |
| 2334-01 | FeE 355 KG | AE 355 KG | | | |
| 2135-01 | FeE 355 KT | AE 355 KT | | | |
| 2172-04 | Fe 510 C | Fe 510 C | | | |
| 2135 | Fe 510 D | FeE 355 KTM | | | |
| | Fe 510 C | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 1 | A 633 Gr.C<br>A 588 | 1.0562 | P355N<br>StE 355 | 1501 Gr.225-490A LT 20 | FeE 355 KG N<br>E 355 R/FP;<br>A 510 AP |
| 1 | | 1.0565 | P355NH; WStE 355 | 1501-225-490B LT 20 | A 510 AP |
| 1 | | 1.0566 | P355NL1; TStE 355 | 1501-225-490A LT 50 | A 510 FP |
| 1 | 1 | 1.0570 | S355J2G3<br>St 52-3 | Fe 510 D1 FF<br>1449 50/35 HR>HS<br>4360-50 D | E 36-3<br>E 36-4 |
| 1 | 1213 | 1.0715 | 9 SMn 28 (1SMn30) | 230 M 07 | S 250 |
| 1 | 1213 | 1.0715 | 9 SMn 28 | 230 M 07 | S 250 |
| 1 | 12 L 13 | 1.0718 | 9 SMnPb 28<br>(11SMnPb30) | | S 250 Pb |
| 1 | 1108<br>1109 | 1.0721 | 10 S 20 | (210 M 15) | 10S20<br>10F 2 |
| 1 | 11 L 08 | 1.0722 | 10 SPb 20 | | 10PbF 2 |
| 1 | 11 L 08 | 1.0722 | 10 SPb 20 | | 10PbF 2 |
| 1 | 1215 | 1.0736 | 9 SMn 36 11SMn37) | | S 300 |
| 1 | 12 L 14 | 1.0737 | 9 SMnPb 36<br>(11SMnPb37) | | |
| 1 | | 1.0972 | S315MC; QStE 300 TM | 1501-40F30 | E 315 D |
| 1 | | 1.0976 | S355MC; QStE 360 TM | 1501-43F35 | E 355 D |
| 1 | | 1.0982 | S460MC; QStE 460 TM | 1501-50F45 | |
| 1 | | 1.0984 | S500MC; QStE 500 TM | | E 490 D |
| 1 | | 1.0986 | S500MC; QStE 500 TM | 1501 - 60F55 | E 560 D |
| 1 | 1010 | 1.1121 | CK 10<br>(C10E) | 040 A 10 | XC 10 |
| 1 | | 1.1121 | St 37-1 | 4360 40 A | |
| 1 | 1015 | 1.1141 | CK 15<br>(C15E) | 040 A 15 32C<br>080 M 15 | XC 12 XC 15<br>XC 18 |
| 1 | 1020<br>1023 | 1.1151 | C22E<br>CK 22 | 055 M 15<br>(070 M 20) | 2 C 22 XC 18<br>XC 25 |
| 1 | D 3 | 1.2080 | X 210 Cr 12 | BD 3 | Z 200 C 12 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 2106 | FeE 355 KG;KW | AEE 355 KG;DD | SM 490 A;B;C; YA;YB | SM 490 A;B;C; YA;YB | 15GF |
| 2106 | FeE 355-2 | | | | |
| 2107-01 | FeE 355-3 | | | | |
| 2132, 2133<br>2134,<br>2174 | 17GS<br>17G1S | AE 355 D<br>Fe 510, D1 FF | SM 490 A;B;C;<br>YA;YB | SM 490 A;B;C;<br>YA;YB | 17GS<br>17G1S |
| 1912 | CF SMn 28 | F.2111 - 11 SMn 28 | SUM 22 | SUM 22 | |
| 1912 | CF 9 SMn 28 | 11 SMn 28 | SUM 22 | SUM 22 | |
| 1914 | CF 9 SMnPb 28 | F.2112-11 SMnPb 28 | SUM 22 L<br>SUM 23 L, SUM 24 L | SUM 22 L<br>SUM 23 L, SUM 24 L | |
| | CF 10 S 20 | F. 2121 - 10 S 20 | | | |
| | CF 10 SPb 20 | F.2122-10 SPb 20 | | | |
| | CF 10 SPb 20 | 10 SPb 20 | | | |
| | CF 9 Mn 36 | F.2113 - 12 SMn 35 | SUM25 | SUM25 | |
| | | | | | |
| 2642 | FeE 355TM | | | | |
| 2662 | FeE 490 TM | | | | |
| | FeE 560 TM | | | | |
| 1265 | C 10, 2 C 10<br>2 C 15 | F-1510-C 10 K | S 9 CK<br>S 10 C | S 9 CK<br>S 10 C | 08;10 |
| 1300 | | | | | |
| 1370 | C 15 C 16 | F.1110-C 15<br>F.1511-C 16 K | S 15<br>S 15 CK | SM 15C<br>SM 15CK | 15 |
| 1450 | C 20 C 25 | F.1120-C 25 K | S 20 C, S 20 CK<br>S 22 C | SM 20 C, SM20 CK<br>SM22 C | 20 |
| 2642 | | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. | DIN | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 1 | A36 | | St 44-2 | 4360 43 A | | NFA 35-501 E 28 |
| 1 | | | StE 320-3Z | 1 501 160 | | |
| 1 | A572-60 | 1.8900 | StE 380 | 4360 55 E | | |
| 2 | (M) 1025 | 1.0406 | C 25 | 070 M 26 | | 1 C 25 |
| 2 | | 1.0416 | GS-38 | | | 20-400 M |
| 2 | A 537 Cl.1<br>A 414 Gr. G<br>A 612 | 1.0473 | P355GH | 19 Mn 6 | | A 52 CP |
| 2 | 1035 | 1.0501 | C 35 | 080 A 32, 080 A 35<br>080 M 36,<br>1449 40 CS | | 1 C 35<br>AF 55 C 35<br>XC 38 |
| 2 | 1045 | 1.0503 | CF 45<br>(C45G) | 060 A 47<br>080 M 46 | | XC 42 H 1 TS |
| 2 | 1040 | 1.0511 | C 40 | 080 M 40 | | 1 C 40<br>AF 60 C 40 |
| 2 | | 1.0540 | C 50 | | | |
| 2 | A27 70-36 | 1.0551 | GS-52 | A2 | | 280-480 M |
| 2 | A148 80-40 | 1.0553 | GS-60 | A3 | | 320-560 M |
| 2 | A738 | 1.0577 | S355J2G4 (Fe 510 D 2) | Fe 510 D2 FF<br>1501 Gr.224-460<br>1501 Gr. 224-490 | | A 52 FP |
| 2 | 1140 | 1.0726 | 35 S 20 | 212 M 36 | 8M | 35MF 6 |
| 2 | 1146 | 1.0727 | 45 S 20 (46S20) | | | 45 MF 4 |
| 2 | 1035<br>1041 | 1.1157 | 40Mn4 | 150 M 36 | 15 | 35 M 5<br>40 M 5 |
| 2 | 1025 | 1.1158 | C25E<br>CK 25 | (070 M 25) | | 2 C 25<br>XC 25 |
| 2 | 1536 | 1.1166 | 34Mn5 | | | |
| 2 | 1330 | 1.1170 | 28Mn6 | (150 M 28), (150 M 18) | | 20 M 5, 28 Mn 6 |
| 2 | 1330 | 1.1170 | 28Mn6 | 150 M 5 | | 20 M 5 |
| 2 | 1330 | 1.1170 | 28Mn6 | | 14A | 20 M 5 |
| 2 | | 1.1178 | C30E; CK 30 | 080M30 | | XC 32 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 1411 | | | | | |
| 1421 | | | | | |
| 2145 | FeE390KG | | S 25C | SM 25C | |
| | C 25 1 C 25 | | | | |
| 1306 | | | | | |
| 2101<br>2102 | Fe E 355-2 | A 52 RC I RA II | SGV 410<br>SGV 450<br>SGV 480 | SGV 410<br>SGV 450<br>SGV 480 | |
| 1572<br>1550 | C 35<br>1 C 35 | F.113 | S35C | SM35C | 35 |
| 1672 | C 43<br>C 46 | | S 45 C | SM 45 C | 45 |
| | C 40 | 1 C 40 | S 40 C | SM 40 C | |
| 1674 | C 50 | 1 C 50 | | | |
| 1505 | | | | | |
| 1606 | | | | | |
| 2107 | | A 52 RB II<br>AE 355 D | | | |
| 1957 | | F.210.G | | | |
| 1973 | | | | | |
| | | | S 09CK | SMn 433 | |
| C 25 | F.1120 - C 25 K | S 25 C<br>S 28 C | S 25 C | SM 25 C | |
| | TO.B | SMn 433 H | | | |
| 1421 | C 28 Mn | 28 Mn 6 | SCMn 1 | SCMn 1 | 30G |
| 2145 | | | | | |
| | C 28 Mn | | SCMn 1 | SCMn 1 | |
| | C 30 | 2 C 30 | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 2 | 1035 | 1.1180 | C35R<br>Cm 35 | 080 A 35 | 3 C 35<br>XC 32 |
