TAEGUTEC

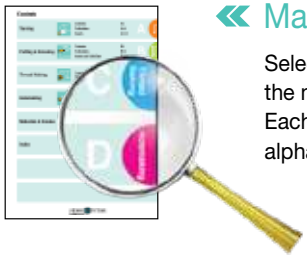
2024-2025

NON-ROTATING METALCUTTING TOOLS

TaeguTec
Member IMC Group

Contents

How to use the catalogue page

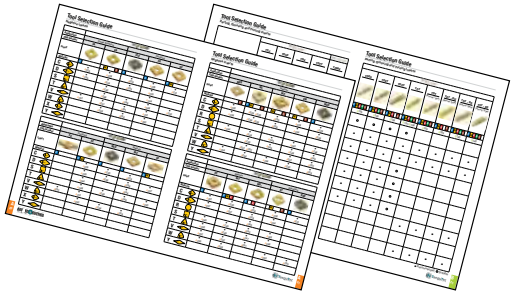


« Main Contents

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

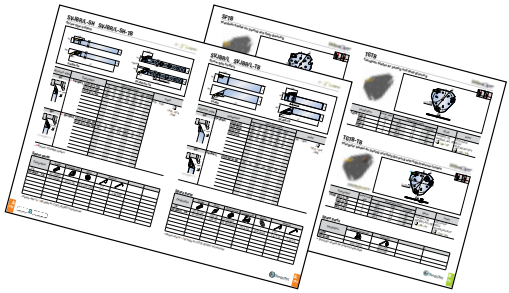
Tool Selection Guide »

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

contents

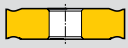
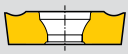
Guide to Icons

› Toolholder Page

› Insert Page

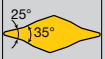
Tool Selection Guide

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				
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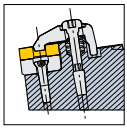
●						●	●	●	●
●							●		
	●								
	●								

Tool Selection Guide

External holders



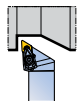
T T-Holder

TCBNR/L A100

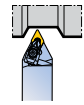
TCKNR/L A100

TCLNR/L A101

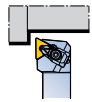
TXJNR/L A110
TXJNR/L-TB A111



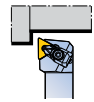
TDJNR/L A102



TDNNR/L A102

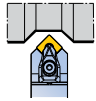


TTGNR/L A106

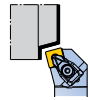


TTJNR/L A106

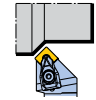
TTQNR/L(-TB) A107



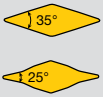
TSDNN A104



TSKNR/L A105

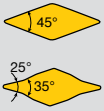


TSSNR/L A105



TVJNR/L A108

TVQNR/L A108



TZQNR/L A112

TZQNR/L-TB A112

TZXNN A113

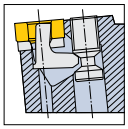
TZXNN-TB A113

TWLNR/L A109

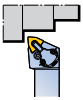
THSNR/L A103

Tool Selection Guide

External holders

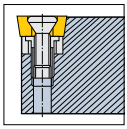


P Lever lock

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

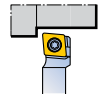


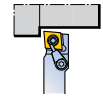
S Screw clamp

80°


SCACR/L-SH A70

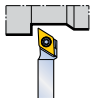

SCACR/L-SH-TB A70

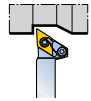

SCLCR/L-SH A71

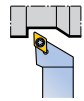

SCLCR/L-SH-TB A71

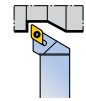

SCLCR/L A72

55°


SDJCR/L-SH A73

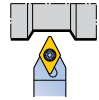

SDJCR/L-SH-TB A73


SDJCR/L A74


SDJNR/L A74

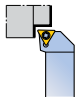

SDNCN-SH A75

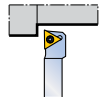

SDNCN-SH-TB A75

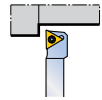

SDNCN A76

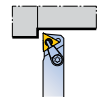

SDQNR/L A76

60°


STFCR/L A81

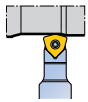

STGCR/L-SH A82


STGPR-SH A82


STGCR/L-SH-TB A82

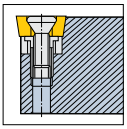

STGCR/L A83

90°


SFXCN A77

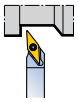
Tool Selection Guide

External holders



S Screw clamp

35°

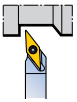


SVJBR/L-SH A84

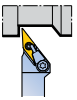
SVJBR/L-SH-TB A84

SVJBR/L A85

SVJBR/L-TB A85



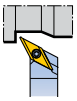
SVJCR/L-SH A86



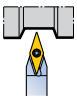
SVJCR/L-SH-TB A86

SVJCR/L A87

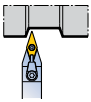
SVJNR/L A87



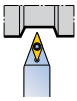
SVPBR/L A88



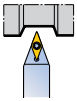
SVVBN-SH A89



SVVBN-SH-TB A89



SVVBN A90

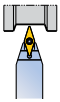


SVVCN A90

LVJBR/L A92

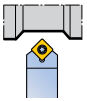
LVJBR-SH A92

LVQBR/L A93

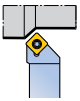


LVVBN A93

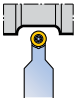
90°



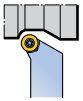
SSDCN A80



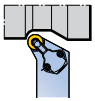
SSSCR/L A80



SRDCN A78



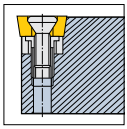
SRGCR/L A79



SRGCR/L-TB A79

Tool Selection Guide

External holders

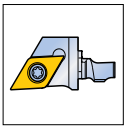


TM... Miniature tool holder (Screw clamp)

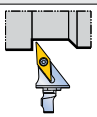
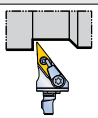
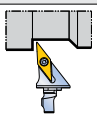
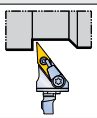
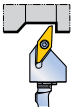
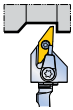
TMB Back turning holders	35°	 TMB-SVXCR A91	 TMB-SVXCR-TB A91
TMS Sleeve holders	80°	 TMS-SCLCL A94	
	55°	 TMS-SDUCL A95	 TMS-SDUCR/L-TB A95
	35°	 TMS-SVUBL A96 TMS-SVUCL A96	 TMS-SVUBR/L-TB A96
TMY Y-axis holders	55°	 TMY-SDJCR A97	 TMY-SDJCR-TB A97
	35°	 TMY-SVJBR A98	 TMY-SVJBR-TB A98
TMZ Shift holders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

Tool Selection Guide

External holders

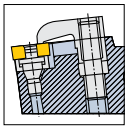


QE Modular head (Screw clamp)

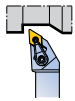
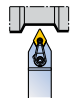
QE1 External turning modular head	55°	 QE1 SDJCR A137  QE1 SDJCR-TB A137
	35°	 QE1 SVJBR A138  QE1 SVJBR-TB A138  QE1 SVJCR A139  QE1 SVJCR-TB A139
QE1B Back turning modular head	35°	 QE1B SVXCR A140  QE1B SVXCR-TB A140
QE1Y Y-axis modular head	55°	 QE1Y SDJCR A141  QE1Y SDJCR-TB A141

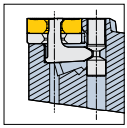
Tool Selection Guide

External holders

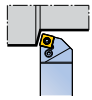
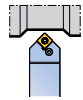


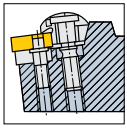
M Multi lock

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

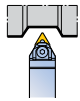
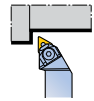
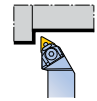


H Hook lever holder

90°	 HSBNR/L A51	 HSDNN A51

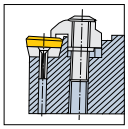


W Wedge clamp

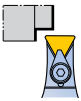
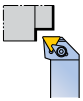
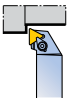
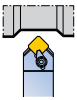
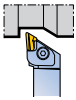
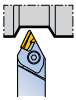
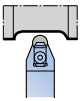
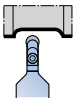
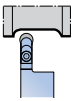
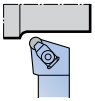
60°	 WTENN A114	 WTGNR/L A114	 WTJNR/L A115

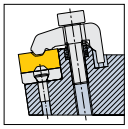
Tool Selection Guide

External holders

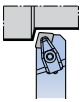
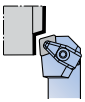
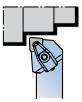
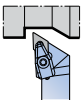
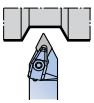
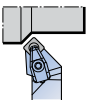


C Top clamp

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

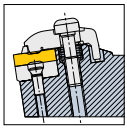


T-CH CH dimple holder

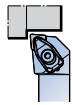
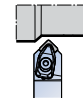
80°	 TCBNR/L-CH A120	 TCKNR/L-CH A120	 TCLNR/L-CH A121	
55°	 TDJNR/L-CH A122	 TDNNN-CH A122	90°	 TSSNR/L-CH A123

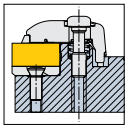
Tool Selection Guide

External holders

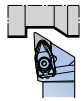
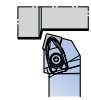
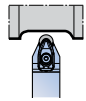
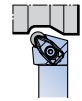


T-DA DA dimple holder

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

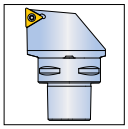


T-F Flat T-Holder

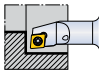
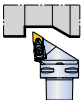
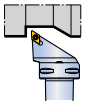
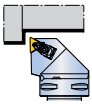
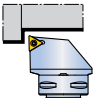
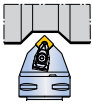
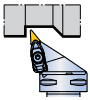
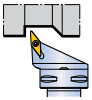
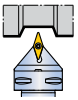
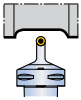
80°	 TCLNR/L-F A126	 CCLNR/L-F A119		
55°	 TDJNR/L-F A127			
90°	 TSDNN-F A130	 TSKNR/L-F A130	 TSRNR/L-F A131	 TSSNR/L-F A131
60°	 TTJNR/L-F A132			
	 TRDNN-F A129	 TRGNR/L-F A129	75°	 TEGNR/L-F A128

Tool Selection Guide

External and internal C-adapter

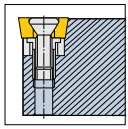


C C-Adapter

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 C...TTJNR/L A148	 C...STGCR/L A152 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			

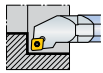
Tool Selection Guide

Internal boring bars

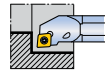


S Screw clamp

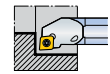
80°



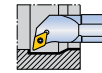
S-SCLCR/L A174
C-SCLCR/L A175
E-SCLCR/L A175



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

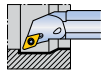


E-SCLPR/L A177

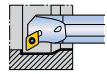


S-SDQCR/L A178

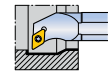
55°



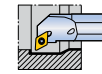
A-SDQNR/L A178



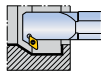
A-SDLNR/L A177



S-SDUCR/L A179

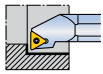


A-SDUNR/L A179

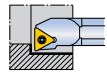


S-SDZCR/L A180

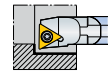
60°



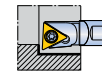
S-STFCR/L A182
C-STFCR/L A182



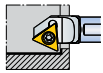
S-STFPR/L A183
A-STFPR/L A183



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

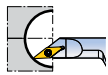


S-STUBR/L A185
C-STUBR/L A185

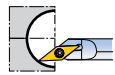


C-STZBR/L A186

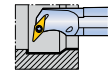
35°



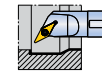
S-SVJBR/L A187
S-SVJCR/L A187



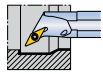
S-SVJPR/L A188



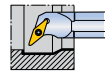
A-SVLNR/L A188



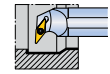
S-SVPBR/L A189
S-SVPCR/L A189



A-SVPNR/L A190



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

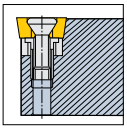


S-SVUBR/L A192
S-SVUCR/L A192

Tool Selection Guide

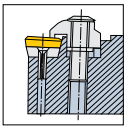
Internal boring bars

S Screw clamp



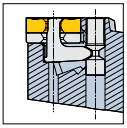
90°	S-SSKCR/L A181	70°	A-SXUNR/L A190
25°	A-SVLNR/L A188, A-SVPNR/L A190	80°	S-SWUBR/L A193 C-SWUBR/L A193

C Top clamp



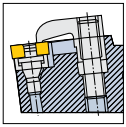
90°	S-CSKPR/L A166	60°	S-CTFCR/L A167 S-CTFPR/L A167	55°	S-CKUNR/L A165

H Hook lever holder



70°	A-HXUNR/L A168

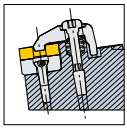
M Multi lock



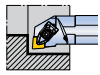
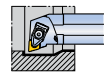
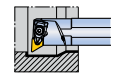
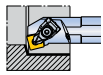
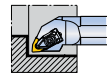
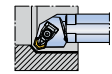
80°	S-MWLNR/L A169

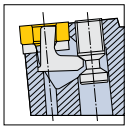
Tool Selection Guide

Internal boring bars

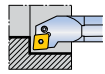
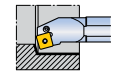
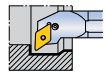
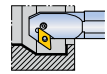
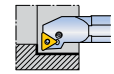


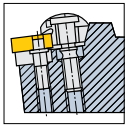
T T-Holder

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 A-TWLNR/L A198	120°	 A-THSNR/L A196

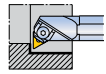


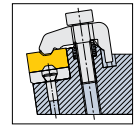
P Lever lock

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

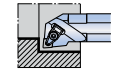


W Wedge clamp

60°	 S-WTFNR/L A200

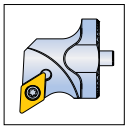


T-CH CH dimple holder

80°	 S-TCLNR/L-CH A201

Tool Selection Guide

Internal boring bars



QH Modular head

80°

QH-SCLCR/L A208

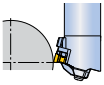
QH-PCLNR/L A203

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

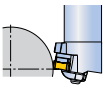
35°

QH-SVUBR/L A211

QH-SVLCR/L-VH A214

QH-TVUNR/L A206

60°



QH...Y-TTXNN-TB A213

QH-PTFNR/L A204

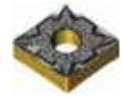
QH-STFCR/L A210

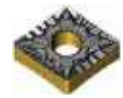
80°

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

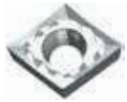
	T-TURN				
Application	Super finishing	Finishing		Medium	
Chip breaker	**FA**	**FG**	**FX**	**PC**	**FM**
Insert					
Material	P M	P M S	P	P M S	P M
C 80°	• A263	• A263 A264		• A263 A264	• A263 A264
D 55°	• A268	• A268		• A268	• A268
R				• A271	
S 90°		• A272		• A272	• A272
T 60°	• A276 A279	• A276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

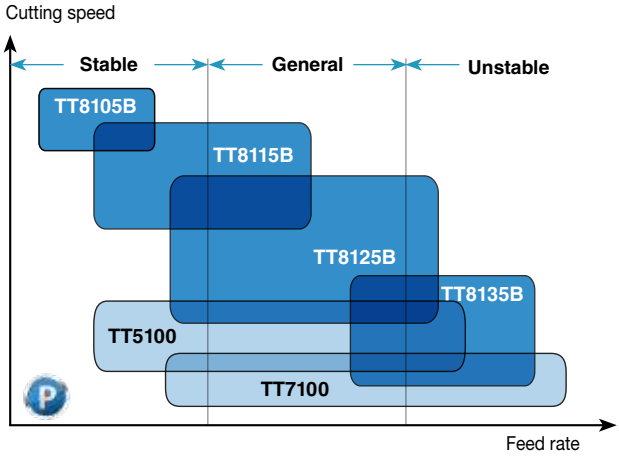
	T-TURN					TURNSPEED
Application	Roughing	Finishing				Medium
Chip breaker	**No Notation**	**FF**	**GF**	**GW**	**FGS**	**FCMX**
Insert						
Material	P	P M S	P M S	P M S	S	P
C 80°		• A261	• A260	• A260		
D 55°		• A266 A269	• A265 A269	• A265		
R	• A271					
S 90°						
T 60°		• A274 A277	• A275 A277			
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°						