| 2 | 1035<br>1038 | 1.1181 | C35E<br>CK 35 | 080 A 35<br>(080 M 36) | 2 C 35, XC 32<br>XC 38 H 1 |
| 2 | 1035 | 1.1181 | C35E<br>CK 35 | 080 A 35<br>(080 M 36) | |
| 2 | 1042 | 1.1191 | GS- Ck 45 | 080 A 46 | XC 45 |
| 2 | 1049<br>1050 | 1.1206 | C50E<br>CK 50 | 080 M 50 | 2 C 50<br>XC 48 H 1;<br>XC 50 H 1 |
| 2 | 1050<br>1055 | 1.1213 | Cf 53<br>(C53G) | 070 M 55 | XC 48 H TS |
| 2 | 4520 | 1.5423 | 22Mo4 | 1503-245-420 | |
| 3 | | 1.0050 | St50-2 | | |
| 3 | A 516 Gr.70<br>A 515 Gr. 70<br>A 414 Gr.F; G | 1.0481 | P295GH<br>17 Mn 4 | 1501 Gr. 224 | a 48 Cp;AP |
| 3 | 1043 | 1.0503 | C35 | 060 A 47<br>080 M 46<br>1449 50 HS, CS | 1 C 45<br>AF 65 C 45 |
| 3 | 1074 | 1.0614 | C 76 D; D 75-2 | | XC 75 |
| 3 | 1086 | 1.0616 | C 86 D; D 85-2 | | XC 80 |
| 3 | 1095 | 1.0618 | C 92 D;D 95-2 | | XC 90 |
| 3 | 1036<br>1330 | 1.1165 | 30Mn5 | 120 M 36<br>(150 M 28) | 35 M 5 |
| 3 | 1335 | 1.1167 | 30Mn5 | 150 M 36 | 40 M 5 |
| 3 | 1040 | 1.1186 | C40E<br>CK 40 | 060 A 40, 080 A 40<br>080 M 40 | 2 C 40<br>XC 42 H 1 |
| 3 | 1045 | 1.1191 | C45E<br>CK 45 | 080 M 46<br>060 A 47 | 2 C 45<br>XC 42 H 1<br>XC 45<br>XC 48 H 1 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 1572 | | F.1130-C 35 K-1 | | | |
| 1550<br>1572 | C35 | F.1130-C 35 K | S 35 C | SM 35 C | 35 |
| 1572 | C36 | | S 35 C | SM 35 C | |
| 1660 | C45 | F-1140 | | | |
| 1674 | C 50 | | | | 50 |
| 1674 | C 53 | | S 50 C | SM 50 C | 50 |
| | 16 Mo 5 KG; KW | F.2602- 16 Mo 5 | SB 450 M | SB 450 M | SB 480 M |
| | FE50 | | | | |
| | Fe 510 KG;KT;KW<br>Fe 510-2 KG;KT;KW<br>FeE 295 | A 47 RC I RA II | SG 365, SGV 410<br>SGV 450<br>SGV 480 | SG 365, SGV 410<br>SGV 450<br>SGV 480 | 14G2 |
| 1672<br>1650 | C 45<br>1 C 45 | F.114 | S 45 C | SM 45 C | 45 |
| C 85 | | | | | |
| | | F.8211-30 Mn 5<br>f.8311-AM 30 Mn 5 | SMn 433 H<br>SCMn 2 | SMn 433 H<br>SCMn 2 | 27ChGSNMDTL<br>30GSL |
| 2120 | | F. 1203-36 Mn 6<br>F. 8212-36 Mn 5 | SMn 438 (H)<br>SCMn 3 | SMn 438 (H)<br>SCMn 3 | 35G2<br>35GL |
| | C 40 | | S 40 C | SM 40 C | |
| 1672 | C 45<br>C 46 | F.1140-C 45 K<br>F.1142-C48 K | S 45 C<br>S 48 C | S 45 C<br>S 48 C | 45 |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 3 | 1049 | 1.1201 | C45R<br>Cm 45 | 080 M 46 | | 3 C 45<br>XC 42 H 1<br>XC 48 H 1 |
| 3 | | 1.7242 | 18 CrMo 4 | | | |
| 3 | A 387 Gr. 12 Cl | 1.7337 | 16 CrMo 4 4 | | | |
| 3 | A 387 Gr. 12 Cl | 1.7337 | 16 CrMo 4 4 | | | |
| 3 | | 1.7362 | 12 CrMo 19 5 | 3606-625 | | Z 10 CD 5.05 |
| 3 | A572-60 | | 17 MnV 6 | 436055 E | | NFA 35-501 E 36 |
| 4 | 1055 | 1.0535 | C55 | 070 M 55 | | 1 C 55<br>AF 70 C 55 |
| 4 | 1060 | 1.0601 | C60 | 060 A 62<br>1449 HS,CS | 43D | 1 C 60<br>AF 70 C 55 |
| 4 | 1070 | 1.0603 | C67 | 080 A 67<br>1449 70HS | | XC65 |
| 4 | 1074<br>1075 | 1.0605 | C75 | 1449 80 HS | | |
| 4 | 1055 | 1.1203 | C55E<br>CK 55 | 060 A 57<br>070 M 55 | | 2 C 5<br>XC 55 H 1 |
| 4 | 1055 | 1.1209 | C55R<br>Cm 55 | 070 M 55 | | 3 C 55<br>XC 55 H 1 |
| 4 | 1060<br>1064 | 1.1221 | C60E<br>CK 60 | 060 A 62 | 43D | 2 C 60<br>XC 60 H 1 |
| 4 | 1070 | 1.1231 | CK 67<br>(C67E) | 060 A 67 | | XC 68 |
| 4 | 1074<br>1075<br>1078 | 1.1248 | CK 75<br>(C75E) | 060 A 78 | | XC 75 |
| 4 | 1086 | 1.1269 | CK 85 (C85E) | | | XC 90 |
| 4 | 1095 | 1.1274 | Ck 101 (C101E) | | | XC 100 |
| 4 | W 112 | 1.1663 | C 125 W | | | Y2 120 |
| 4 | | | | | | |
| 5 | | 1.0070 | St70-2 | | | |
| 5 | | 1.7238 | 49 CrMo 4 | | | |
| 5 | | 1.7701 | 51 CrMoV 4 | | | |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 1660 | C 45 | F.1145-C 45K-1<br>F.1147C 48 K-1 | S 50 C | SM 50 C | |
| 18 CrMo 4 | | | | | |
| | A 18 CrMo 4 5 KW | | | | |
| | A 18 CrMo 4 5 KW | | | | |
| | 16 CrMo 20 5 | | | | |
| 2142 | | | | | |
| 1655 | C 55<br>1 C 55 | | S 55 C | SM 55 C | 55 |
| | C 60<br>1 C 60 | | S 58 C | SM 58 C | 60(G) |
| | C 67 | | | | |
| | C 75 | | | | 75 |
| 1655 | C 55 | F.1150-C 55 K | S 55 C | SM 55 C | 55 |
| | C 55 | F.1155-C 55 K-1 | | | |
| 1655<br>1678 | C 60 | | S 58 C | SM 58 C | 60<br>60G, 60GA |
| 1770 | C 70 | | | | 65GA<br>68GA , 70 |
| 774 | C 75 | | | | 75(A) |
| | C 90 | | | | 85(A) |
| | C 100 | F-5117 | SUP 4 | SPS 4 | |
| 1870 | | | | | |
| 2223 | | | | | |
| | FE70-2 | | | | |
| | | | | | |
| | 51 CrMoV 4 | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 6 | A573-81 65 | 1.0116 | St 37-3 | 4360 40 B | | E 24-U |
| 6 | A515 65 | 1.0345 | H1 | 1 501 161 | | A 37 CP |
| 6 | 5120 | 1.0841 | St 52-3 | 150 M 19 | | 20 MC 5 |
| 6 | 9255 | 1.0904 | 55 Si 7 | 250A53 | 45 | 55S7 |
| 6 | 9254 | 1.0904 | 55 Si 7 | 250 A 53 | | 55 S 7 |
| 6 | 9262 | 1.0961 | 60SiCr7 | 1 501 161 | | 60SC6 |
| 6 | L3 | 1.2067 | 100Cr6 | BL3 | | Y100C6 |
| 6 | L1 | 1.2108 | 90 CrSi 5 | | | |
| 6 | L2 | 1.2210 | 115CrV3 | | | 100C3 |
| 6 | | 1.2241 | 51CrV4 | | | |
| 6 | | 1.2311 | 40 CrMnMo 7 | | | |
| 6 | 4135 | 1.2330 | 35 CrMo 4 | 708 A 37 | | 34 CD 4 |
| 6 | | 1.2419 | 105WCr6 | BO1 | | 105WC13 |
| 6 | 0 1 | 1.2510 | 100 MnCrW 4 | BS1 | | 8 MO 8 |
| 6 | S1 | 1.2542 | 45 WCrV7 | | | |
| 6 | S1 | 1.255 | 60WCrV7 | | | 55WC20 |
| 6 | L6 | 1.2713 | 55NiCrMoV6 | | | 55NCDV7 |
| 6 | L6 | 1.2721 | 50NiCr13 | | | 55 NCV 6 |
| 6 | O2 | 1.2842 | 90MnCrV8 | BO2 | | 90 MV8 |
| 6 | E 50100 | 1.3501 | 100 Cr 2 | | | 55WC20 |
| 6 | 52100 | 1.3505 | 100Cr6 | 2 S 135<br>535 A 99 | 31 | 100 C 6 |
| 6 | | 1.5024 | 46Si7 | | | 45 S 7; Y 46 7;46 SI 7 |
| 6 | 9255 | 1.5025 | 51Si7 | | | 51 S 7<br>51 Si 7 |
| 6 | 9255 | 1.5026 | 55Si7 | 251 a 58 | | 55 S 7 |
| 6 | 9260 | 1.5027 | 60Si7 | 251 A 60<br>251 H 60 | | 60 S 7 |
| 6 | 9260 H | 1.5028 | 65Si7 | | | 60 S 7 |
| 6 | | 1.5120 | 38 MnSi 4 | | | |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 1312 | Fe37-3 | | | | |
| 1330 | | | | | |
| 2172 | Fe 52 | F-431 | | | |
| 2085 | 55Si8 | 56Si7 | | | |
| 2090 | | F-431 | | | |
| 60SiCr8 | 60SiCr8 | | | | |
| | 100Cr6 | | | | |
| 2092 | 105WCR 5 | | | | |
| | 107CrV3KU | | | | |
| | | | | | |
| | 35 cRmO 8 KU | | | | |
| 2234 | 35CrMo4 | 34CrMo4 | SCM435TK | SCM435TK | |
| 2140 | 10WCr6 | 105WCr5 | | | |
| 2140 | 10WCr6 | 105WCr5 | SKS 31 | STS 31 | |
| 2710 | 45 WCrV8 KU | 45WCrSi8 | | | |
| 2710 | 58WCr9KU | | | | |
| | | F.520.S | SKT 4 | STF 4 | |
| 2550 | | f-528 | | | |
| | | | | | |
| | | | | | |
| 2258 | 100Cr6 | F.1310 - 100 Cr 6 | SUJ2 | STB 2 | SchCh 15 |
| | | F. 1451 - 46 SI 7 | | | |
| 2090 | 48 Si 7 | F.1450-50 Si 7 | | | |
| | 50 Si 7 | | | | |
| 2085 2090 | 55 Si 7 | F.1440 - 56 Si 7 | | | 55S2 |
| | 60 Si 7 | F. 1441 - 60 Si 7 | | | 60S2 |
| | | | 50 P 7 SUP 6 | SPS 6 | |
| | | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 6 | A 204 Gr.A<br>4017 | 1.5415 | 16Mo3<br>15 Mo 3 | 1503-243 B | | 15 D 3 |
| 6 | 4419 | 1.5419 | 20Mo4 | 1503-243-430 | | |
| 6 | A 350-LF 5 | 1.5622 | 14Ni6 | | | 16N6 |
| 6 | 3415 | 1.5732 | 1 NilCr10 | | | 14 NC 11 |
| 6 | 3310; 3314 | 1.5752 | 14NilCr14 | 655M13 | 36A | 12NC15 |
| 6 | | 1.6587 | 17CrNiMo6 | 820A16 | | 18NCD6 |
| 6 | | 1.6657 | 14NiCrMo134 | | | |
| 6 | 5515 | 1.7015 | 15 Cr 3 | 523 M 15 | | 12 C 3 |
| 6 | 5132 | 1.7033 | 34Cr4 | 530A32 | 18B | 32C4 |
| 6 | 5140 | 1.7035 | 41C r4 | 530M40 | 18 | 42C4 |
| 6 | 5140 | 1.7045 | 42Cr41 | 530 A 40 | | 42 C 4 TS |
| 6 | 5115 | 1.7131 | 16MnCr5 | 527 M 17 | | 16 MC 5 |
| 6 | | 1.7139 | 16MnCr5 | | | |
| 6 | 5515 | 1.7176 | 55Cr3 | 527 A 60 | 48 | 55 C 3 |
| 6 | 4135; 4137 | 1.7220 | 34CrMo4 | 708 Aa 37 | | 35 CD 4 |
| 6 | 4142 | 1.7223 | 41CrMo4 | | | |
| 6 | 4140 | 1.7225 | 42CrMo4 | 708 M 0 | | 42 CD 4 |
| 6 | | 1.7228 | 55NiCrMoV6G | 823M30 | 33 | |
| 6 | | 1.7262 | 15CrMo5 | | | 12 CD 4 |
| 6 | | 1.7321 | 20 mOcR 4 | | | |
| 6 | ASTM A182 F-12 | 1.7335 | 13CrMo4 4 | 1501-620Gr27 | | |
| 6 | A 182-F11;12 | 1.7335 | 13 CrMo 4 4 | 1 501 620 Gr. 27 | | 15 CD 4.5 |
| 6 | ASTM A 182 F.22 | 1.7380 | 10CrMo9 10 | 1501-622gR31; 45 | | |
| 6 | A182 F-22 | 1.7380 | 10 CrMo 9 10 | 1501-622 | | 12 CD 9.10 |
| 6 | | 1.7715 | 14MoV6 3 | 1503-660-440 | | |
| 6 | A355A | 1.8509 | 41CrAlMo 7 | 905 M 39 | 41B | 40 CAD 6.12 |
| 7 | A570.36 | 1.0038 | S235JRG2 (Fe 360 B)<br>RSt 37-2 | Fe 360 B FU<br>1449 27/23 CR<br>4360-40 B | | E 24-2NE |
| 7 | 3135 | 1.5710 | 36NiCr6 | 640A35 | | 35NC6 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 2912 | 16Mo3(KG;KW) | F. 2601 - 16 Mo 3 | | | |
| -2512 | G 20 Mo 5 G 22 Mo5 | | SCPH 11 | SCPH 11 | |
| 14 Ni 6 KG;KT | F.2641 - 15 Ni 6 | | | | |
| 16NiCr11 | 15NiCr11 | SNC415(H) | | | |
| | | SNC815(H) | | | |
| | 14NiCrMo13 | | | | |
| | 14NiCrMo131 | | | | |
| | | | SCr415(H) | SCr415(H) | |
| | 34Cr4(KB) | 35Cr4 | SCr430(H) | SCr430(H) | |
| | 41Cr4 | 42Cr4 | SCr440(H) | SCr440(H) | |
| 2245 | 41Cr4 | 42Cr4 | SCr440 | SCr440 | |
| 2511 | 16MnCr5 | 16MnCr5 | | | |
| 2127 | | | | | |
| 2253 | | | SUP9(A) | SPS 9(A) | |
| 2234 | | | | | |
| | 41CrMo4 | 42CrMo4 | SNB 22-1 | SNB 22-1 | |
| 2244 | | | | | |
| 2512 | 653M31 | | | | |
| 2216 | | 12CrMo4 | | | |
| 2625 | | | | | |
| | 14CrMo4 5 | 14CrMo45 | | | |
| 2216 | | 12CrMo4 | SCM415(H) | SCM415(H) | |
| | | | | | |
| 2218 | 12CrMo9,10 | TU.H | | | |
| | | 13MoCrV6 | | | |
| 2940 | 41CrAlMo7 | 41CrAlMo7 | | | |
| 1312 | Fe 360 B FN | AE 235 B FN;FU<br>Fe 360 B FN; FU | | | St3ps; sp |
| | | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 7 | | 1.5755 | 31 NiCr 14 | 653 M 31 | | 18 NC 13 |
| 7 | 8620 | 1.6523 | 2 NiCrMo2 | 805M20 | 362 | 20 NCD 2 |
| 7 | 8740 | 1.6546 | 40 NiCrMo 22 | 311-Tyre 7 | | |
| 7 | 4130 | 1.7218 | 25CrMo4 | CDS 110 | | 25 CD 4 |
| 7 | | 1.7733 | 24 CrMoV 5 5 | | | 20 CDV 6 |
| 7 | | 1.7755 | GS-45 CrMOV 10 4 | | | |
| 7 | | 1.8070 | 21 CrMoV 5 11 | | | |
| 8 | 4142 | 1.2332 | 47 CrMo 4 | 708 M 40 | 19A | 42 CD 4 |
| 8 | A128 (A) | 1.3401 | G-X120 Mn 12 | | | Z 120 M 12 |
| 8 | 3435 | 1.5736 | 36 NiCr 10 | | | 30 NC 11 |
| 8 | 9840 | 1.6511 | 36CrNiMo4 | 816M40 | 110 | 40NCD3 |
| 8 | 4340 | 1.6582 | 35CrNiM 6 | 817 M 40 | 24 | 35 NCD 6 |
| 8 | | 1.7361 | 32 CeMo12 | 722 M 24 | 40B | 30 CD 12 |
| 8 | 6150 | 1.8159 | 50 CrV 4 | 735 A 50 | 47 | 50CrV4 |
| 8 | | 1.8161 | 58 CrV 4 | | | |
| 8 | | 1.8515 | 32 CrMo 12 | 722 M 24 | 40B | 30 CD 12 |
| 8 | | 1.8523 | 39CrMoV13 9 | 897M39 | 40C | |
| 9 | | 1.4882 | X 50 CrMnNiNbN 21 9 | | | Z 50 CMNNb 21.09 |
| 9 | 3135 | 1.5710 | 36NiCr6 | 640A35 | 111A | 35NC6 |
| 9 | | 1.5864 | 35 niCr 18 | | | |
| 9 | | | 31 NiCrMo 13 4 | 830 m 31 | | |
| 10 | A573-81 | 1.0144 | ST 44-3 | 4360 43 C | | E 28-3 |
| 10 | A 619 | 1.0347 | DCO3<br>RSt;RRSt 13 | 1449 3 CR<br>1449 2 CR | | E |
| 10 | M 1015<br>M 1016<br>M 1017 | 1.0401 | C15 | 080 M 15<br>080 M 15<br>1449 17 CS | | AF 37 C12<br>XC 18 |
| 10 | | 1.0570 | ST 52-3 | 4360 50 B | | E 36-3 |
| 10 | 12L13 | 1.0718 | 9SMnPb28 | | | S250Pb |