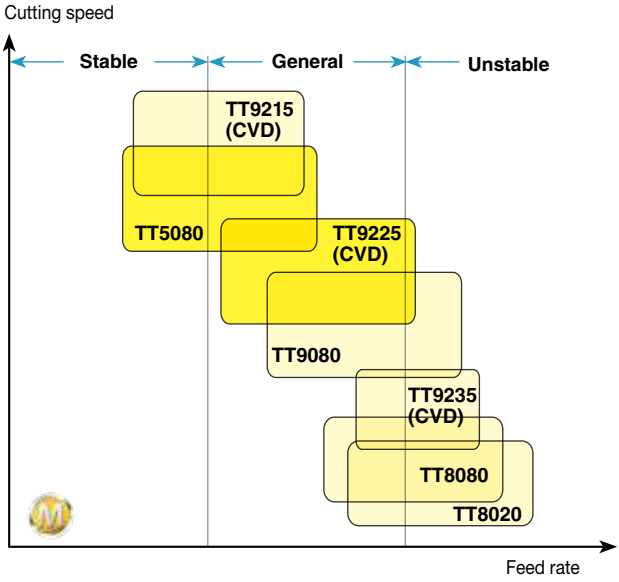
Grades

Selection guide for turning grades

For steel (SPEEDRUSH - CVD coated)



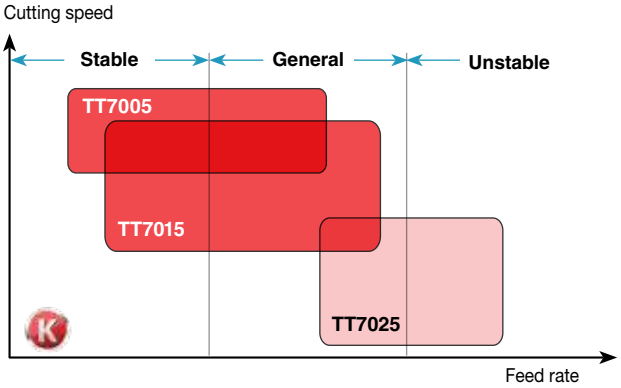
For stainless steel (CVD & PVD coated)



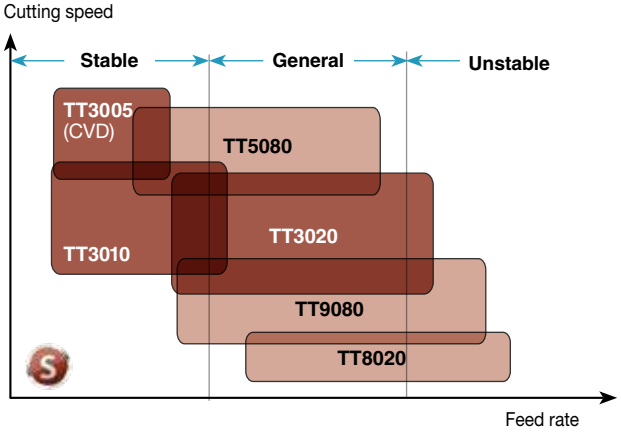
Grades

Selection guide for turning grades

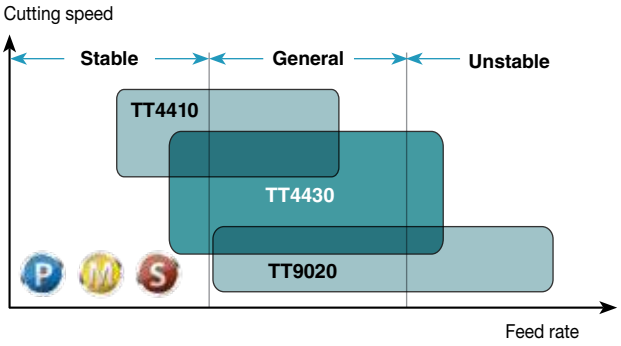
For cast iron (CVD coated)



For super alloys (CVD & PVD coated)



For small parts machining (PVD coated)



Grades

Carbide grades

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

Grades

Carbide grades

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

Grades

CBN, PCD, Ceramic grades

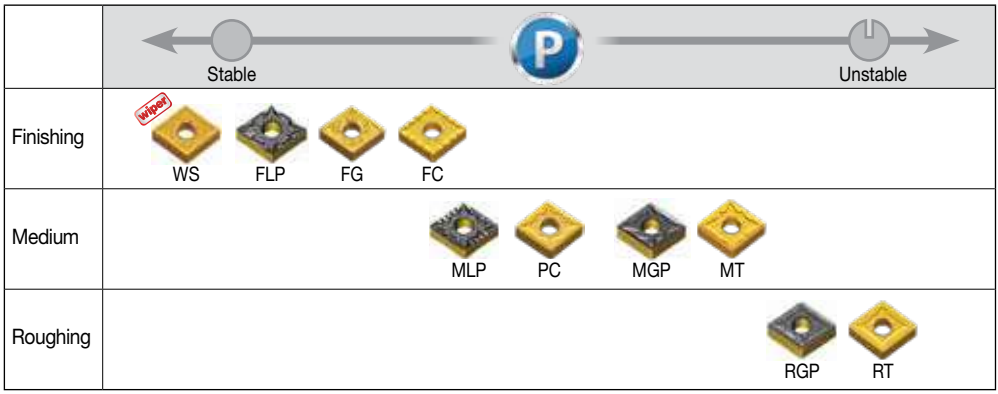
Grades	ISO	Characteristics & applications
TB610 CBN	H05 – H10	• High speed continuous turning of hardened steel
TB2015 CBN	H10 – H20	• Light interrupted turning of hardened steel
TB650 CBN	H10 – H20	• General turning of hardened steel
TB670 CBN	H20 – H30	• Medium interrupted turning of hardened steel
TB7015 CBN	H25 – H35 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 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 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

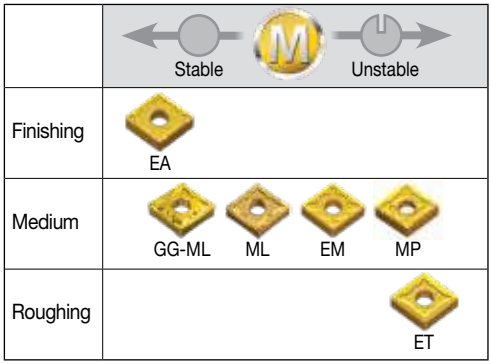
T-TURN

ISO Negative inserts

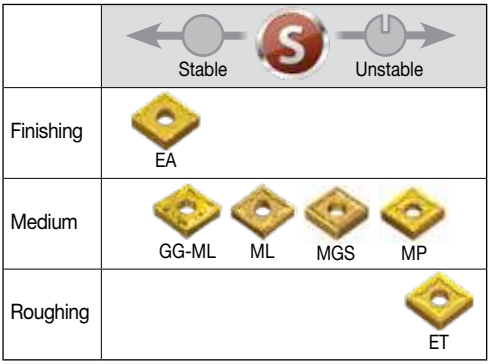
For steel



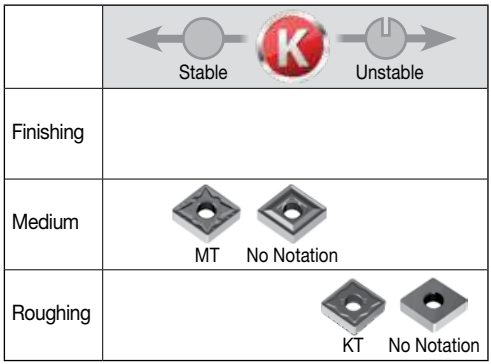
For stainless steel



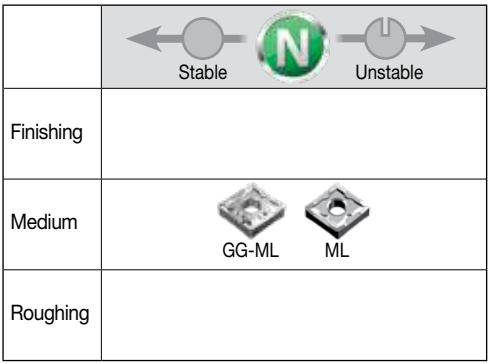
For super alloys



For cast iron



For aluminum



Recommendations for Chip Breakers

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

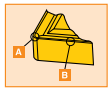
Chip breakers for Swiss turn (Ground type)

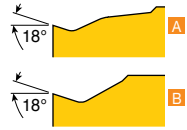
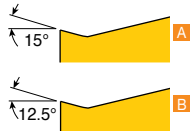
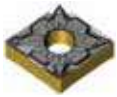
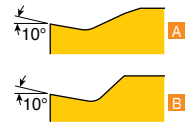
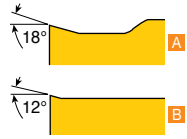
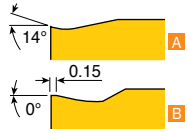
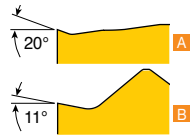
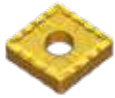
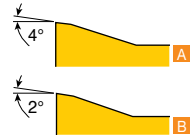
ISO Positive inserts

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

Chip Breakers

Negative inserts

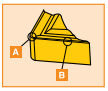


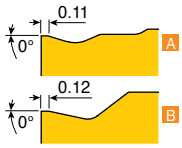
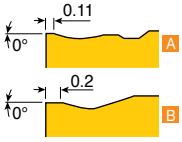
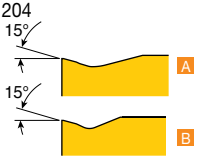
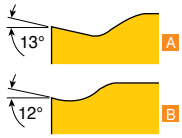
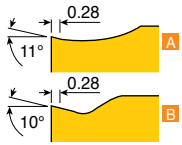
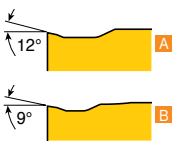
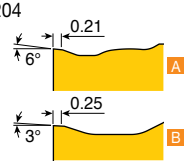
Chip breaker name and geometry			Applications and features
FA		CNMG 1204 	• For super finish applications • Steel, stainless steel and heat resistant alloy machining • Excellent chip control
EA		CNMG 1204 	• For finishing applications • Exotic materials • Excellent chip control at low feeds and depths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

Chip Breakers

T-TURN

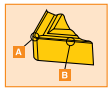
Negative inserts

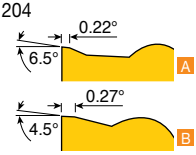
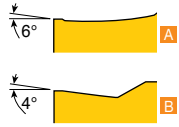
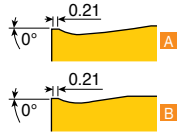
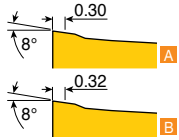
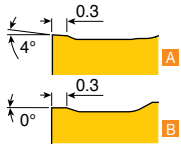
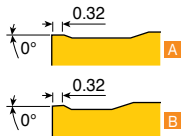
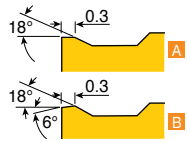


Chip breaker name and geometry			Applications and features
MLP		CNMG 1204 	• For semi-finishing and medium applications on steels • Wave cutting edge
MC		CNMG 1204 	• For medium applications • Steel and cast iron machining • Strong rake geometry • Excellent chip control on medium turning applications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

Chip Breakers

Negative inserts

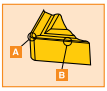


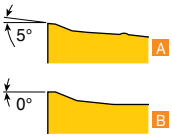
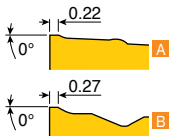
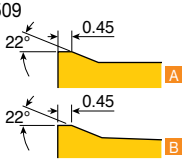
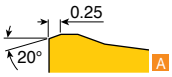
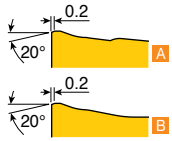
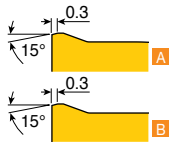
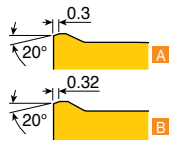
Chip breaker name and geometry			Applications and features
PC		CNMG 1204 	• For medium to semi-finishing applications • Steel & Automotive component • Positive geometry • Excellent chip control on medium applications
MT		CNMG 1204 	• For medium rough applications • Steel, cast iron and stainless steel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

Chip Breakers

T-TURN

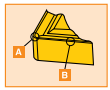
Negative inserts

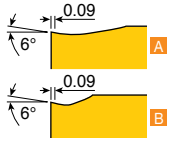
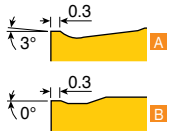


	Chip breaker name and geometry		Applications and features
RX		CNMM 1906 	• For semi heavy roughing applications • Steel, stainless steel and cast iron machining • Strong cutting edge with flat land • Low cutting force
RH		CNMM 1906 	• For roughing applications • Steel, stainless steel and cast iron machining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

Chip Breakers

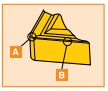
Negative inserts



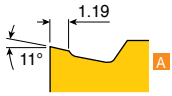
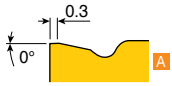
Chip breaker name and geometry			Applications and features
WS		CNMG 1204 	• For super finish applications • Steel, cast iron and stainless steel machining • Excellent chip control and low cutting forces
WT		CNMG 1204 	• For medium to rough machining applications • Steel, cast iron and stainless steel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

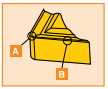
Chip Breakers

Negative inserts

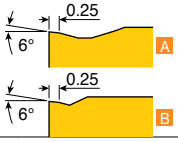
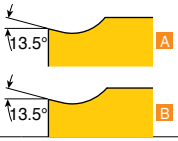


KNUX type

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

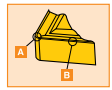


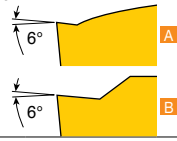
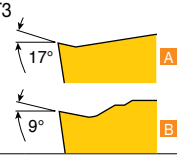
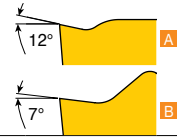
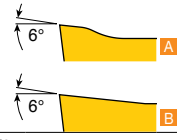
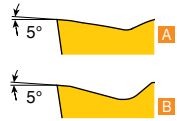
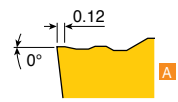
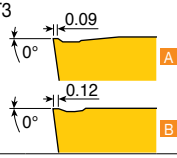
HNMG type

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

Chip Breakers

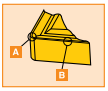
Positive inserts-pressed

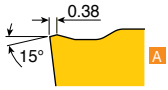
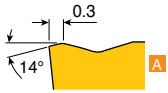


	Chip breaker name and geometry		Applications and features
FA		DCMT 11T3 	• For super finish applications • Very tight chipbreaker • Excellent chip control
FG		CCMT 09T3 	• For finish to medium light applications • Steel and stainless steel machining • Low cutting forces • Excellent chip control
FX		VBMT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

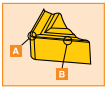
Chip Breakers

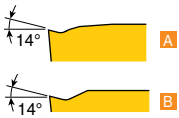
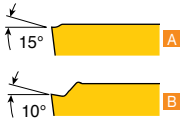
Positive inserts-pressed