| 10 | (12L13) | 1.0718 | 9 SMnPb 28 | | | S 250 Pb |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| | | | | | |
| 2506 | 20NiCrMo2 | 20NiCrMo2 | SNCM220(H) | SNCM220(H) | |
| | 40NiCrMo2(KB) | 40NiCrMo2 | SNCM240 | SNCM240 | |
| 2225 | 25CrMo4(KB) | 55Cr3 | SCM420/430 | SCM420/430 | |
| | 21 CrMoV 5 11 | | | | |
| | | | | | |
| | 35 NiCr 9 | | | | |
| 2244 | 42CrMo4 | 42CrMo4 | SCM (440) | SCM (440) | |
| 2183 | GX120Mn12 | F. 8251-AM-X120Mn12 | SCMnH 1, SCMn H 11 | SCMnH 1, SCMn H 11 | 110G13L |
| | | | | | |
| | 36nIcRmO4(KB) | 35NiCrMo4 | SUP 10 | SPS 10 | |
| 2541 | 35NiCrMo6(KB) | | SNCM 447 | SNCM 447 | |
| 2240 | 30CrMo12 | F.124.A | | | |
| 2230 | 50CrV4 | 51CrV4 | | | |
| | | | | | |
| 2240 | 32CrMo12 | F.124.A | | | |
| | 36CrMoV12 | | | | |
| | | | | | |
| | | | SNC236 | SNC236 | |
| | | | | | |
| 2534 | | f-1270 | | | |
| 1412 | | | SM 400A;B;C | SM 400A;B;C | |
| | Fep 02 | AP 02 | | | 08JU |
| 1350 | C15<br>C16<br>1 C 15 | F.111 | S 15 C | SM 15 C | |
| 2132 | Fe52BFN/Fe52CFN | | SM490A;B;C;YA;YB | SM490A;B;C;YA;YB | |
| 1914 | CF9SMnPb28 | 11SMnPb28 | | | |
| 1914 | CF 9 SMnPb 28 | 11 SMnPb 28 | SUM 22L | SUM 22L | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 10 | | 1.0723 | 15 S 22<br>15 S 20 | 210 A 15<br>210 M 15 | |
| 10 | | 1.2083 | | | |
| 10 | H 11 | 1.2343 | x 38 CrMoV 5 1 | BH 11 | Z 38 CDV 5 |
| 10 | H 13 | 1.2344 | X 40 CrMoV 5 1 | BH 13 | Z 40 CDV 5 |
| 10 | A 2 | 1.2363 | X100 CrMoV 5 1 | BA 2 | Z 100 CDV 5 |
| 10 | D 2 | 1.2379 | X 155 CrVMo 12 1 | BD2 | Z 160 CDV 12 |
| 10 | HNV3 | 1.2379 | X210Cr12G | BD2 | Z160CDV12 |
| 10 | D 4 (D 6) | 1.2436 | X 210 CrW 12 | BD6 | Z 200 CD 12 |
| 10 | H 21 | 1.2581 | X 30 WCrV 9 3 | BH 21 | Z 30 WCV 9 |
| 10 | | 1.2601 | X 165 CrMoV 12 | | |
| 10 | H 12 | 1.2606 | X 37 CrMoW 5 1 | BH 12 | Z 35 CWDV 5 |
| 10 | D3 | 1.3343 | S 6-5-2 | BM2 | Z200C12 |
| 10 | N08028 | 1.4563 | | | Z1NCDU31-27-03 |
| 10 | ASTM A353 | 1.5662 | X8Ni9 | 1501-509;510 | |
| 10 | ASM A353 | 1.5662 | X8Ni9 | 502-650 | 9 Ni |
| 10 | 2517 | 1.5680 | 12Ni19 | 12Ni19 | Z18N5 |
| 10 | 2515 | 1.5680 | 12 Ni 19 | | Z 18 N 5 |
| 11 | | 1.3202 | S 12-1-4-5 | BT 15 | |
| 11 | | 1.3207 | S 10-4-3-10 | BT 42 | Z130WKCDV |
| 11 | T15 | 1.3243 | S 6-5-2-5 | | KCV<br>06-05-05-04-02 |
| 11 | | 1.3246 | S 7-4-2-5 | | Z110 WKCDV<br>07-05-04 |
| 11 | | 1.3247 | S 2-10-1-8 | BM 42 | Z110 DKCWV<br>09-08-04 |
| 11 | M 42 | 1.3249 | S 2-9-2-8 | BM 34 | |
| 11 | T 4 | 1.3255 | S 18-1-2-5 | BT 4 | Z 80 WKCV<br>18-05-04-0 |
| 11 | M 2 | 1.3343 | S6-5-2 | BM2 | Z 85 WDCV |
| 11 | M 7 | 1.3348 | S2-9-2 | | Z 100 DCWV<br>09-04-02- |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 1922 | | F.210.F | SUM 32 | SUM 32 | |
| 2314 | | | | | |
| | X 37 CrMoV 5 1 KU | | | | |
| 2242 | X40CrMoV511KU | F-5318 | SKD61 | STD61 | |
| 2260 | X100CrMoV51KU | F-5227 | SKD12 | STD12 | |
| 2310 | X165CrMoW12KU | X160CrMoW12KU | | | |
| 2736 | | | | | |
| 2312 | X215CrW 12 1 KU | F-5213 | | | |
| | X30WCrV 9 3 KU | F-526 | SKD5 | STD5 | |
| 2310 | | | | | |
| | X 35 CrMoW 05 KU | F.537 | | | |
| 2715 | X210Cr13KU | X210Cr12 | SUH3 | STR3 | |
| 2584 | | | | | |
| | 14 Ni 6 KG;KT | XBNiO9 | | | |
| | X10Ni9 | F-2645 | SL9N60(53) | SL9N590(520) | |
| | | | | | |
| | | | | | |
| | HS 12-1-5-5 | 12-1-5-5 | | | |
| | | | | | |
| 2723 | HS 6-5-2-5 | 6-5-2-5 | SKH55 | SKH55 | |
| 7-4-2-5 | HS 7-4-2-5 | M 35 | | | |
| 2-10-1-8 | HS 2-9-1-8<br>2-9-2-8 | M 41 | | | |
| | | | | | |
| | | | | | |
| 2722 | HS 652 | F-5604 | SKH 51 | SKH 51 | |
| 2782 | HS 292 | F-5607 | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 11 | T 1 | 1.3355 | S 18-0-1 | BT 1 | | Z 80 WCV 18-4-01 |
| 11 | 630 | 1.4548 | | | | Z7CNU17-04 |
| 11 | HNV 3 | 1.4718 | X45CrSi 9 3 | 401S45 | 52 | Z45CS9 |
| 11 | 422 | 1.4935 | x20 CrMoWV 12 1 | | | |
| 12 | 403 | 1.4000 | X6Cr13 | 403 S 17 | | Z 6 C 13 |
| 12 | | 1.4001 | X6Cr14 | | | |
| 12 | (410S) | 1.4001 | X7 Cr 13 | (403 S 7) | | Z 8 C 13 |
| 12 | 405 | 1.4002 | X6CrA12 | 405S17 | | Z8CA12 |
| 12 | 405 | 1.4002 | X6 CrAl 13 | 405 S 17 | | Z6CA13 |
| 12 | 416 | 1.4005 | X12CrS 13 | 416 S 21 | | Z11 CF 13 |
| 12 | 410; CA-15 | 1.4006 | (G-)X10 Cr 13 | 410S21 | 56A | Z10 C 13 |
| 12 | 430 | 1.4016 | X8Cr17 | Z8C17 | | 430S15 |
| 12 | 430 | 1.4016 | X6 Cr 17 | 430 S 15 | 60 | Z 8 C 17 |
| 12 | | 1.4027 | G-X20Cr14 | 420 C 29 | | Z20 C 13M |
| 12 | | 1.4027 | G-X 20 Cr 14 | 420 C 29 | | Z 20 C 13M |
| 12 | 420 | 1.4028 | X30 Cr 13 | 420 S 45 | | Z 30 C 13 |
| 12 | | 1.4086 | G-X120Cr29 | 452C11 | | |
| 12 | 430 F | 1.4104 | X12CrMoS17 | 420 S 37 | | Z 10 CF 17 |
| 12 | 440B | 1.4112 | X90 CrMoV 18 | | | |
| 12 | 434 | 1.4113 | X6CrMo 17 | 434 S 17 | | Z 8 CD 17.01 |
| 12 | | 1.4340 | G-X40CrNi27 4 | | | |
| 12 | S31500 | 1.4417 | X2CrNiM0Si19 5 | | | |
| 12 | S31500 | 1.4417 | X2 CrNoMoSi 18 5 3 | | | |
| 12 | | 1.4418 | X4 CrNiMo16 5 | | | Z6CND16-04-01 |
| 12 | XM 8<br>430 Ti<br>439 | 1.4510 | | | | Z 4 CT 17 |
| 12 | 430tl | 1.4510 | X6 CrTi 17 | | | Z 4 CT 17 |
| 12 | | 1.4511 | X 6 CrNb 17(X 6 CrNb 17 | | | Z 4 CNb 17 |
| 12 | 409 | 1.4512 | X 6 CrTi 12<br>(X2CrTi12) | LW 19<br>409 S 19 | | Z 3 CT 12 |
| 12 | | 1.4720 | X20CrMo13 | | | |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | X45CrSi8 | F322 | SUH1 | STR1 | |
| | | | | | |