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

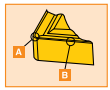
Positive inserts-ground

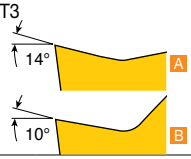
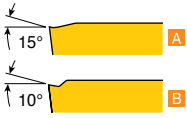
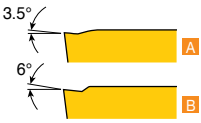


	Chip breaker name and geometry		Applications and features
FF		CCGT 0301 	• For finish to medium applications • For small component machining • Excellent surface finish
GF		CCET 0602 	• For super finish applications • Steel, stainless steel and alloy steel machining
GW		CCET 0602 	• For super finish applications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

Chip Breakers

Positive inserts-ground



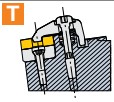
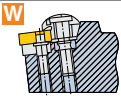
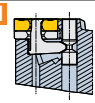
	Chip breaker name and geometry		Applications and features
SA		CCGT 09T3 	• For finish to medium applications • Steel & aluminum machining • Low cutting force
SM		CCGT 09T3 	• 1st recommended chip breaker for Swiss type automatic lathe • Stable cutting edge and low cutting resistance
SH		CCGT 09T3 	•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

Turning Toolholders

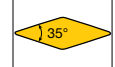
Toolholder Designation System

P	C	L	N	R
1	2	3	4	5

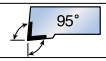
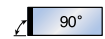
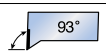
1 Clamping system

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

2 Insert shape

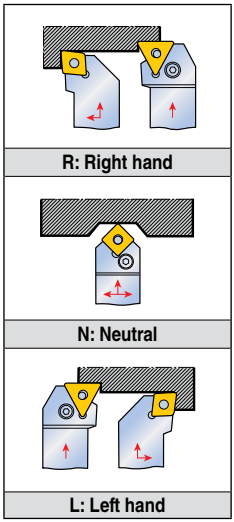
C	D	E	H	K	R	S	T	V	W
									

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

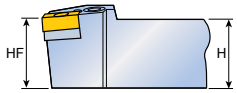


4 Insert clearance angle

N	B	C	P
			
0°	5°	7°	11°

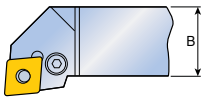
25	25	M	12	-		
6	7	8	9		10	11

6 Shank height



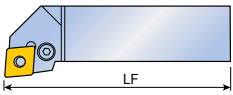
Integers to be preceded by 0
e.g.: H=8mm indicated by 08

7 Shank width



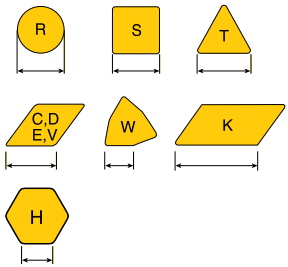
Integers to be preceded by 0
e.g.: B=8mm indicated by 08

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		

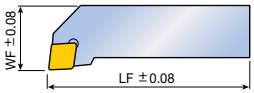
9 Cutting edge length



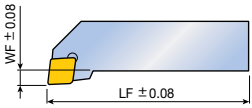
See page A225

10 Qualified tool

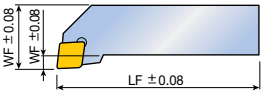
Q



F



B



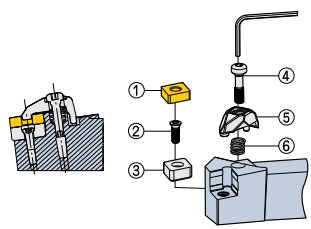
11 Manufacturer's type designation

Unique to manufacturer

Toolholder Clamping System

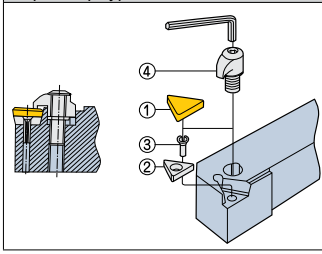
T-TURN

T-holder type — T



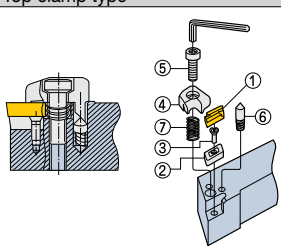
① Insert
② Shim screw
③ Shim
④ Clamp screw
⑤ Clamp
⑥ Spring

Top clamp type — C



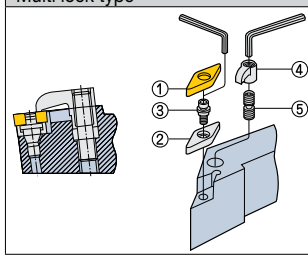
① Insert
② Shim
③ Shim pin
④ Clamp set

Top clamp type — C



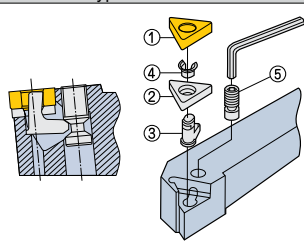
① Insert
② Shim
③ Shim screw
④ Clamp
⑤ Clamp screw
⑥ Pin and spring
⑦ Clamp spring

Multi lock type — M



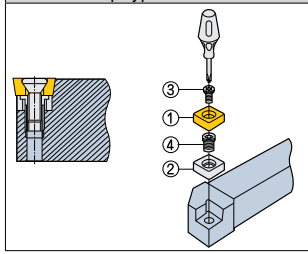
① Insert
② Shim
③ Lock pin
④ Clamp
⑤ Clamp screw

Lever lock type — P



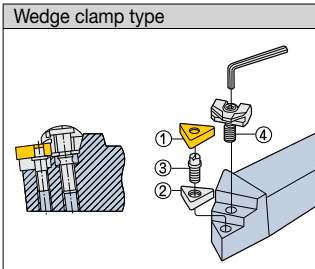
① Insert
② Shim
③ Lever
④ Shim pin
⑤ Screw

Screw clamp type — S



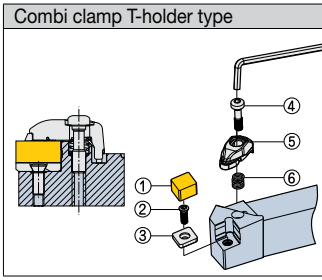
① Insert
② Shim
③ Screw
④ Shim screw

Wedge clamp type — W



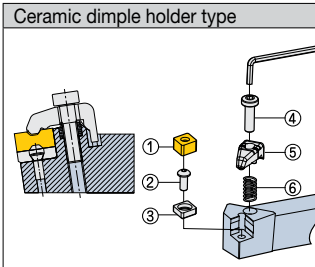
① Insert
② Shim
③ Pin screw
④ Wedge set

Combi clamp T-holder type — T



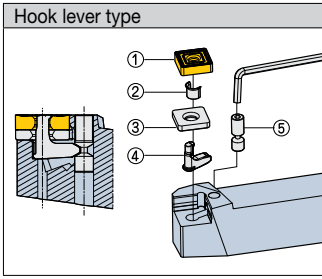
① Insert
② Shim screw
③ Shim
④ Clamp screw
⑤ Clamp
⑥ Spring

Ceramic dimple holder type — T



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

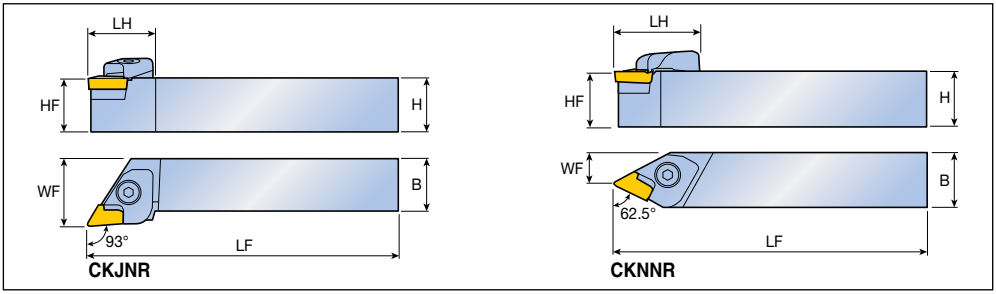
Hook lever type — H



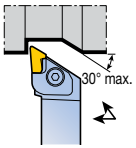
① Insert
② Shim pin
③ Shim
④ Hook lever
⑤ Screw

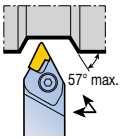
CKJNR/L CKNNR/L

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 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	



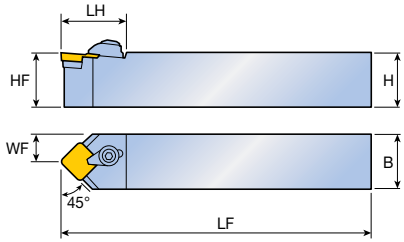


Spare parts

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 L-W 2

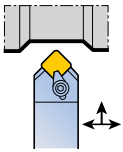
CSDPN

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	



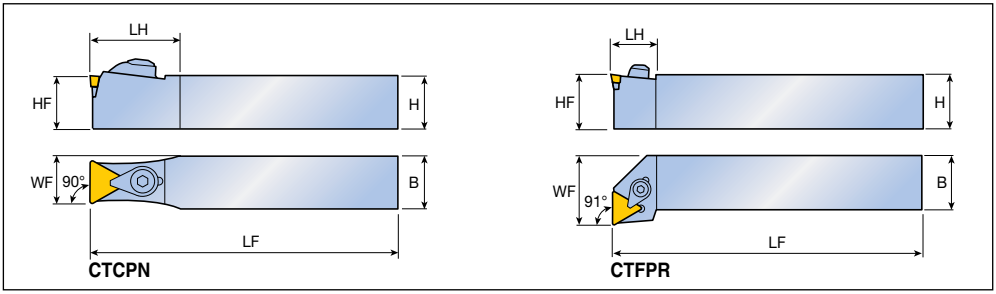
A273, A302

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		

CTCPN CTFPR/L

Top clamp type holders



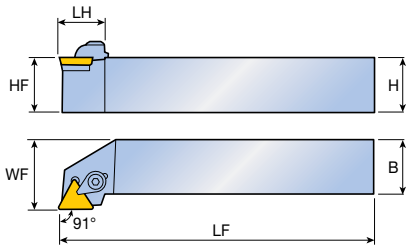
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
90°	**CTCPN**	**2009 K11**	20	20	9	125	20	9.4	TPMR,TP...N 1103...	A279-A280, A302, A313-A314,
		2513 Q16	25	25	13	180	30	14.1	TPMR,TP...N 1603...	
		2525 M22	25	25	25	150	50	19.4	TPMR,TP...N 2204...	
91°	**CTFPR/L**	**1616 H11**	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		

Spare parts

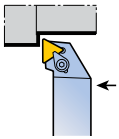
Designation	Clamp			Screw		Shim	Shim pin	Snap ring	Wrench
CTCPN...11	CL 2C	-	-	CLS 2C	-	-	-	CSR 2C	L-W 2.5
CTCPN...16	CL 3C	-	-	CLS 3C	-	CST 32	CSP 3	CSR 2	L-W 3
CTCPN...22	-	CLM 12	-	-	XNSM 0825	CST 43	CSP 16K	CSR 4	L-W 4
CTFPR/L...11	-	-	CL 2	CLS 2	-	-	-	CSR 2	L-W 2.5
CTFPR/L...16	-	-	CL 3	CLS 3	-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

CTGPR/L

Top clamp type holders



CTGPR

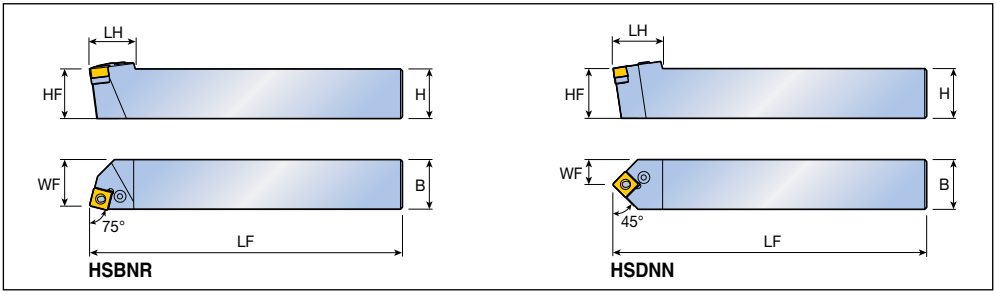
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
91°	**CTGPR/L**	**1212 F11**	12	12	12	80	19	16	TPMR,TP...N 1103...	A279-A280, A302, A313-A314,
		**1616 H11**	16	16	16	100	18	20		
		2020 K11	20	20	20	125	19	25		
		2020 K16	20	20	20	125	25	25	TPMR,TP...N 1603...	
		2525 M16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

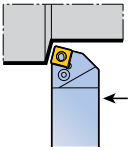
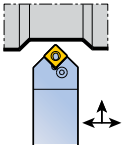
Spare parts

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		

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	

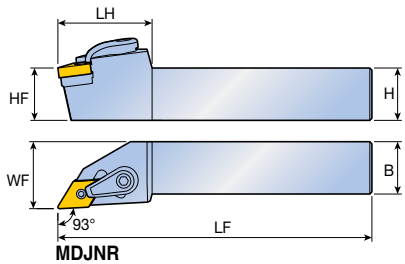
Spare parts

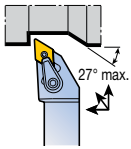
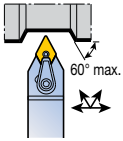
Designation	Lever	Screw	Shim	Shim pin	Wrench		
							
...3109	LCL 32-NX	LCS 8	LSS 104	LSP 8	L-W 5		

MDJNR/L MDNNN

T-TURN

Multi lock type holders



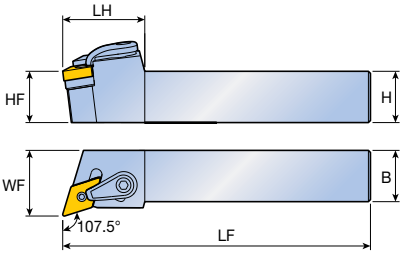
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
93°	**MDJNR/L**	**2020 K15**	20	20	20	125	45	25	DN... 1504... A234-A238, A293, A304
		**2525 M15**	25	25	25	150	45	32	
		2020 K15A	20	20	20	125	45	25	DN... 1506...
		2525 M15A	25	25	25	150	45	32	
		3232 P15A	32	32	32	170	45	40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

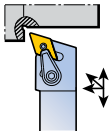
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
								
...15	CLM 30	XNSM 0825	S 45	MLP 4	L-W 2.5, L-W 4			
...15A	CLM 30	XNSM 0825	MSD 43	MLP 4-06	L-W 2.5, L-W 4			

MDQNR/L

Multi lock type holders



MDQNR

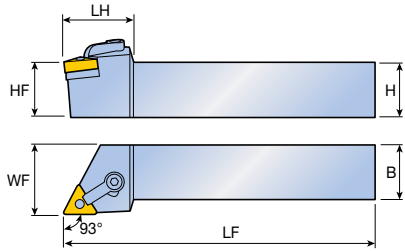
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
107.5°	**MDQNR/L**	**2020 K15**	20	20	20	125	40	25	DN... 1504... A234-A238, A293, A304
		**2525 M15**	25	25	25	150	40	32	
		2525 M15A	25	25	25	150	40	32	DN... 1506...