| 2301 | X6Cr13 | F.3110 | SUS403 | STS 403 | |
| | | F8401 | | | |
| 2301 | | | | | |
| | X6CrAl13 | | | | |
| 2302 | X6CrAl13 | | | | |
| 2380 | X12 CrSC13 | F-3411 | SUS 416 | SUS 416 | |
| 2302 | X12Cr13 | F.3401 | SUS 410 | SUS 410 | |
| 2320 | X8Cr17 | F.3113 | | | |
| 2320 | X8Cr17 | F.3113 | SUS 430 | SUS 430 | |
| | | | | | |
| | | | | | |
| 2304 | | | | | |
| | | | | | |
| 2383 | X10CrS17 | F.3117 | SUS430F | STS 430F | |
| | | | | | |
| 2325 | X8CrMo17 | | SUS434 | STS 434 | |
| | | | | | |
| 2376 | | | | | |
| 2376 | | | | | |
| 2387 | | | | | |
| | X 6 CrTi 17 | F.3115-X 5 CrTi 17 | SUS 430 LK | STS 430 LX | 08 Ch17T |
| | | | | | |
| | X 6 CrNb 17 | F.3122-X 5 CrNb 17 | SUS 430 LK | STS 430 LX | |
| | X 6 CrTi 17 | | SUH 409 | STR 409 | |
| | | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 12 | 405 | 1.4724 | X10CrA113 | 403S17 | | Z10C13 |
| 12 | 430 | 1.4742 | X10CrA118 | 439S15 | 60 | Z10CAS18 |
| 12 | HNV6 | 1.4747 | X80CrNiSi20 | 443S65 | 59 | Z80CSN20.02 |
| 12 | 446 | 1.4749 | x18 cRn 28 | | | |
| 12 | 446 | 1.4762 | X10CrA124 | | | Z10CAS24 |
| 12 | EV 8 | 1.4871 | X 53 CrMnNiN 21 9 | 349 S 54 | | Z 52 CMN 21.09 |
| 12 | 302 | | x12 CrNi 18 9 | 302 S 31 | | Z 10 CN 18-09 |
| 12 | 429 | | X10 CrNi 15 | | | |
| 13 | 420 | 1.4021 | X20Cr13 | 420S37 | | Z 20 C 13 |
| 13 | 420 | 1.4031 | X40 Cr 13 | | | Z 40 C 14 |
| 13 | | 1.4034 | X46Cr13 | 420 S 45 | | Z40 C 14 |
| 13 | 431 | 1.4057 | X20CrNi172 | 431 S 29 | 57 | Z 15 CN 16.02 |
| 13 | | 1.4125 | X 105 CrMo 17 | | | Z 100 CD 17 |
| 13 | CA6-NM | 1.4313 | G-X4 CrNi 13 4 | 425 C 11 | | Z 4 CND 13-04 M |
| 13 | 630 | 1.4542 | X 5 CrNiCuNb 17 4 (X5CrNiCuNb 16-4) | | | |
| 13 | | 1.4544 | | S. 524 S. 526 | | |
| 13 | 348 | 1.4546 | X5CrNiNb 18-10 | 347 S 31 2 S. 130 2 S. 143/144/145 S.525/527 | | |
| 13 | | 1.4922 | x20cRmV12-1 | | | |
| 13 | | 1.4923 | X22 CrMoV12 1 | | | |
| 14 | 304 | 1.4301 | X 5 CrNi 18 9 | 304 S 15 | | Z 5 CN 18.09 |
| 14 | 303 | 1.4305 | X10 CrNiS 18 9 | 303 S 21 | 58M | Z 8 CNF 18-09 |
| 14 | 304L | 1.4306 | X2CrNi18 9 | 304S12 | | Z2CrNi18 10 |
| 14 | 304L | 1.4306 | X2 CrNi 18 10 | 304 S 11 | | Z 3 CN 19-11 |
| 14 | CF-8 | 1.4308 | X6 CrNi 18 9 | 304 C 15 | 58E | Z 6 CN 18-10 M |
| 14 | 301 | 1.4310 | X12CrN i17 7 | 301 S 21 | | Z 12 CN 17.07 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| | X10CrA112 | F.311 | | | |
| | X8Cr17 | F.3113 | SUS430 | STS430 | |
| | X80CrSiNi20 | F.320B | SUH4 | STR4 | |
| | | | | | |
| 2322 | X16Cr26 | | SUH446 | STR446 | |
| | X53CrMnNiN21 9 | | SUH35,SUH36 | STR35,STR36 | |
| 2330 | | | | | |
| | | | | | |
| 2303 | 14210 | | | | |
| -2304 | | | | | |
| | X40Cr14 | F.3405 | SUS420J2 | STS420J2 | |
| 2321 | X16CrNi16 | F.3427 | SUS431 | STS431 | |
| | X 105 CrMo 17 | | | | |
| 2385 | (G)X6CrNi304 | | SCS5 | SSC5 | |
| | | | | | |
| | X 6 CrNiTi 18 11 | | | | 08Ch 18N12T |
| | X 6 CrNiNb 18 11 | | | | |
| 2317 | x20cRmOnI 12 01 | | | | |
| | | | | | |
| 2332;2333 | | | | | |
| 2346 | X10CrNiS18.09 | F.3508 | SUS303 | STS303 | |
| 2352 | x2cRnI18 11 | F.3503 | SCS19 | SSC19 | |
| 2352 | X2CrNi18 11 | | | | |
| 2333 | | | SUS304L | STS304L | |
| 2331 | X2CrNi18 07 | F.3517 | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 14 | 304 LN | 1.4311 | X2 CrNiN 18 10 | 304 S 62 | | Z 2 CN18.10 |
| 14 | | 1.4312 | G-X10CrNi18 8 | 302C25 | | Z10CN18.9M |
| 14 | 305 | 1.4312 | X8 CrNi 18 12 | 305 S 19 | | |
| 14 | | 1.4332 | X2 CrNi 18-8 | | | |
| 14 | 304 | 1.4350 | X5CrNi18 9 | 304S15 | 58E | Z6CN18.09 |
| 14 | S32304 | 1.4362 | X2 CrNiN 23 4 | | | Z 2 CN 23-04 AZ |
| 14 | 202 | 1.4371 | X3 CrMnNiN 188 8 7 | 284 S 16 | | Z 8 CMN<br>18- 08-05 |
| 14 | 316 | 1.4401 | X 5 CrNiMo 17 12 2<br>(X4 CrNiMo 17 -12-2) | 316 S 13<br>316 S 17<br>316 S 19<br>316 S 31<br>316 S 33 | | Z 3 CND 17 -11-01<br>Z 6 CND 17-11<br>Z 6 CND 17-11-02<br>Z 7 CND 17-11-02<br>Z 7 CND 17-12-02 |
| 14 | 316L | 1.4404 | X2 CrNiMo 17 13 2<br>(X2 CrNiMo 17-12-2)<br>GX 2 CrNiMoN 18-10 | 316 S 11, 316 S 13<br>316 S 14, 316 S 31;<br>316 S 42, S.537;316<br>C 12, T.75, S. 161 | | Z 2 CND 17-12<br>Z 2 CND 18-13<br>Z 3 CND 17-11-02<br>Z 3 CND<br>17-12-02 FF<br>Z 3 CND 18-12-03<br>Z 3 CND 19.10 M |
| 14 | 316LN | 1.4406 | X2 CrNiMoN 17 12 2<br>(X2CrNiMoN 18-10) | 316 S 61<br>316 S 63 | | Z2 CND 17-12 AZ |
| 14 | CF-8M | 1.4408 | GX 5 CrNiMoN 7 12 2<br>G-X 6 CrNiMo 18 10 | 316 C 16 (LT 196)<br>ANC 4 B | | |
| 14 | | 1.4410 | G-X10CrNiMo18 9 | | | Z5CNaD20.12M |
| 14 | 316 Ln | 1.4429 | X2 CrNiMo 17 -13-3 | 316 S 62 | | Z 2 CND 17-13 Az |
| 14 | 316L | 1.4435 | X2 CrNiMo18 14 3 | 316 S 11;316 S 13<br>316 S 14;316 S 31<br>LW 22<br>LWCF 22 | | Z 3 CND 17-12-03<br>Z 3 CND 18-14-03 |
| 14 | 316 | 1.4436 | X 5 CrNiMo 17 13 3<br>(X4CRNIMO 17-13-3 | 316 S 19; 316 S 31<br>316 S 33<br>LW 23<br>LWCF 23 | | Z 6 CND 18-12-03<br>Z 7 CND 18-12-03 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 2371 | X2CrNiN18 10 | | SUS304LN | STS304LN | |
| 2332 | X5CrNi18 10 | F.3551 | SUS304 | STS304 | |
| 2347 | X 5 CrNiMo 17 12 | F.3534-X 5 CrNiMo 17 12 2 | SUS 316 | STS 316 | |
| 2348 | X 2 CrNiMo 17 12 | F.3533 - X 2 CrNiMo 17 13 2 | | | |
| | G-X 2 CrNiMo 19 11 | F.3537 - X 2 CrNiMo 17 13 3 | SUS 316 L | STS 316 L | |
| | X 2 CrNiMoN 17 12 | F.3542-X 2 CrNiMoN 17 12 2 | SUS316LN | STS316LN | |
| 2343 | | F.8414-AM-X 7 CrNiMo 20 10 | SCS 14 | SSC 14 | 07 Ch 18N10G2S2MSL |