Spare parts

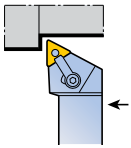
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
								
...15	CLM 30	XNSM 0825	S 45	MLP 4	L-W 2.5, L-W 4			
...15A	CLM 30	XNSM 0825	MSD 43	MLP 4-06	L-W 2.5, L-W 4			

MTJNR/L

Multi lock type holders



MTJNR

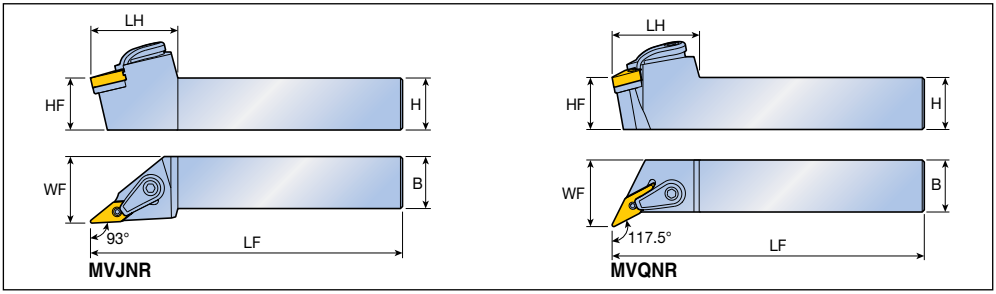
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
93°	**MTJNR/L**	**2020 K16**	20	20	20	125	28	25	TN... 1604... A247-A250, A299, A307
		**2525 M16**	25	25	25	150	28	32	
		2525 M1604	25	25	25	150	28	32	

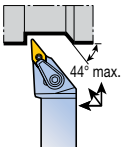
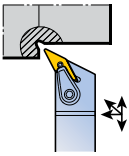
Spare parts

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			

MVJNR/L MVQNR/L

Multi lock type holders



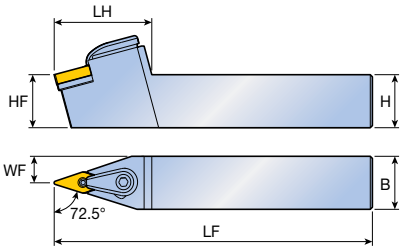
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
93°	**MVJNR/L**	**2020 K16**	20	20	20	125	42	25	VN... 1604... A251-A252, A300, A308
		**2525 M16**	25	25	25	150	42	32	
		3225 P16	32	32	25	170	42	32	
		3232 P16	32	32	32	170	42	40	
117.5°	**MVQNR/L**	**2020 K16**	20	20	20	125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

Spare parts

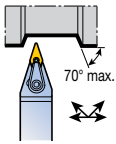
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
								
...16	CLM 30	XNSM 0825	IVSN 324	MLP 3	L-W 2, L-W 4			

MVVNN

Multi lock type holders



MVVNN

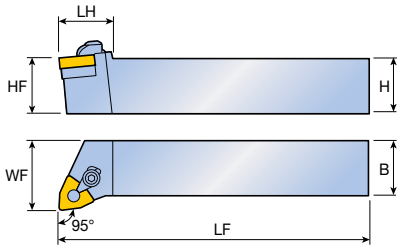
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
72.5°	**MVVNN 2020 K16**	20	20	20	125	46	10.0	VN... 1604... A251-A252, A300, A308
	**2525 M16**	25	25	25	150	46	12.5	

Spare parts

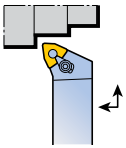
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
								
...16	CLM 30	XNSM 0825	IVSN 324	MLP 3	L-W 2, L-W 4			

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	

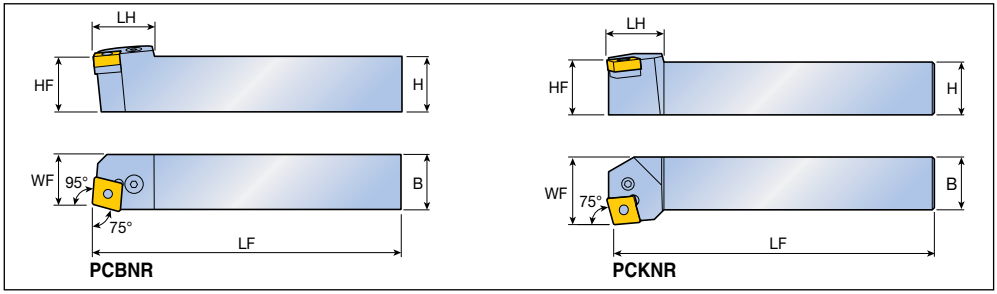
Spare parts

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		

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

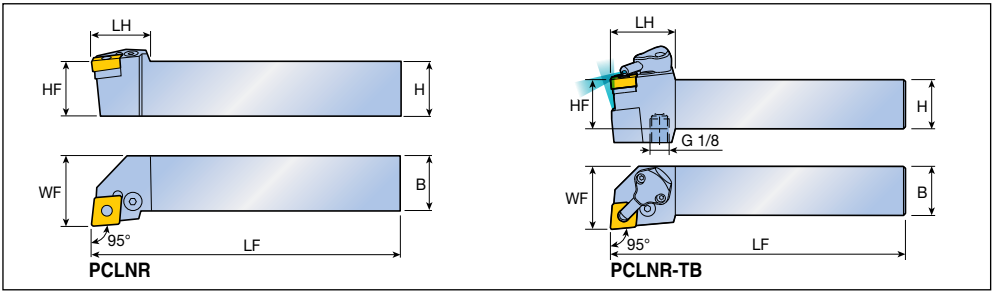
Designation	Lever	Screw	Shim	Shim pin	Wrench			
...12	LCL 4	LCS 4	LSC 42	LSP 4	L-W 3			
...16	LCL 5	LCS 5	LSC 53	LSP 5	L-W 3			
...1906	LCL 6D	LCS 25C	LSC 64D	LSP 6	L-W 4			
...2509	LCL 8	LCS 8	LSC 84D	LSP 8	L-W 5			

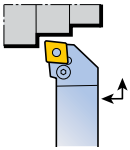
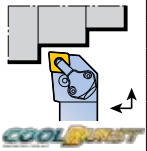
▸ Apply LSC 85D shim when using CN...2507... insert

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

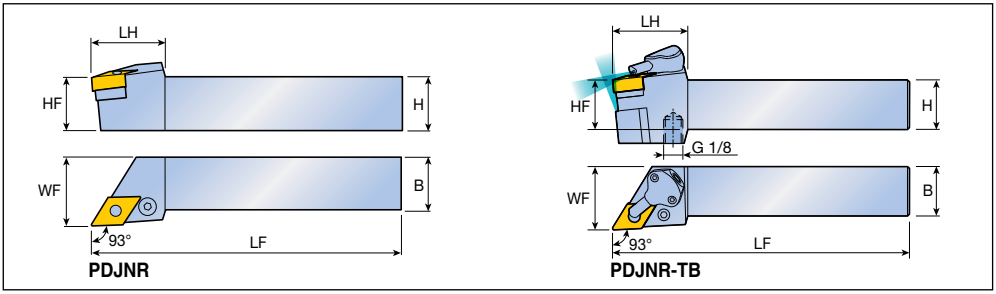
Designation	Lever	Screw	Shim	Shim pin	Cooling unit	O-ring	Wrench	
								
1616...12	LCL 4	LCS 4S	LSC 42	LSP 4	-	-	-	L-W 3
...12	LCL 4	LCS 4	LSC 42	LSP 4	-	-	-	L-W 3
...16	LCL 5	LCS 5	LSC 53	LSP 5	-	-	-	L-W 3
...1906	LCL 6D	LCS 25C	LSC 64D	LSP 6	-	-	-	L-W 4
...2509	LCL 8	LCS 8	LSC 84D	LSP 8	-	-	-	L-W 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

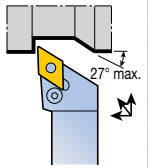
PDJNR/L PDJNR/L-TB

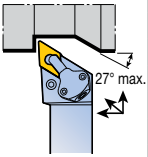
T-TURN

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... A234-A238, A293, A304
	2020 K11	20	20	20	125	30	25	
	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

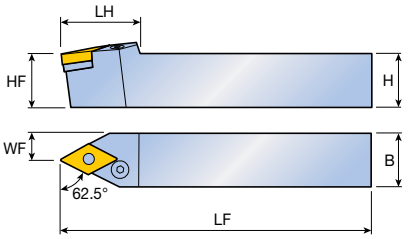
Spare parts

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

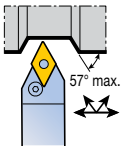
▸ Please refer to A135 page for COOL-BURST accessories

PDNNR/L

Lever lock type holders



PDNNR

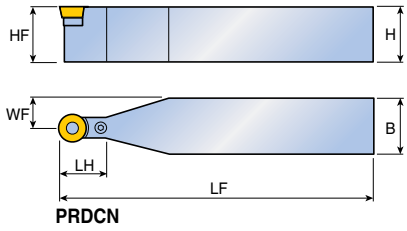
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
62.5°	**PDNNR/L 2020 K15**	20	20	20	125	36.5	10	DN... 1506... A234-A238, A293, A304
	**2525 M15**	25	25	25	150	36.5	12	
	3232 P15	32	32	32	170	36.5	16.8	

Spare parts

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

PRDCN

Lever lock type holders



PRDCN

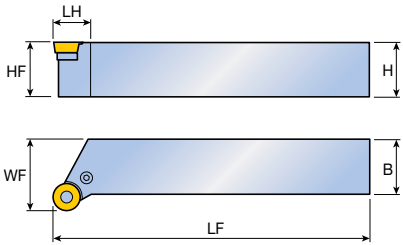
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
45°	**PRDCN 2020 M10**	20	20	20	150	30	10.0	RC...X 1003... A271
	2525 M10	25	25	25	150	30	12.5	
	2020 K12	20	20	20	125	30	10.0	RC...X 1204...
	2525 M12	25	25	25	150	30	12.5	
	3225 Q12	32	32	25	180	30	12.5	
	2525 Q16	25	25	25	180	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			

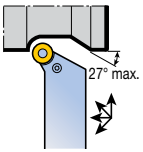
PRGCR/L

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...



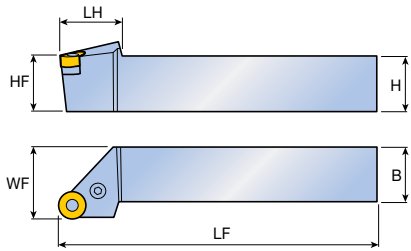
A271

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			

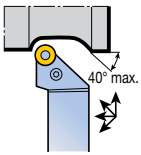
PRGNR/L

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	A240
		3225 P15	32	32	25	170	35	32	RNMG 150600	
		3232 P19	32	32	32	170	38	40	RNMG 190600	

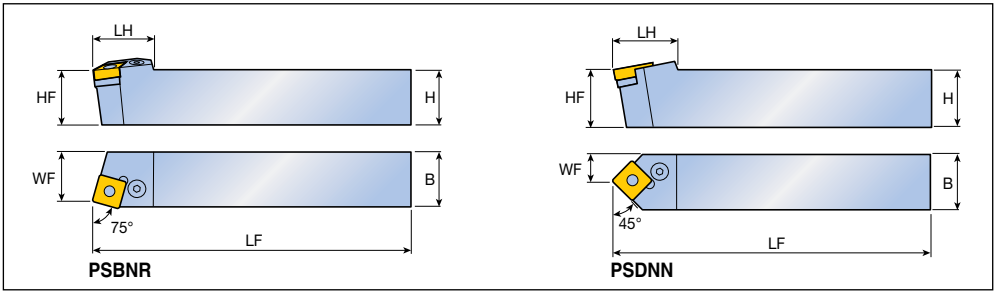


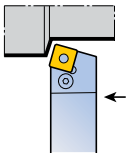
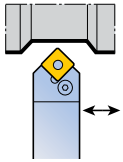
Spare parts

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			

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

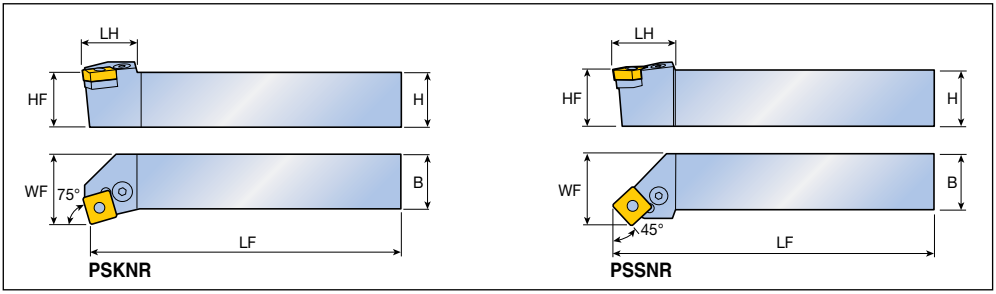
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...12	LCL 4	LCS 4	LSS 42	LSP 4	L-W 3			
...15	LCL 5	LCS 5	LSS 53	LSP 5	L-W 3			
...1906	LCL 6D	LCS 25C	LSS 64D	LSP 6	L-W 4			
...2509	LCL 8	LCS 8	LSS 84D	LSP 8	L-W 5			

▸ 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

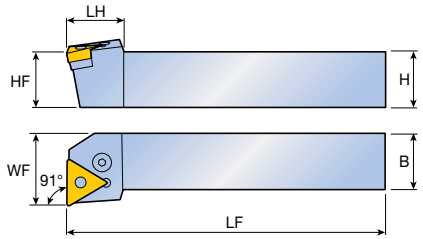
Spare parts

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			

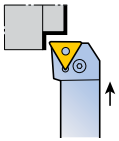
▸ Apply LSC 85D shim when using CN...2507... insert

PTFNR/L

Lever lock type holders



PTFNR

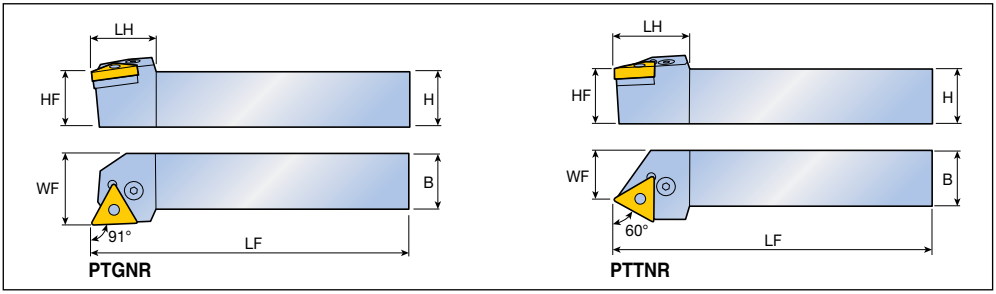
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
91°	**PTFNR/L 2020 K16**	20	20	20	125	20	25	TN... 1604... A247-A250, A299, A307
	**2525 M16**	25	25	25	150	20	32	

Spare parts

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

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

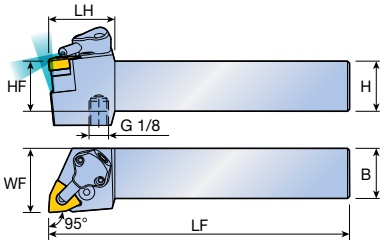
Spare parts

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

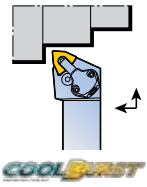
T-TURN

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

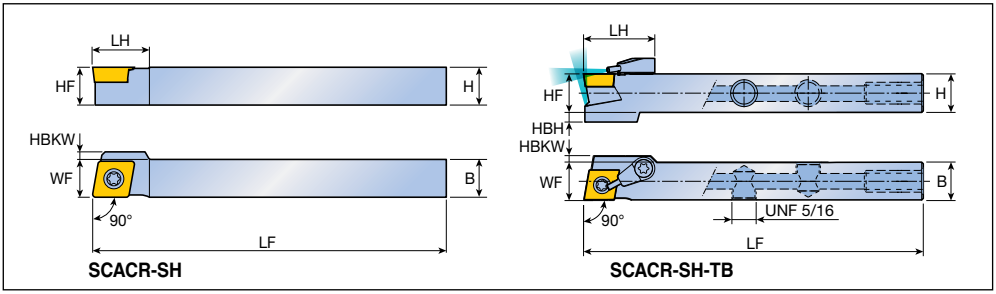
Designation	Lever	Screw	Shim	Shim pin	Cooling unit	O-ring	Wrench	
								