| 2328 | | | | | |
| 2375 | X 2 CrNiMoN 17 13 | F.3543-X 2 CrNiMoN 17 13 3 | SUS 316 LN | STS 316 LN | |
| 2375 | X 2 CrNiMoN 17 13 | F.3533-X 2 CrNiMo 17 13 2 | SUS 316 L | STS 316 L | O3 Ch 17N14M3 |
| 2343 | X 5 CrNiMo 117 13<br>X 8 cRnImO 17 13 | F.3543-X 5 CrNiMo 17 12 2<br>F.3538-X 5 CrNiMo 17 13 | SUS 316 | STS 316 | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 14 | 317L | 1.4438 | X2 CrNiMo 18 16 4<br>(X2CrNiMo 18-15-4) | 317 S 12 | | Z 2 CND 19-15-04<br>z 3 cnd 19-15-04 |
| 14 | (s31726) | 1.4439 | X2 CrNiMoN 17 13 5 | | | Z 3 CND<br>18-14-06 AZ |
| 14 | | 1.4440 | X 2 CrNiMo 18 13 | | | |
| 14 | 317 | 1.4449 | X5 CrNiMo 17 13 3 | 317 S 16 | | |
| 14 | 329 | 1.4449<br>1.4460 | X 4 CrNiMo 27 5 2<br>(X3CrNiMo27-5-2) | | | (Z 3 CND 25-07 Az)<br>Z 5 CND 27-05 Az |
| 14 | 329 | 1.4460 | X8CrNiMo27 5 | | | |
| 14 | | 1.4462 | X2CrNiMoN22 5 3 | 318 S 13 | | Z 3 CND 22-05 Az<br>(Z 2 CND 24 -08 Az )<br>(Z 3 CND 25-06-03 Az) |
| 14 | | 1.4500 | G-X7NiCrMoCuNb25 20 | | | 23NCDU25.20M |
| 14 | 17-7PH | 1.4504 | | 316S111 | | |
| 14 | 443<br>444 | 1.4521 | X2CrMoTi18-2 | 317 S 16 | | |
| 14 | UNS N 08904 | 1.4539 | X1NiCrMoCuN25-20-5 | | | Z 2 NCDU 25-20 |
| 14 | CN-7M | 1.4539 | (G-)X1 NiCrMoCu 25 20 5 | | | Z1 NCDU 25-02 M |
| 14 | 321 | 1.4541 | Z 6 CrNiTi 18-10 | 321 S 31<br>321 S 51 (1010;1105)<br>LW 24<br>LWCF 24 | | Z 6 CNT 18-10 |
| 14 | 630 | 1.4542 | X5 CrNiCuNb 17 4<br>(X5 CrNiChNb 16-4) | | | Z 7 CNU 15-05<br>Z 7 CNU 17-04 |
| 14 | 17-4PH | 1.4542 | | | | Z7CNU17-04 |
| 14 | S31254 | 1.4547 | X1 CrNiMoN 20 18 7 | | | |
| 14 | 17-4PH | 1.4548 | | | | Z7CNU17-04 |
| 14 | 347 | 1.4550 | X6 CrNiNb 18 10 | 347 S 17 | 58F | Z 6 CNNb 18.10 |
| 14 | | 1.4552 | G-X7CrNiNb18 9 | | | Z4CNNb19.10M |
| 14 | 17-7PH | 1.4568 | | 316S111 | | |
| 14 | 316tTi | 1.4571 | X6 CrNiMoTi 17 12 2 | 320 S 31 | | Z 6 CNDT 17-12002 |
| 14 | | 1.4581 | G-X 5 CrNiMoNb | 318 C 17 | | Z 4 CNDNb 18.12 M |
| 14 | 318 | 1.4583 | X 10CrNiMoNb 18 12 | 303 S 21 | | Z15CNS20.12 |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 2367 | X2CrNiMo18 16 | f.3539-x 2 cRnImO 18 16 4 | SUS317L | STS317L | |
| | | | | | |
| | | | | | |
| | X 5 CrNiMo 18 15 | | SUS 317 | STS 317 | |
| 2324 | | F.3309-X 8 CrNiMo 17 12 2 | | | |
| | | F.3552-X 8 CrNiMo 18 16 4 | SUS 329 J 1 | STS 329 J 1 | |
| | | | | | |
| 2377 | | | SUS 329 J3L | STS 329 J3L | |
| | Z8CNA17-07 | X2CrNiMo1712 | | | |
| | | | | | |
| 2326 | | F.3123-X 2 CrMoTiNb 18 2 | SUS 444 | STS 444 | |
| 2562 | | | | | |
| 2564 | | | | | |
| 2337 | X 6 CrNiTi 18 11 | F.3523 - X 6 CrNiTi 18 10 | SUS 321 | STS 321 | 06Ch18N10T<br>08Ch18N10T<br>09Ch18N10T<br>12Ch18N10T |
| | | | SCS 24 | SSC 24 | |
| | | | SUS 630 | STS 630 | |
| | | | | | |
| 2378 | | | | | |
| | | | | | |
| 2338 | X6CrNiNb18 11 | F.3552 | SUS347 | STS347 | |
| | | | | | |
| | Z8CNA17-07 | X2CrNiMo1712 | | | |
| 2350 | | | | | |
| | x15cRnIsI2 12 | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 14 | | 1.4585 | G-X7CrNiMoCuNb18 18 | | | |
| 14 | | 1.4821 | X20CrNiSi25 4 | | | Z20CNS25.04 |
| 14 | | 1.4823 | G-X40CrNiSi27 4 | | | |
| 14 | 309 | 1.4828 | X15CrNiSi20 12 | 309 S 24 | 58C | Z15CNS20.12 |
| 14 | 309S | 1.4833 | X6 CrNi 22 13 | 309 S 13 | | Z 15 CN 24-13 |
| 14 | 310 S | 1.4845 | X12 CrNi 25 21 | 310S24 | | Z 12 CN 25-20 |
| 14 | 321 | 1.4878 | X6 CrNiTi 18 9 | 32 1 S 20 | 58B | Z 6 CNT 18-12 (B) |
| 14 | Ss30415 | 1.4891 | X5 CrNiNb 18 10 | | | Z20CNS25.04 |
| 14 | S30815 | 1.4893 | X8 CrNiNb 11 | | | |
| 14 | 304H | 1.4948 | X6 CrNi 18 11 | 304 S 51 | | Z 5 CN 18-09 |
| 14 | 660 | 1.498 | X5 NiCrTi 25 15 | | | Zz 8 nctv 25-15 b ff |
| 14 | | | X5 NiCrN 35 25 | | | |
| 14 | S31753 | | X2 CrNiMoN 18 13 4 | | | |
| 14 | | | X2 CrNiMoN 25 22 7 | | | |
| 15 | CLASS20 | 0.6010 | GG10 | | | Ft10D |
| 15 | A48-20B | 0.6010 | GG-10 | | | Ft 10 D |
| 15 | NO 25 B | 0.6015 | GG 15 | Grade 150 | | Ft 15 D |
| 15 | CLASS25 | 0.6015 | GG 15 | Grade 150 | | Ft 15D |
| 15 | A48 25 B | 0.6015 | GG 15 | Grade 150 | | Ft 15 D |
| 15 | A48-30B | 0.6020 | GG-20 | Grade 220 | | Ft 20 D |
| 15 | NO 30 B | 0.6020 | GG 20 | Grade 220 | | Ft 20 D |
| 15 | A436 Type 2 | 0.6660 | GGL-NiCr202 | L-NiCuCr202 | | L-NC 202 |
| 15 | 60-40-18 | 0.7040 | GGG 40 | SNG 420/12 | | FCS 400-12 |
| 15 | No 20 B | | GG 10 | | | Ft 10 D |
| 16 | CLASS30 | 0.6020 | GG 20 | Grade 220 | | Ft 20D |
| 16 | CLASS45 | 0.6030 | GG 30 | Grade 300 | | Ft 30D |
| 16 | A48-45 B | 0.6030 | | Grade 350 | | Ft 30D |
| 16 | A48-50 | 0.6035 | GG-35 | Grade 350 | | Ft 35 D |
| 16 | A48-60 B | 0.6040 | GG40 | Grade 400 | | Ft 40 D |
| 16 | 100/70/03 | 0.7070 | GGG-70 | SNG700/2 | | FGS 700-2 |

| SS | UNI | UNE | JIS | KS | GOST |
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| | X6CrNiMoTi17 12 | | | | |
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| | | F.8414 | SCS17 | SSC17 | |
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| 2361 | X6CrNi25 20 | F.331 | SUH310 | STR310 | |
| 2337 | X6CrNiTi18 11 | F.3553 | SUS321 | STS321 | |
| 2372 | | | | | |
| 2368 | | | | | |
| 2333 | | | | | |
| 2570 | | | | | |
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| 110 | G 10 | | | | |
| 0110-00 | | | | | |
| 0115-00 | G 15 | FG 15 | FC150 | GC150 | |
| 115 | G 15 | FG 15 | | | |
| 01 15-00 | G 14 | FG 15 | | | |