...08-TB	LCL 4	LCS 4	TWN 423(T)	LSP 4	CU-CW-TB	ID 6.4x0.9	T 8	L-W 2, L-W 3

▸ Please refer to A135 page for COOL-BURST accessories

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

T-TURN

Screw type holders



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

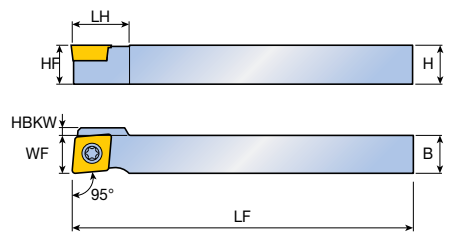
Designation	Screw	Cooling unit	Plug	Wrench			
...06-SH	SO 25065I	-	-	T 7	-		
...09-SH	SO 35080I	-	-	T 15	-		
SCACR/L-SH-TB	SO 35080I	S-CU-TB	PLG 5/16 UNF	T 15	L-W 5/32		

▸ Please refer to A135 page for COOL-BURST accessories

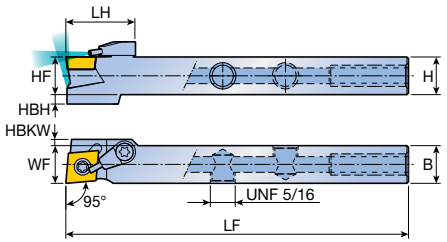
SCLCR/L-SH SCLCR/L-SH-TB

T-TURN

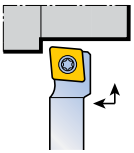
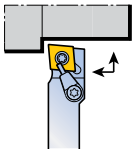
Screw type holders



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

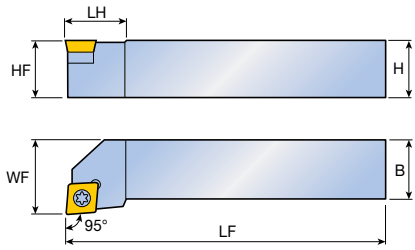
Spare parts

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		

▸ 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		

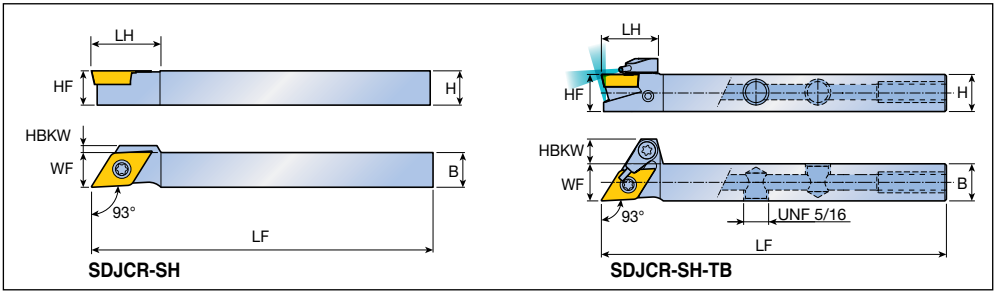
Spare parts

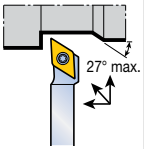
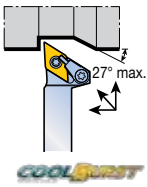
Designation	Screw	Shim	Shim screw	Wrench			
...06	SO 25065I	-	-	T 7			
...F09	SO 35080I	-	-	T 15			
...09	SO 35124I	SSC 32	SO 50090S	T 15			
...12	SO 45130I	SSC 43N	SO 60105S	T 20			

SDJCR/L-SH SDJCR/L-SH-TB

T-TURN

Screw type holders



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

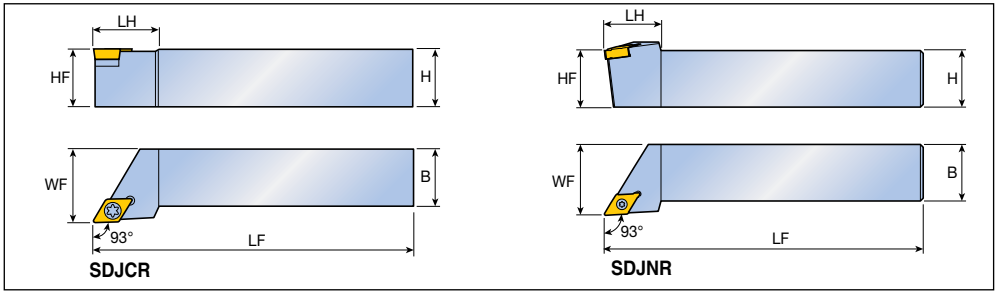
Spare parts

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		

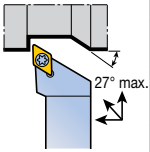
▸ Please refer to A135 page for COOL-BURST accessories

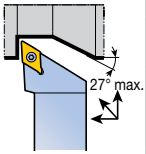
SDJCR/L SDJNR/L

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	





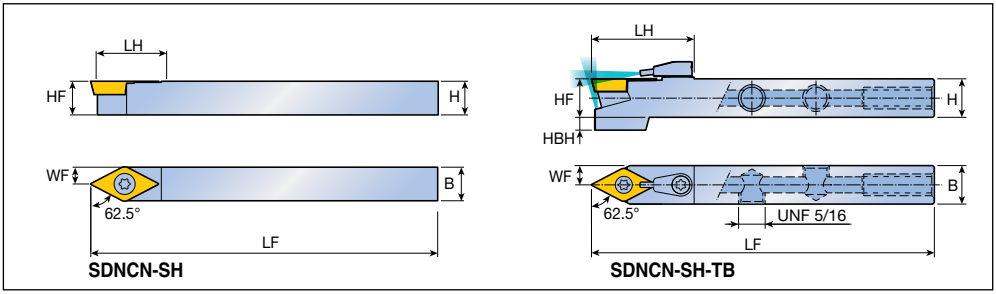
Spare parts

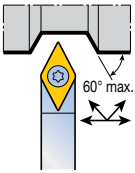
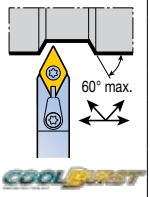
Designation	Screw	Shim	Shim screw	Wrench				
								
...07	SO 25065I	-	-	T 7				
...11	SO 35124I	SSD 32	SO 50090S	T 15				
...1104...	SO 35120I	SSD 32	SO 50090S	T 10				

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

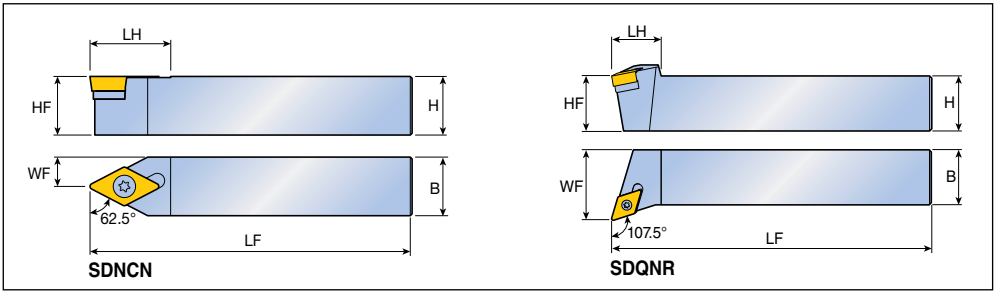
Spare parts

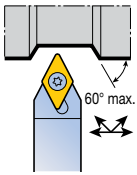
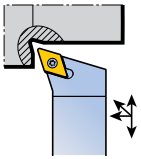
Designation	Screw	Cooling unit	Plug	Wrench				
								
...07	SO 25065I	-	-	T 7	-			
...11-SH	SO 35080I	-	-	T 7	-			
SDNCN-SH-TB	SO 35080I	S-CU-TB	PLG 5/16 UNF	T 15	L-W 5/32			

▸ Please refer to A135 page for COOL-BURST accessories

SDNCN SDQNR/L

Screw type holders



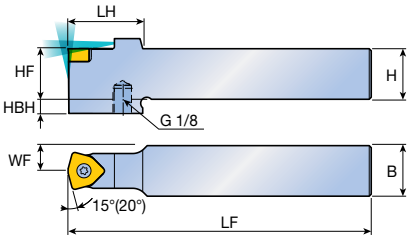
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
62.5°	**SDNCN**	**0808 F07**	8	8	8	80	15	4	DC... 0702...	A265-A268, A311
		**1010 F07**	10	10	10	80	15	5		
		1616 H11	16	16	16	100	22	8	DC... 11T3...	
		2525 M11	25	25	25	150	22	12.5		
107.5°	**SDQNR/L**	**1616 H11**	16	16	16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

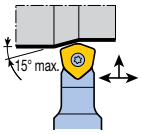
SFXCN

Screw type holders for FCMX high feed inserts



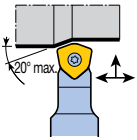
SFXCN

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°



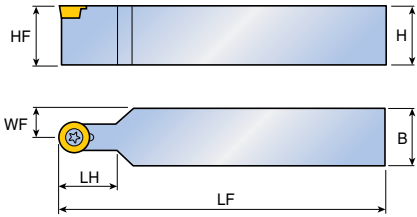
FCMX HFP

Spare parts

Designation	Screw	Wrench						
								
...1006	SO 45130I	T 20						

SRDCN

Screw type holders



SRDCN

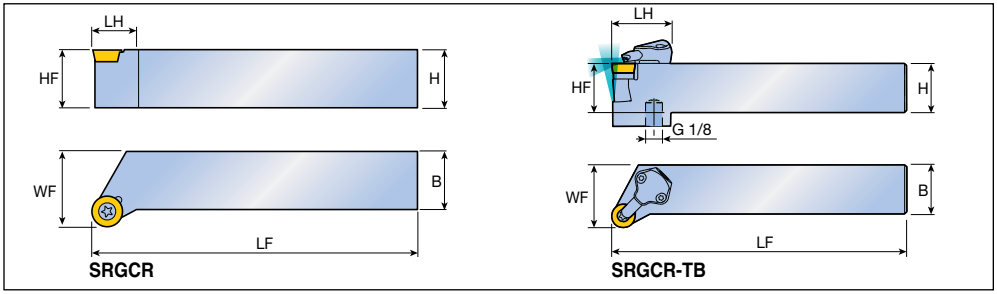
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
45°	SRDCN	1616 H08	16	16	16	100	20	8	RC…T 0803…	A271
		2020 K08	20	20	20	125	25	10		
		2525 M08	25	25	25	150	30	12.5		
		1616 H10	16	16	16	100	16	8	RC...T 10T3...	
		2020 K10	20	20	20	125	20	10		
		2525 M10	25	25	25	150	25	12.5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

Spare parts

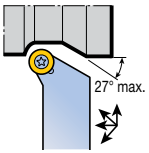
Designation	Screw	Wrench						
...08	SO 30040I	T 9						
...10	TS 40097I	T 15						
...12	SO 40050I	T 15						

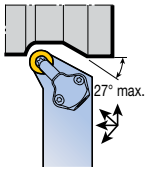
SRGCR/L SRGCR/L-TB

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...





Spare parts

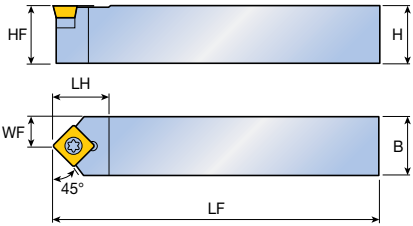
Designation	Screw	Shim	Shim screw	Cooling unit	O-ring	Wrench	
...10	TS 40097I	-	-	-	-	T 15	-
SRGCR/L...TB	TS 35110I	SSR 32	TS 5035062S	CU-R-TB	ID 6.4x0.9	T 8, T 15	L-W 2, L-W 3.5

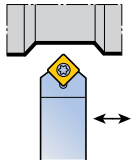
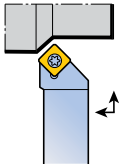
▸ Please refer to A135 page for COOL-BURST accessories

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	

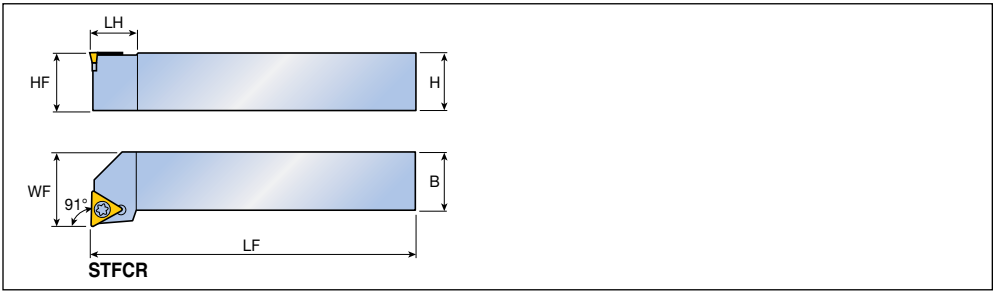
Spare parts

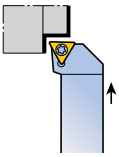
Designation	Screw	Shim	Shim screw	Wrench				
								
...F09	SO 35080I	-	-	T 15				
...H09	SO 35124I	SSS 32	SO 50090S	T 15				
...12	SO 45130I	SSS 43N	SO 60105S	T 20				

ADVANCE CUTTING TaeguTec

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		

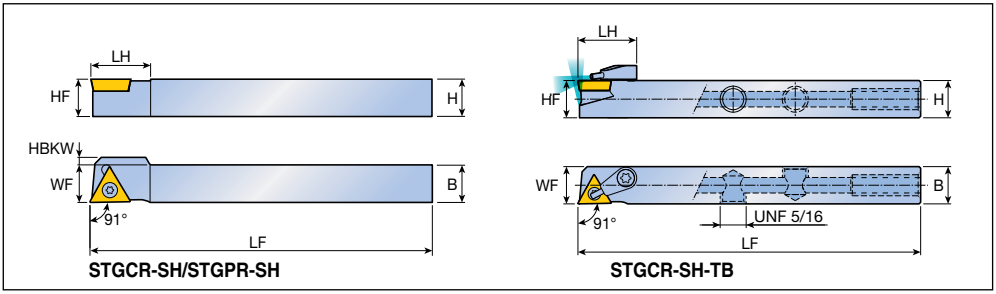
Spare parts

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

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

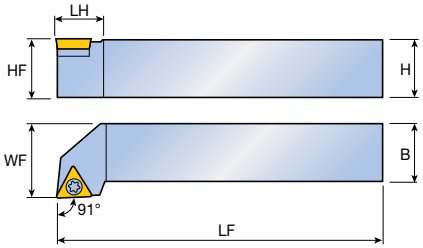
Spare parts

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		

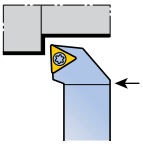
▸ Please refer to A135 page for COOL-BURST accessories

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	

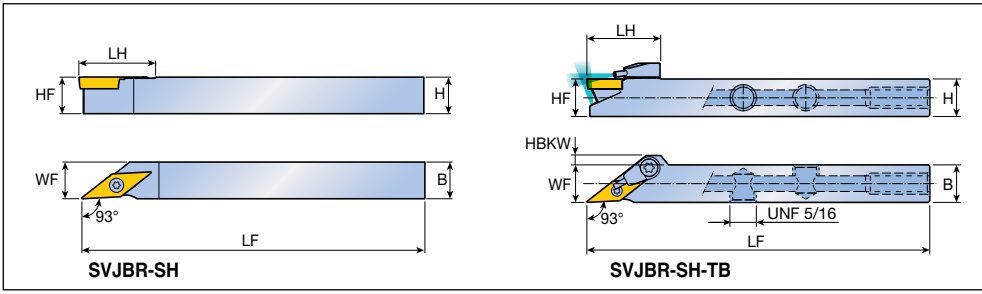
Spare parts

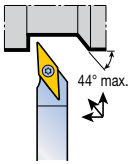
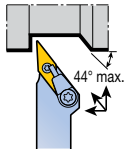
Designation	Screw	Shim	Shim screw	Wrench			
							