| 0120-00 | | | | | |
| 120 | G 20 | | FC200 | GC200 | |
| 0523-00 | | | | | |
| 0717-02 | GS 370-17 | FGE 38-17 | FCD400 | GCD400-18,15 | |
| 110 | | | FC100 | GC100 | |
| 120 | G 20 | FG 20 | | | |
| 130 | G 30 | FG 30 | FC300 | GC300 | |
| 01 30-00 | | | | | |
| 135 | G 35 | FG 35 | FC350 | GC350 | |
| 140 | | | | | |
| 07 37-01 | GGG 70 | GGG 70 | FCD700 | GCD700-2 | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 16 | | 1.4829 | X 12 CrNi 22 12 | | |
| 17 | | 0.7033 | GGG35.3 | | |
| 17 | | 0.7033 | GGG-35.3 | 350/22 L 40 | FGS 370/17 |
| 17 | 60-40-18 | 0.7040 | GGG-40 | SNG 420/12 | FGS 400-12 |
| 17 | 60/40/18 | 0.7043 | GGG-40.3 | 370/7 | FGS 370/17 |
| 17 | 80-55-06 | 0.7050 | GGG50 | SNG500/7 | FGS 500/7 |
| 17 | 65-45-12 | 0.7050 | GGG-50 | SNG 500/7 | FGS 500-7 |
| 17 | | 0.7652 | GGG-NiMn 13 7 | S-NiMn 137 | S-Mn 137 |
| 17 | A43D2 | 0.7660 | GGG-NiCr 20 2 | Grade S6 | S-NC 202 |
| 17 | | | GGG 40.3 | SNG 370/17 | FGS 370-17 |
| 18 | A48-40 B | 0.6025 | GG25 | Grade260 | Ft 25 D |
| 18 | | 0.7060 | GGG60 | SNG600/3 | FGS600-3 |
| 18 | 80/55/06 | 0.7060 | GGG-60 | 600/3 | FGS 600/3 |
| 18 | A48 40 B | | | | |
| 19 | | 0.8055 | GTW55 | | |
| 19 | 32510 | 0.8135 | GTS-35-10 | B 340/12 | MN35-10 |
| 19 | A47-32510 | 0.8135 | GTS-35-10 | B 340/2 | Mn 35-10 |
| 19 | A220-40010 | 0.8145 | GTS-45-06 | P 440/7 | Mn 450-6 |
| 19 | | | GTS-35 | B 340/12 | |
| 19 | | | | 8 290/6 | MN 32-8 |
| 19 | 32510 | | GTS-35 | B340/12 | MN 35-10 |
| 20 | | 0.8035 | GTM-35 | W340/3 | MB35-7 |
| 20 | | 0.8040 | GTW-40 | W410/4 | MB40-10 |
| 20 | | 0.8045 | | | |
| 20 | | 0.8065 | GTMW-65 | | |
| 20 | A220-50005 | 0.8155 | GTS-55-04 | P 510/4 | Mn 550-4 |
| 20 | 50005 | 0.8155 | GTS-55-04 | P 510/4 | MP 50-5 |
| 20 | 70003 | 0.8165 | GTS-65-02 | P 570/3 | Mn 650-3 |
| 20 | 90001 | 0.8170 | GTS-70-02 | P 690/2 | Mn 700-2 |
| 20 | A220-90001 | 0.8170 | GTS-70-02 | | Mn 700-2 |

| SS | UNI | UNE | JIS | KS | GOST |
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| 0717-15 | | | | | |
| 0717-15 | | | | | |
| 0717-02 | | | | | |
| 0717-15 | | | | | |
| 0727-02 | GGG 50 | | | | |
| | 0727-02 | | FCD 500 | GCD 500-7 | |
| | | | | | |
| 0772-00 | | | | | |
| 0776-00 | | | | | |
| 0717-12 | | | | | |
| 125 | G 25 | FG 25 | FC250 | GC250 | |
| 07 32-03 | GGG 60 | GGG 60 | | | |
| 0727-03 | | | FCD600 | GCD600-3 | |
| | | | | | |
| | | GTW 55 | | | |
| 810 | | GTS 35 | | | |
| 0815-00 | | | | | |
| | 0852-00 | GMN 45 | | | FCMW370 |
| | | | | | |
| 0810-00 | | | | | |
| 814 | | | AC4A | AC4A | |
| 08 15 | | | FCMW330 | FCMW330 | |
| 852 | | GTM 35 | | | |
| | GTB40 | GTM 40 | | | |
| | GMB45 | GTM 45 | | | |
| | | GTM 65 | | | |
| 0854-00 | | | | | |
| 0854-00 | GMN 55 | | FCMP490 | PMC 490 | |
| 0856-00 | GMN 65 | | FCMP590 | PMC 590 | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 20 | | 0.8170 | GTS-70-02 | IP 70-2 | | |
| 20 | 1022<br>1518 | 1.1133 | 20Mn5 | 120 M 19 | | 20 M 5 |
| 20 | 1035 | 1.1183 | Cf 35 (C35G) | 080 A 35 | | XC 38 H 1 TS |
| 20 | 400 10 | | GTS-45 | P440/7 | | |
| 20 | 70003 | | GTS-65 | P 570/3 | | MP 60-3 |
| 21 | Al99 | 3.0205 | | | | |
| 21 | 1000 | 3.0255 | Al99.5 | L31/34/36 | | A59050C |
| 21 | | 3.3315 | AlMg1 | | | |
| 22 | | 3.1325 | AlCuMg 1 | | | |
| 22 | | 3.1655 | AlCuSiPb | | | |
| 22 | | 3.2315 | AlMgSi1 | | | |
| 21 | 7050 | 3.4345 | AlZnMgCuO,5 | L 86 | | AZ 4 GU/9051 |
| 23 | | 3.2381 | G-AlSi 10 Mg | | | |
| 23 | | 3.2382 | GD-AlSi10Mg | | | |
| 23 | | 3.2581 | G-AlSi12 | | | |
| 23 | | 3.3561 | G-AlMg 5 | | | |
| 23 | ZE 41 | 3.5101 | G-MgZn4sE1Zr1 | MAG 5 | | |
| 23 | EZ 33 | 3.5103 | MgSE3Zn27r1 | MAG 6 | | G-TR3Z2 |
| 23 | AZ 81 | 3.5812 | G-MgAl8Zn1 | NMAG 1 | | |
| 23 | AZ 91 | 3.5912 | G-MgAl9Zn1 | MAG 7 | | |
| 24 | | 2.1871 | G-AlCu 4 TiMg | | | |
| 24 | | 3.1754 | G-AlCu5Ni1,5 | | | |
| 24 | | 3.2163 | G-AlSi9Cu3 | | | |
| 24 | 4218 B | 3.2371 | G-AlSi 7 Mg | | | |
| 24 | SC64D | 3.2373 | G-AlSI9MGWA | | | A-S7G |
| 24 | | 3.2373 | G-AlSi 9 Mg | | | |
| 24 | QE 22 | 3.5106 | G-MgAg3SE2Zr1 | mag 12 | | |
| 24 | GD-AlSi12 | | G-ALMG5 | LM5 | | A-SU12 |
| 23-24 | A360.2 | 3.2383 | G-AlSi0Mg(Cu) | LM9 | | |

| SS | UNI | UNE | JIS | KS | GOST |
|---|---|---|---|---|---|
| 0862-00 | GMN 70 | | FCMP690 | PMC 690 | |
| 0864-00 | | | | | |
| 2132 | G 22 Mn 3 | | | | |
| | 20 Mn 7 | F.1515-20 Mn 6 | SMnC 420 | SMnC 420 | |
| 1572 | C 36; C 38 | | S 35 C | SM 35 C | 35 |
| 08 52 | | | | | |
| 858 | | | FCMP540 | PMC 540 | |
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| 4231 | | | C4BS | C4BS | |
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| 4252 | | | | | |
| 4253 | | | | | |

# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 23-24 | A356-72 | | | 2789;1973 | NF A32-201 |
| 23-24 | 356.1 | | | LM25 | |
| 23-24 | A413.2 | | G-AlSi12 | LM6 | |
| 23-24 | A413.1 | | G-AlSi 12 (Cu) | LM20 | |
| 23-24 | A413.0 | | GD-AlSi12 | | |
| 23-24 | A380.1 | | GD-AlSi8Cu3 | LM24 | |
| 26 | C93200 | 2.1090 | G-CuSn 7 5 pb | | U-E 7 Z 5 pb 4 |
| 26 | C83600 | 2.1096 | G-CuSn5ZnPb | LG 2 | |
| 26 | C83600 | 2.1098 | G-CuSn 2 Znpb | | |
| 26 | C23000 | 2.1182 | G-CuPb15Sn | LB1 | U-pb 15 E 8 |
| 26 | C93800 | 2.1182 | G-CuPb15Sn | | Uu-PB 15e 8 |
| 27 | | 2.0240 | CuZn 15 | | |
| 27 | C27200 | 2.0321 | CuZn 37 | cz 108 | CuZn 36, CuZn 37 |
| 27 | C27700 | 2.0321 | CuZn 37 | cz 108 | CuZn 36, CuZn 37 |
| 27 | | 2.0590 | G-CuZn40Fe | | |
| 27 | C 86500 | 2.0592 | G-CuZn 35 Al 1 | U-Z 36 N 3 | HTB 1 |
| 27 | C 86200 | 2.0596 | G-CuZn 34 Al 2 | HTB 1 | U-Z 36 N 3 |
| 27 | C 18200 | 2.1293 | CuCrZr | CC 102 | U-Cr 0.8 Zr |
| 28 | | 2.0060 | E-Cu57 | | |
| 28 | | 2.0375 | CuZn36Pb3 | | |
| 28 | C 94100 | 2.0596 | G-CuZn 34 Al 2 | HTB 1 | U-Z 36 N 3 |
| 28 | C 63000 | 2.0966 | CuAl 10 Ni 5 Fe 4 | Ca 104 | U-A 10 N |
| 28 | B-148-52 | 2.0975 | G-CuAl 10 Ni | | |
| 28 | C 90700 | 2.105 | G-CuSn 10 | CT1 | |
| 28 | C 90800 | 2.1052 | G-CuSn 12 | pb 2 | UE 12 P |
| 28 | C 81500 | 2.1292 | G-CuCrF 35 | CC1-FF | |
| 28 | | 2.4764 | CoCr20W15Ni | | |
| 31 | N 08800 | 1.4558 | X 2 NiCrAlTi 32 20 | NA 15 | |
| 31 | N 08031 | 1.4562 | X 1 NiCrMoCu 32 28 7 | | |

| SS | UNI | UNE | JIS | KS | GOST |
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| | | | | | |
| 4244 | | | A5052 | A5052P | |
| 4261 | | | | | |
| 4260 | | | ADC12 | ALDC12 | |
| 4247 | | | A6061 | A6061P | |
| 4250 | | | A7075 | A7075P | |
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| | C 2700 | | | | |
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# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. | DIN | BS | EN | AFNOR |
|---|---|---|---|---|---|---|
| 31 | N 08028 | 1.4563 | X 1 NiCrMoCuN 32 27 4 | | | |
| 31 | N 08330 | 1.4564 | X 12 NiCrSi 36 16 | NA 17 | | Z 12 NCS 35.16 |
| 31 | 330 | 1.4564 | X12 NiCrSi 36 16 | NA 17 | | Z 12 NCS 37.18 |
| 31 | | 1.4865 | G-X40NiCrSi38 18 | 330 C 40 | | |
| 31 | | 1.4958 | X 5 NiCrAlTi 31 20 | | | |
| 31 | AMS 5544 | LW2.4668 | NiCr19NbMo | | | NC20K14 |
| 32 | | 1.4977 | X 40 CoCrNi 20 20 | | | Z 42 CNKDWNb |
| 33 | Monel 400 | 2.4360 | NiCu30Fe | NA 13 | | NU 30 |
| 33 | 5390A | 2.4603 | | | | NC22FeD |
| 33 | Hastelloy C-4 | 2.4610 | NiMo16cR16Ti | | | |
| 33 | Nimonic75 | 2.4630 | NiCr20Ti | HR 5,203-4 | | NC 20 T |
| 33 | | 2.4630 | NiCr20Ti | HR5,203-4 | | NC20T |
| 33 | Inconel 690 | 2.4642 | NiC29Fe | | | Nnc 30 Fe |
| 33 | Inconel 625 | 2.4856 | NiCr22Mo9Nb | NA 21 | | NC 22 FeDNb |
| 33 | 5666 | 2.4856 | NiCr22Mo9Nb | | | Inconel 625 |
| 33 | Incoloy 825 | 2.4858 | NiCr21Mo | NA 16 | | NC 21 Fe DU |
| 34 | Monel k-500 | 2.4375 | NiCu30 Al | NA 18 | | NU 30 AT |
| 34 | 4676 | 2.4375 | NiCu30Al | 3072-76 | | |
| 34 | | 2.4631 | NiCr20TiAl | Hr40;601 | | NC20TA |
| 34 | Inconel 718 | 2.4668 | NiCr19FeNbMo | | | NC 19 Fe Nb |
| 34 | Inconel | 2.4694 | NiCr16fE7TiAl | | | |
| 34 | | 2.4955 | NiFe25Cr20NbTi | | | |
| 34 | 5383 | LM2.4668 | NiCr19Fe19NbMo | HR8 | | NC19eNB |
| 34 | 5391 | LW2 4670 | S-NiCr13A16MoNb | 3146-3 | | NC12AD |
| 34 | 5660 | LW2.4662 | NiFe35Cr14MoTi | | | ZSNCDT42 |
| 34 | 5537C | LW2.4964 | CoCr20W15Ni | | | KC20WN |
| 34 | AMS 5772 | | C0Cr22W14Ni | | | KC22WN |
| 35 | Inconel X-750 | 2.4669 | NiCr15Fe7TiAl | | | NC 15 TNb A |
| 35 | Hastelloy B | 2.4685 | G-NiMo28 | | | |
| 35 | Hastelloy C | 2.4810 | G-NiMo30 | | | |

| SS | UNI | UNE | JIS | KS | GOST |
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| 2584 | | | | | |
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| | | | SUH330 | STR 330 | |
| | XG50NiCr39 19 | | SCH15 | HRSC 15 | |
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# Material Conversion Table

## According to VDI 3323 standard

| Material group | AISI/SAE | Material No. DIN | | BS EN | AFNOR |
|---|---|---|---|---|---|
| 35 | AMS 5399 | 2.4973 | NiCr19Co11MoTi | | NC19KDT |
| 35 | | 3.7115 | TiAl5Sn2 | | |
| 36 | R 50250 | 3.7025 | Ti 1 | 2 TA 1 | |
| 36 | R 52250 | 3.7225 | Ti 1 pd | TP 1 | |
| 36 | AMS 5397 | LW2 4674 | NiCo15Cr10MoAlTi | | |
| 37 | | 3.7124 | TiCu2 | 2 TA 21-24 | |
| 37 | R 54620 | 3.7145 | TiAl6Sn2Zr4Mo2Si | | |
| 37 | | 3.7165 | TiAl6V4 | TA 10-13;TA 28 | T-A 6 V |
| 37 | | 3.7185 | TiAl4Mo4Sn2 | TA 45-51; TA 57 | |
| 37 | | 3.7195 | TiAl 3 V 2.5 | | |
| 37 | | | TiAl4Mo4Sn4Si0.5 | | |
| 37 | AMS R54520 | | TiAl5Sn2.5 | TA14/17 | T-A5E |
| 37 | AMS R56400 | | TiAl6V4 | TA10-13/TA28 | T-A6V |
| 37 | AMS R56401 | | TiAl6V4ELI | TA11 | |
| 38 | W 1 | 1.1545 | C105W1 | BW 1A | Y1105 |
| 38 | W210 | 1.1545 | C105W1 | BW2 | Y120 |
| 38 | | 1.2762 | 75 CrMoNiW 6 7 | | |
| 38 | 440C | 1.4125 | X105 CrMo 17 | | Z 100 CD 17 |
| 38 | | 1.6746 | 32 nIcRmO 14 5 | 832 M 31 | 35 NCD 14 |
| 40 | Ni- Hard 2 | 0.9620 | G-X 260 NiCr 4 2 | Grade 2 A | |
| 40 | Ni- Hard 1 | 0.9625 | G-X 330 Ni Cr 4 2 | Grade 2 B | |
| 40 | Ni- Hard 4 | 0.9630 | G-X 300 CrNiSi 9 5 2 | | |
| 40 | | 0.9640 | G-X 300 CrMoNi 15 2 1 | | |
| 40 | A 532 III A 25% Cr | 0.9650 | G-X 260 Cr 27 | Grade 3 D | |
| 40 | A 532 III A 25% Cr | 0.9655 | G-X 300 CrNMo 27 1 | Grade 3 E | |
| 40 | | 1.2419 | 105 WCr 6 | 105WC 13 | |
| 40 | 310 | 1.4841 | X15 CrNiSi 25 20 | 314 S31 | Z 15 CNS 25-20 |
| 41 | | 0.9635 | G-X 300 CrMo 15 3 | | |
| 41 | | 0.9645 | G-X 260 CrMoNi 20 2 1 | | |
| 41 | | 0.9655 | G-X 300 CrNMo 27 1 | | |

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| 1880 | C100KU | F-5118 | SK3 | STC 105(STC3) | |
| 2900 | C120KU | CF.515 | SUP4 | SPS 4 | |
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| | | 107 WCr 5 KU | | | |
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E-mail: ventas@cuttingtools.cl

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