...08	TS 20043I/HG-P	-	-	T 6P			
...09	SO 22050I	-	-	T 7			
...1102	SO 25065I	-	-	T 7			
...16	SO 35124I	SST 32	SO 50090S	T 15			

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

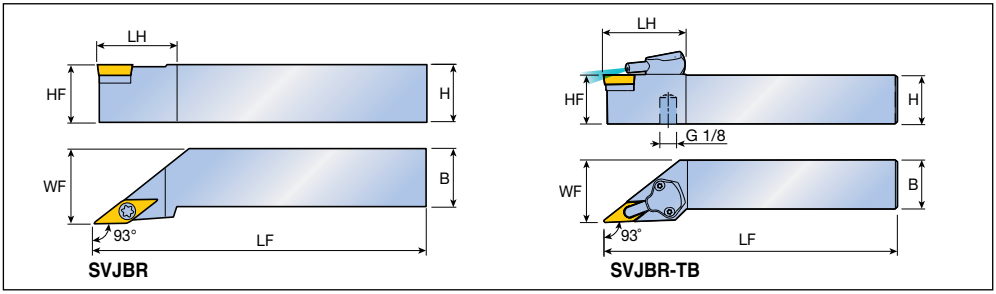
Spare parts

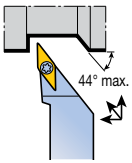
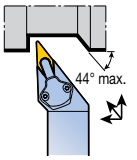
Designation	Screw	Cooling unit	Plug	Wrench			
							
...11	SO 25065I	-	-	T 7	-		
SVJBR/L-SH-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32		

▸ 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

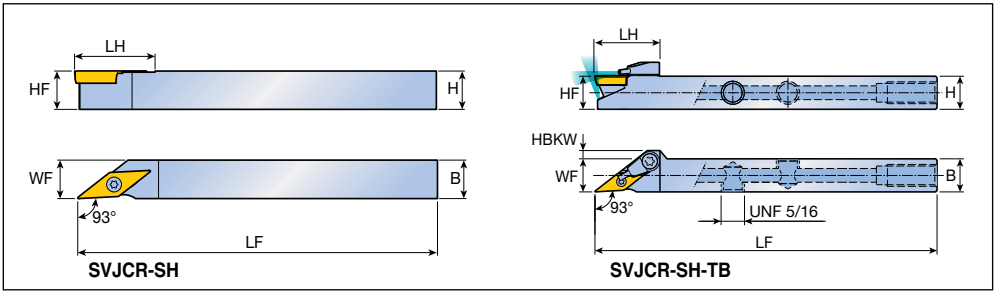
Designation	Screw	Shim	Shim screw	Cooling unit	O-ring	Wrench	
							
...16	SO 35124I	SSV 32	SO 50090S	-	-	T 15	-
SVJBR/L-TB	SO 35124I	SSV 32	TS 5035062S	CU-V-TB	ID 6.4x0.9	T 8, T 15	L-W 3.5

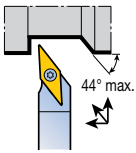
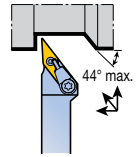
▸ Please refer to A135 page for COOL-BURST accessories

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

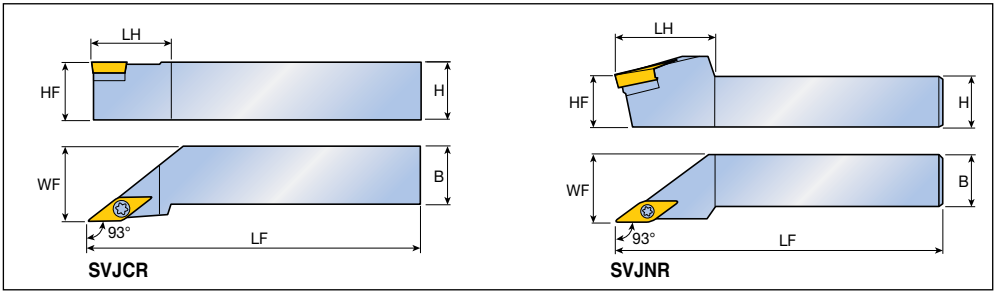
Designation	Screw	Cooling unit	Plug	Wrench			
							
...11-SH	SO 25065I	-	-	T 7	-		
SVJCR/L-SH-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32		

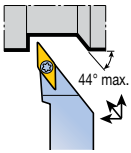
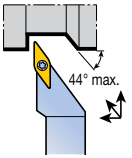
▸ Please refer to A135 page for COOL-BURST accessories

ADVANCE CUTTING TaeguTec

SVJCR/L SVJNR/L

Screw type holders



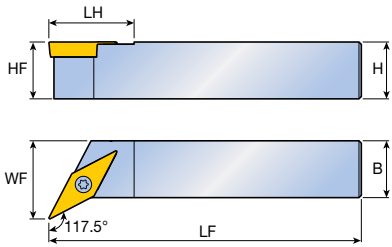
Approach angle	Designation		Dimension (mm)						Inserts
			H	HF	B	LF	LH	WF	
93°	**SVJCR/L**	**2020 K16**	20	20	20	125	35	25	VC... 1604... A283, A284
		**2525 M16**	25	25	25	150	35	32	
		3225 P16	32	32	25	170	35	32	
		3232 P16	32	32	32	170	47	40	
93°	**SVJNR/L**	**1616 H13**	16	16	16	100	30	20	VN... 1304...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

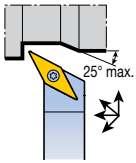
SVPBR/L

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	



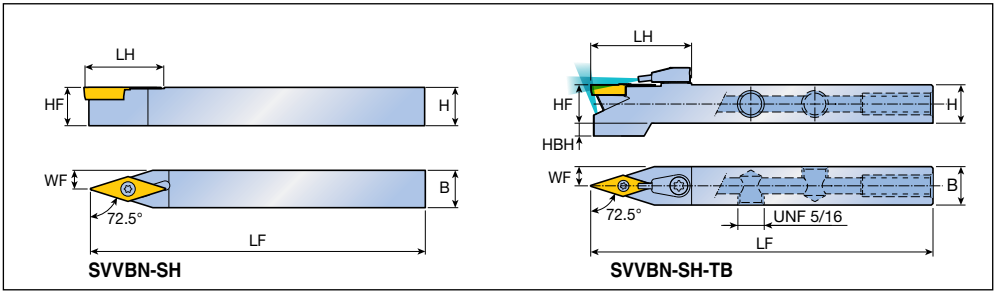
Spare parts

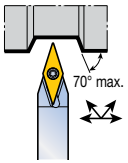
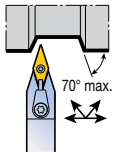
Designation	Screw	Shim	Shim screw	Wrench				
...11	SO 25065I	-	-	T 7	-			
...16	SO 35124I	SSV 32	SO 50090S	T 15	L-W 3.5			

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

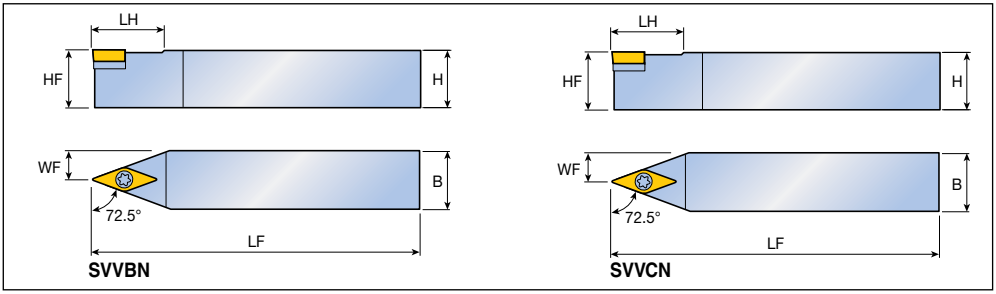
Spare parts

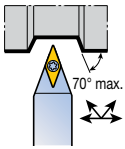
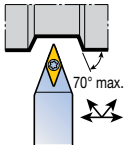
Designation	Screw	Cooling unit	Plug	Wrench				
								
...11	SO 25065I	-	-	T 7	-			
SVVBN-SH-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32			

▸ 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	

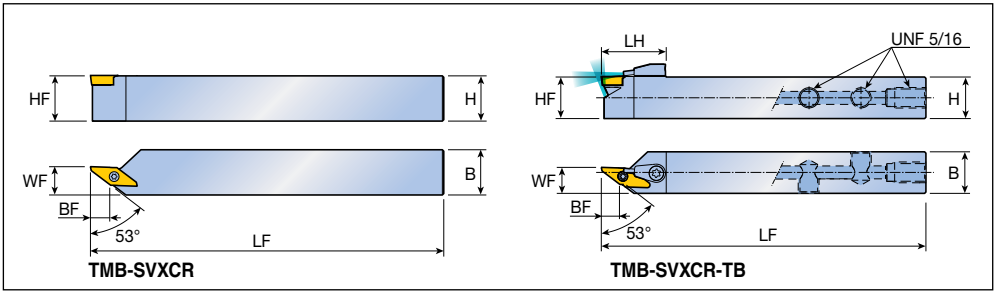
Spare parts

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

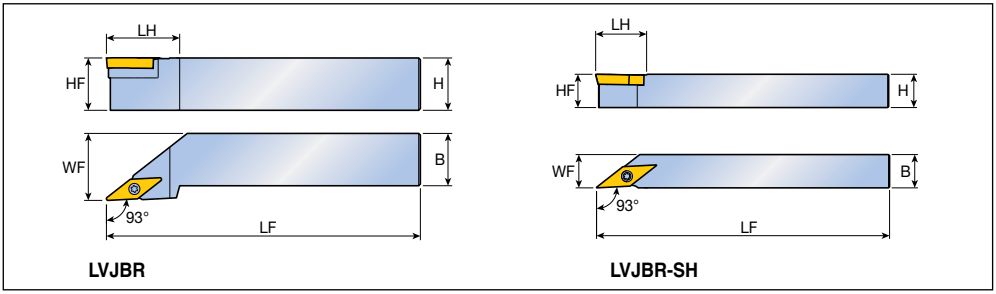
Spare parts

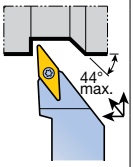
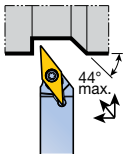
Designation	Screw	Cooling unit	Plug	Wrench		
TMB-SVXCR	SO 25065I	-	-	T 7	-	
TMB-SVXCR-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32	

▸ Please refer to A135 page for COOL-BURST accessories

LVJBR/L LVJBR-SH

Screw type holders



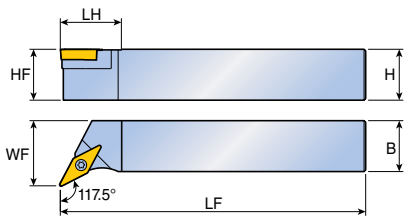
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
93°	**LVJBR/L**	**2020 K16**	20	20	20	125	35	25	VBMX 1604... A282
		**2525 M16**	25	25	25	150	35	32	
93°	**LVJBR**	**1616 K16-SH**	16	16	16	125	24.5	16	
									

Spare parts

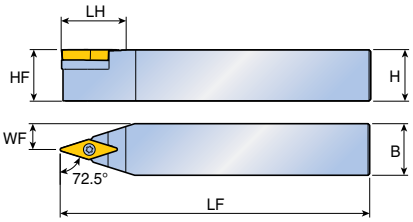
Designation	Screw	Shim	Shim screw	Wrench		
						
LVJBR/L	SO 35124I	SSVX 32	TS 5035062S	T 15	L-W 3.5	
LVJBR-SH	SO 35080I	-	-	T 15	-	

LVQBR/L LVVBN

Screw type holders

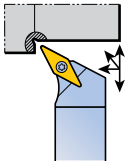


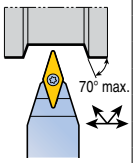
LVQBR



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	



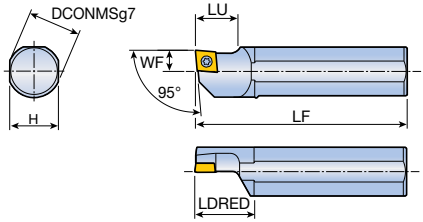


Spare parts

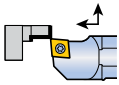
Designation	Screw	Shim	Shim screw	Wrench		
						
LVQBR/L	SO 35124I	SSVX 32	TS 5035062S	T 15	L-W 3.5	
LVVBN	SO 35124I	SSVX 32	TS 5035062S	T 15	L-W 3.5	

TMS-SCLCL

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

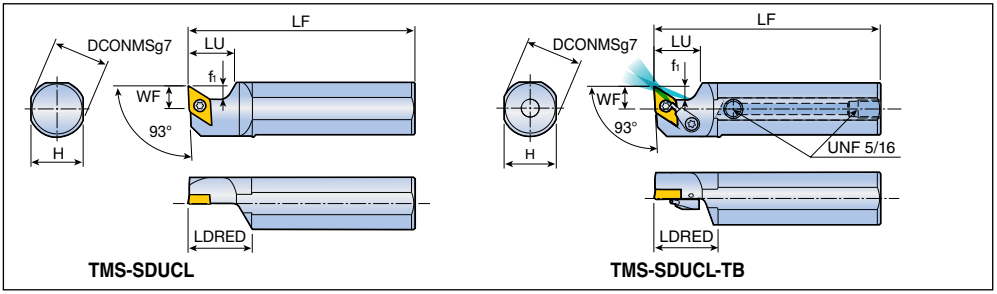
Spare parts

Designation	Screw	Wrench				
						
TMS-SCLCL	SO 35080I	T 15				

TMS-SDUCL TMS-SDUCR/L-TB

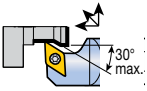
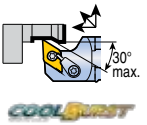
T-TURN

Sleeve holders



TMS-SDUCL

TMS-SDUCL-TB

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

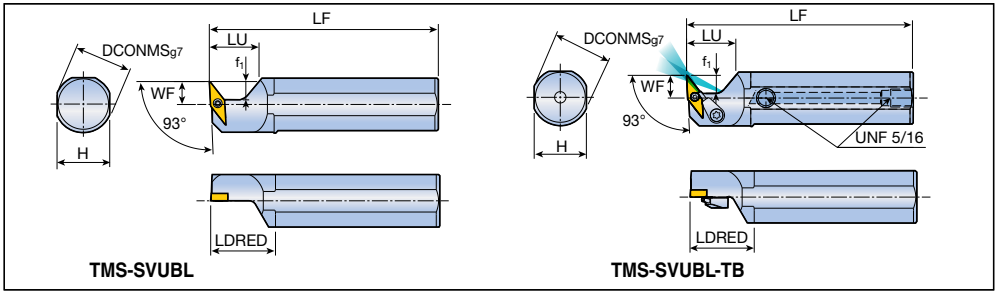
Spare parts

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	

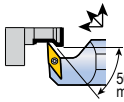
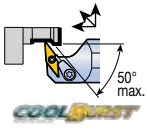
▸ Please refer to A135 page for COOL-BURST accessories

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

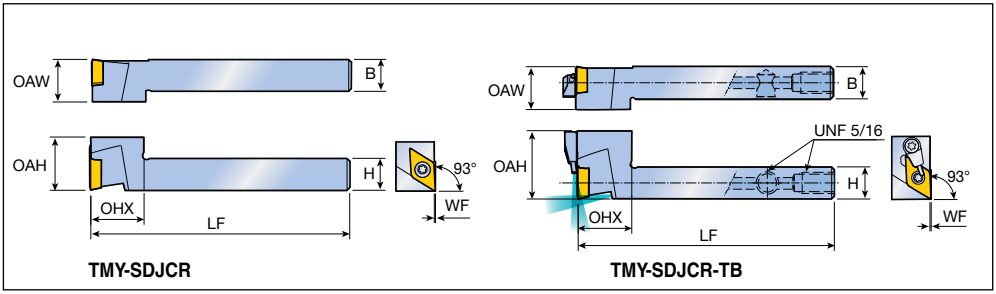
Designation	Screw	Cooling unit	Plug	Wrench		
						
TMS-SVUBL	SO 25065I	-	-	T 7	-	
TMS-SVUBR/L-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32	

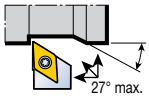
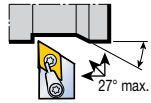
▸ Please refer to A135 page for COOL-BURST accessories

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

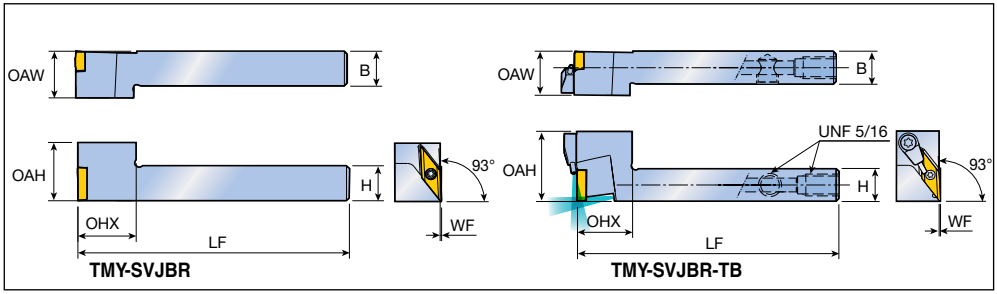
Designation	Screw	Cooling unit	Plug	Wrench		
						
TMY-SDJCR	SO 35080I	-	-	T 15	-	
TMY-SDJCR-TB	SO 35080I	S-CU-TB	PLG 5/16 UNF	T 15	L-W 5/32	

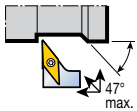
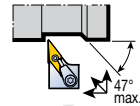
▸ Please refer to A135 page for COOL-BURST accessories

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	
									

▸ #: TOP-MINI holders

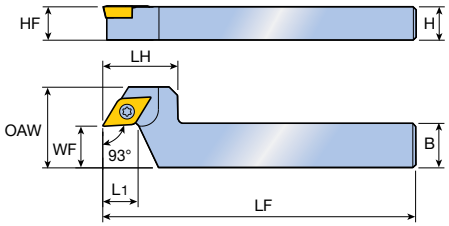
Spare parts

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	

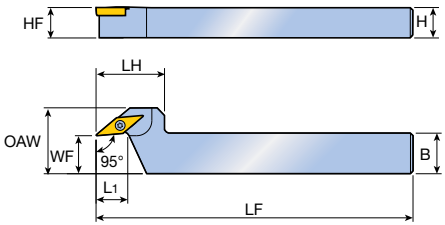
▸ Please refer to A135 page for COOL-BURST accessories

TMZ-SDJCR TMZ-SVLBR

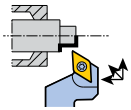
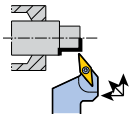
Shift holders



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

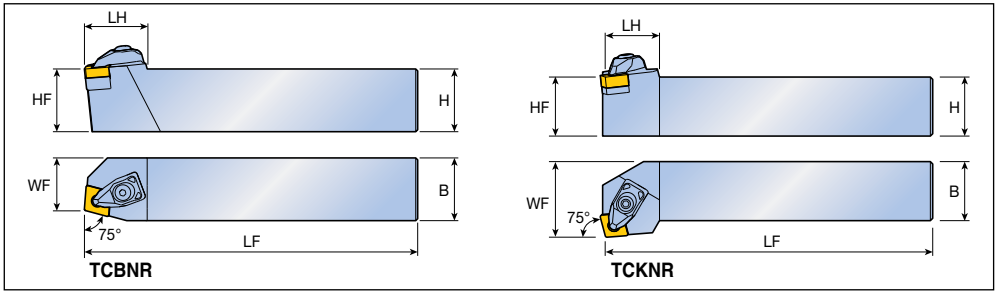
▸ #: TOP-MINI holders

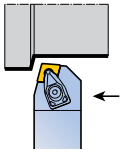
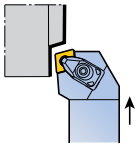
Spare parts

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...
								

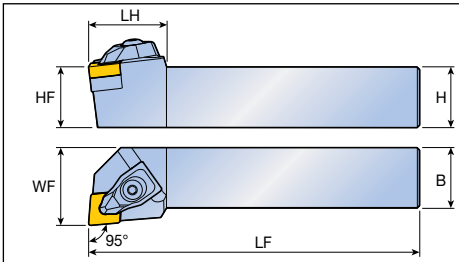
A226, A228-A232

Spare parts

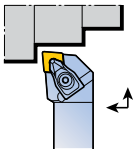
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw		Wrench	
								
...12	DLM 4	DLS 4	DSP 4	TSC 44	SO 40050I	-	L-W 3	T 15
...19	DLM 6	DLS 5	DSP 5	LSC 63	-	SO 80180I	L-W 4	-

TCLNR/L

T-holders



TCLNR

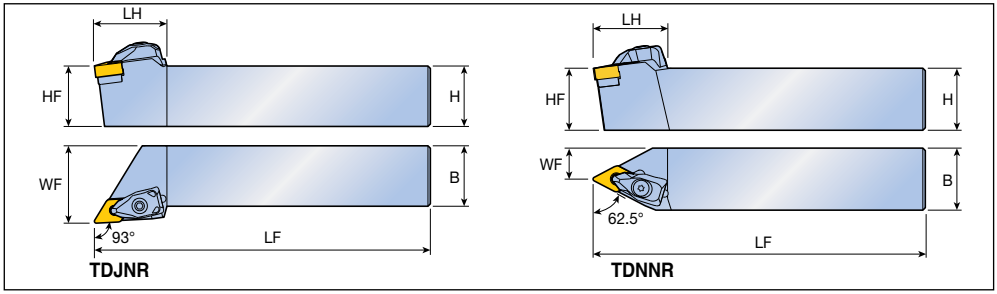
Approach angle	Designation	Dimension (mm)						Insert	
		H	HF	B	LF	LH	WF		
95°	**TCLNR/L 2020 K12**	20	20	20	125	32	25	CN... 1204...	A226, A228-A232
	**2525 M12**	25	25	25	150	32	32		
	3225 P12	32	32	25	170	32	32		
	3232 P12	32	32	32	170	32	40		
	2525 M16	25	25	25	150	36	32	CN... 1606...	
	3232 P16	32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

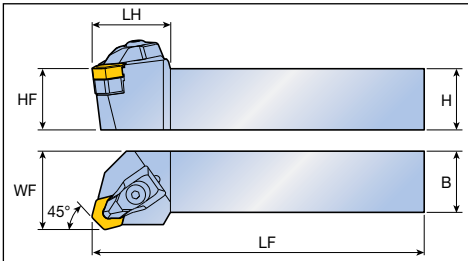
A234-A238

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	

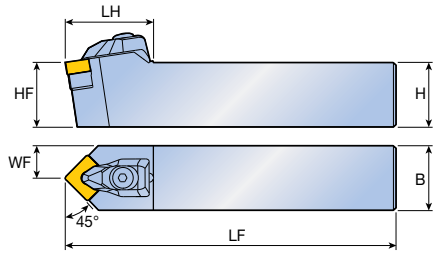
A239

Spare parts

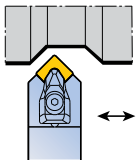
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
...05	DLM 4	DLS 4	DSP 4	TSH 44	SO 40050I	L-W 3	T 15	
...10	DLM 6	DLS 5	DSP 5	TSH 64	SO 50090I	L-W 4	T 20	

TSDNN

T-holders



TSDNN

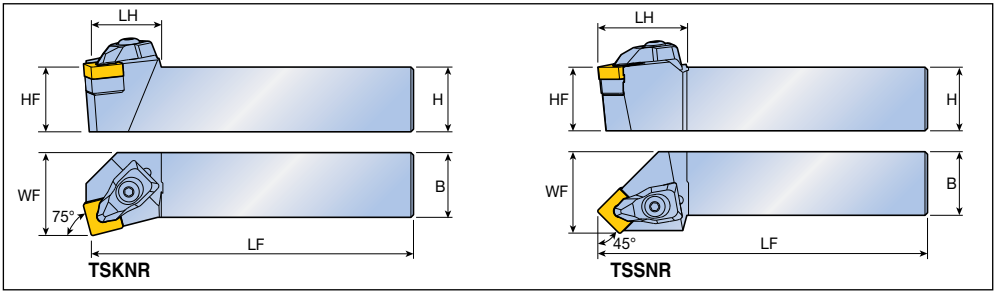
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
45°	**TSDNN 2525 M12**	25	25	25	150	34	12.5	SN... 1204...
	**3232 P19**	32	32	32	170	44	16	SN... 1906... A241-A246, A296, A297, A306

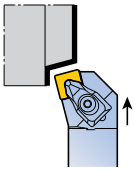
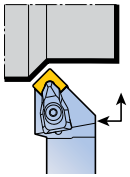
Spare parts

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	-

TSKNR/L TSSNR/L

T-holders



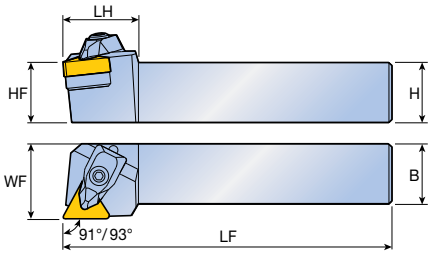
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
75°	**TSKNR/L 2525 M12**	25	25	25	150	27	32	SN... 1204... A241-A246, A296, A297, A306
								
45°	**TSSNR/L 2525 M12**	25	25	25	150	35	32	SN... 1204...
								

Spare parts

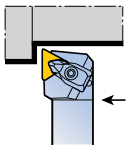
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...12	DLM 4	DLS 4	DSP 4	TSS 44	SO 40050I	L-W 3	T 15	

TTGNR/L TTJNR/L

T-holders



TTGNR (91°) TTJNR (93°)

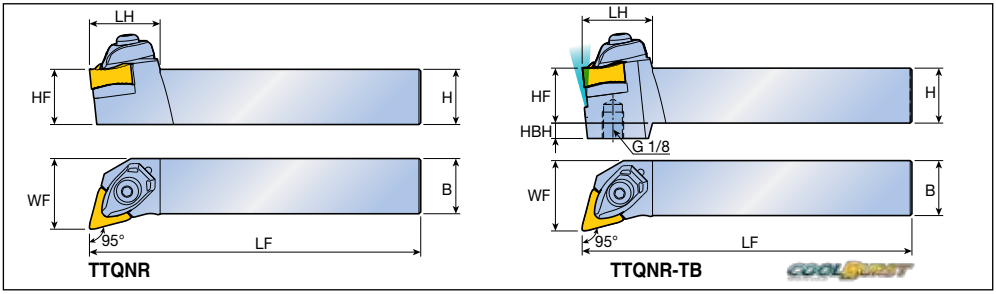
Approach angle	Designation	Dimension (mm)						Insert
		H	HF	B	LF	LH	WF	
91°/93°	**TTGNR/L 2525 M16**	25	25	25	150	25	32	TN... 1604... A247-A250, A299, A307
	**TTJNR/L 2020 K16**	20	20	20	125	25	25	
	2525 M16	25	25	25	150	25	32	

Spare parts

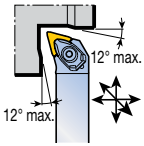
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...16	DLM 3	DLS 3	DSP 3	TST 33	SO 35080I	L-W 2.5	T 15	

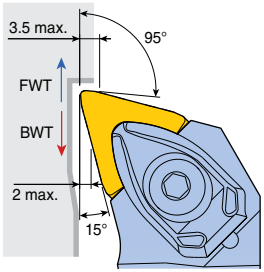
TTQNR/L TTQNR/L-TB

T-holders

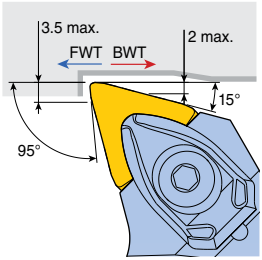


Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBH	
95°	**TTQNR/L**	**2525 M2109**	25	25	25	150	32	32	-	TNMV 2109... A256
		3232 P2109	32	32	32	170	32	40	-	
	TTQNR/L	**2525 M2109-TB**	25	25	25	150	32	32	7	
		3232 P2109-TB	32	32	32	170	32	40	-	





Facing



Ext.Turning

- BWT: Backward turning
- FWT: Forward turning

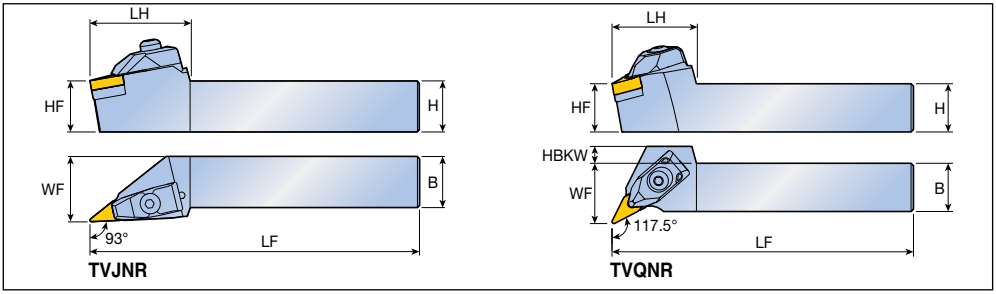
Spare parts

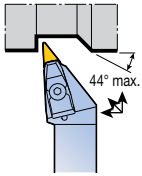
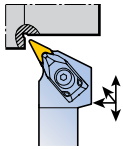
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...2109	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	L-W 4	T 10
...2109-TB	DLM 4.4T-NV	DLS 5	DSP 5	TSTV 210510	TS 35083I/HG	L-W 4	T 10

- 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		
117.5°	**TVQNR/L**	**2020 K16**	20	20	20	125	42	25	8	VN... 1604...
		**2525 M16**	25	25	25	150	42	32	2	

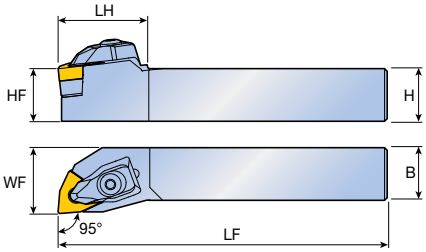
Spare parts

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

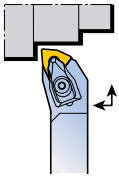
TWLNR/L

T-TURN

T-holders



TWLNR

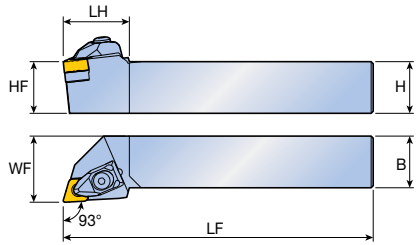
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95°	TWLNR/L	2020 K06	20	20	20	125	26	25	WN...G 0604... A253-A255, A300, A309
		2525 M06	25	25	25	150	26	32	
		2020 K08	20	20	20	125	34.2	25	WN... 0804...
		2525 M08	25	25	25	150	34.2	32	
		3232 P08	32	32	32	170	34.2	40	

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	

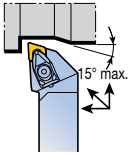
TXJNR/L

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... POSSTURN A257
		2525 M1105	25	25	25	150	32	32	

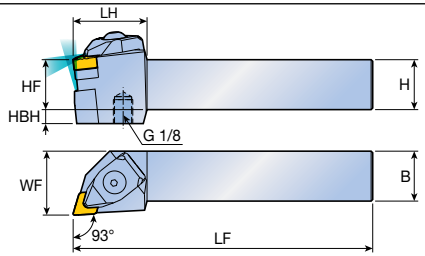


Spare parts

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

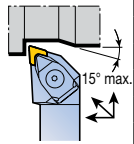
TXJNR/L-TB

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

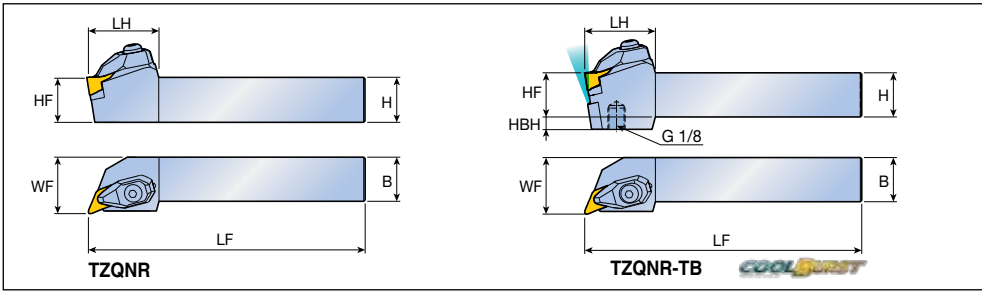
Designation	Clamp	Clamp screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim screw	Wrench	
									
...1105	DLM 3.5-NX-TB	BH M5x0.8x 21-MO-TB	DSP 4	O-RING ID5.28x 1.78	O-RING ID7.59x 2.62	TSX 3.53	SO 50090I	L-W 3	T 20

▸ Please refer to A135 page for COOL-BURST accessories

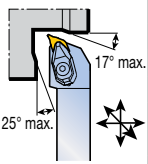
TZQNR/L TZQNR-TB

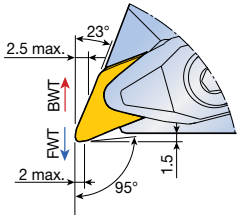
POSSTURN

T-holders for ZNMV insert

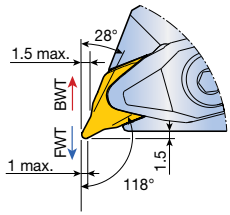


Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBH	
ZNMV 23°(BWT) 95°(FWT)	**TZQNR/L**	**2525 M1410**	25	25	25	150	40	32	-	ZNMV 1410...
		3232 P1410	32	32	32	170	40	40	-	A258
	TZQNR/L	**2525 M1410-TB**	25	25	25	150	40	32	7	
		3232 P1410-TB	32	32	32	170	40	40	-	
ZNMV Y-BF 28°(BWT)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





ZNMV



ZNMV Y-BF

- BWT: Backward turning
- FWT: Forward turning

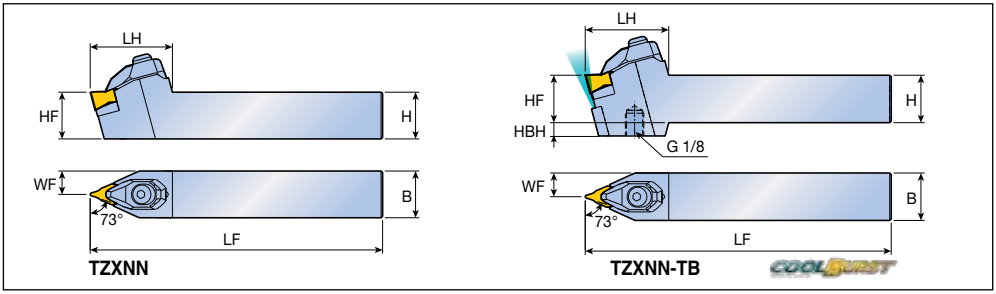
Spare parts

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

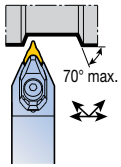
- Please refer to A135 page for COOL-BURST accessories

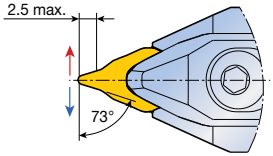
TZXNN TZXNN-TB

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

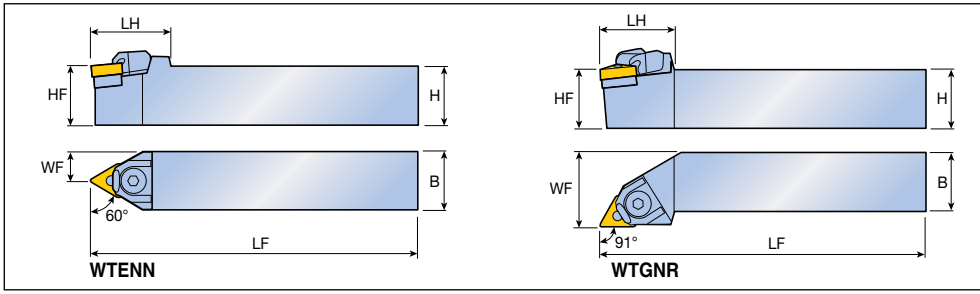
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...1410	DLM 3.3Z-NV	DLS 5	DSP 5	TSZ 140310	TS 35083I/HG	L-W 4	T 10
...1410-TB	DLM 3.3Z-NV	DLS 5	DSP 5	TSZ 140310	TS 35083I/HG	L-W 4	T 10

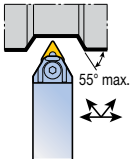
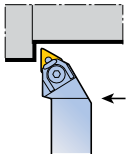
▸ Please refer to A135 page for COOL-BURST accessories

WTENN WTGNR/L

T-TURN

Wedge clamp type holders



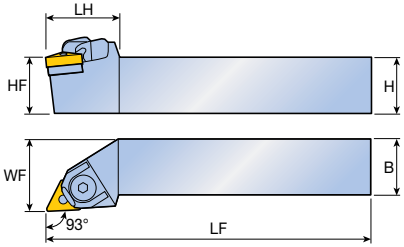
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
60°	**WTENN**	**2020 K16**	20	20	20	125	35	10.0	TN... 1604...
		**2525 M16**	25	25	25	150	35	12.5	A247-A250, A299, A307
		2525 M22	25	25	25	150	38	12.5	TN... 2204...
		3225 P22	32	32	25	170	38	12.5	
		3232 P22	32	32	32	170	38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

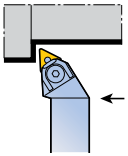
Designation	Wedge clamp	Screw	Snap ring	Shim	Pin screw	Wrench	
							
...16	WC 33	WCS 4	WSR 4	WST 33	WSS 33	L-W 3, L-W 2.5	
...22	WC 43	WCS 4	WSR 4	WST 43	WSS 43	L-W 3	

WTJNR/L

Wedge clamp type holders



WTJNR

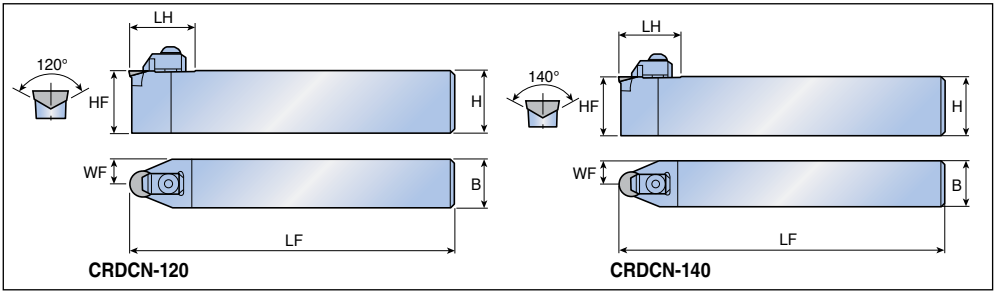
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
93°	WTJNR/L	2020 K16	20	20	20	125	32	25	TN... 1604...	A247-A250, A299, A307
		2525 M16	25	25	25	150	32	32		
		3225 P16	32	32	25	170	32	32		
		3232 P16	32	32	32	170	38	40		
		2525 M22	25	25	25	150	38	32	TN... 2204...	
		3232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

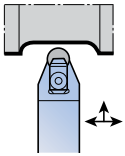
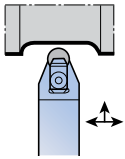
Spare parts

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	

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	

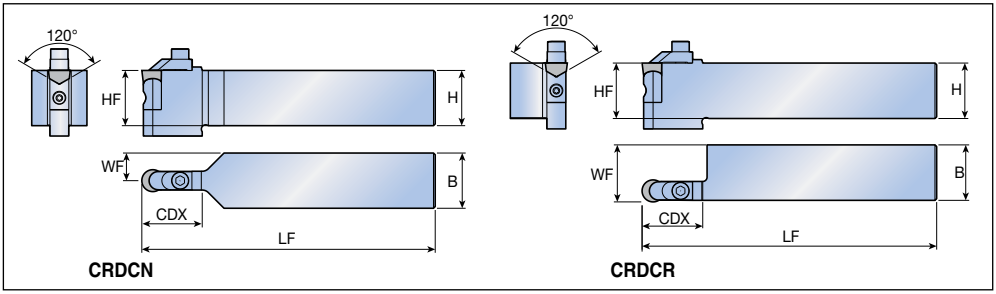
Spare parts

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

T-TURN

Narrow top clamp type holders for V bottom insert



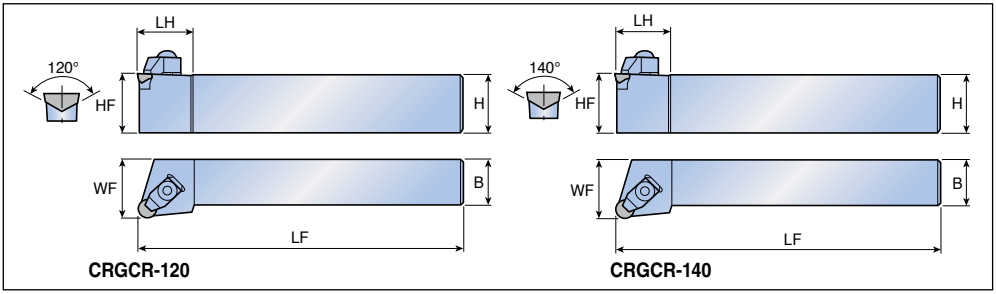
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	CDX	WF	
45°	CRDCN	3232 P0907-120-T30	32	32	32	170	30	16	RCGX 0907… A301
		3232 P1207-120-T35	32	32	32	170	35	16	RCGX 1207…
45°	CRDCR/L	3232 P0907-120-T30	32	32	32	170	30	32.8	RCGX 0907… A312
	CRDCR	3225 P0907-120-T30	32	32	25	170	30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



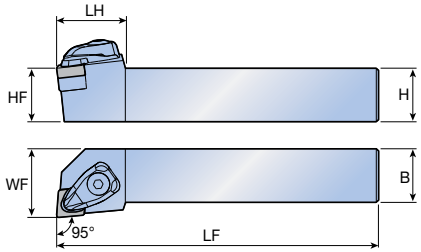
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
90°	**CRGCR/L**	**2525 M06-120**	25	25	25	150	28	32	RCGX 0606...	A301
		3225 P06-120	32	32	25	170	28	32		
		3225 P09-120	32	32	25	170	30	32	RCGX 0907...	
		3225 P12-120	32	32	25	170	32	32	RCGX 1207...	
90°	**CRGCR/L**	**3225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

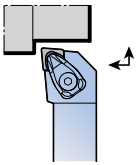
CCLNR/L-F

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

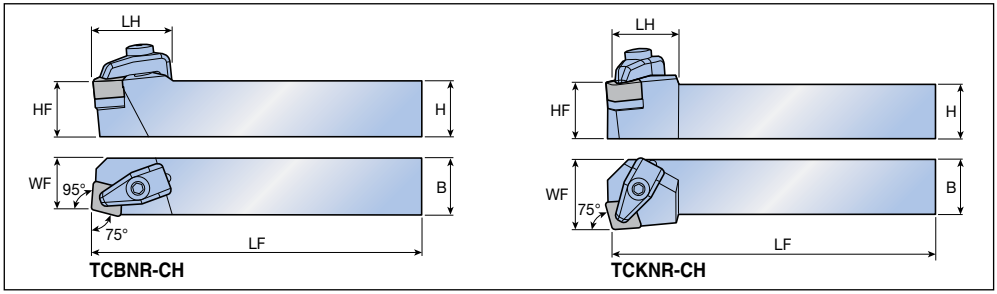


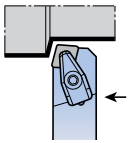
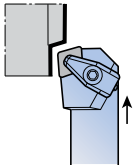
Spare parts

Designation	Clamp set	Shim	Shim screw	Wrench			
CCLNR/L...-F	CCL S-4F	TSC 44	SO 40050I	L-W 4	T 15		

TCBNR/L-CH TCKNR/L-CH

T-holders for CH dimple insert



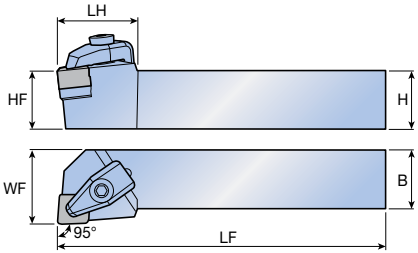
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
75°	**TCBNR/L**	**2525 M12-CH**	25	25	25	150	34.7	23	CNGX 1207...CH A292
		**3225 P12-CH**	32	32	25	170	34	24	
75°	**TCKNR/L**	**2525 M12-CH**	25	25	25	150	28	32	
									

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

TCLNR/L-CH

T-holders for CH dimple insert



TCLNR-CH

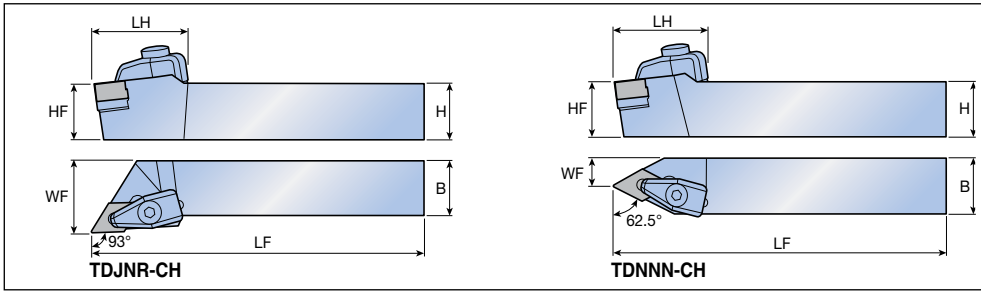
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95°	**TCLNR/L**	**2525 M12-CH**	25	25	25	150	33	32	CNGX 1207...CH A292
		3225 P12-CH	32	32	25	170	33	32	

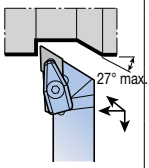
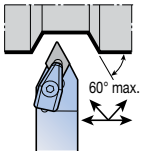
Spare parts

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



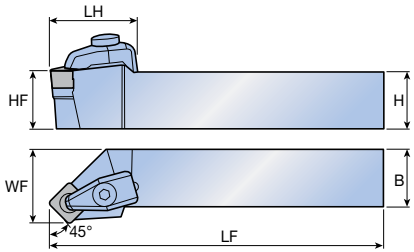
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
93°	**TDJNR/L**	**2525 M15-CH**	25	25	25	150	38	32	DNGX 1507...CH A293
		**3225 P15-CH**	32	32	25	170	38	32	
62.5°	**TDNNN**	**2525 M15-CH**	25	25	25	150	40	12.5	
									

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

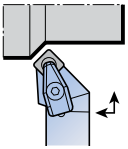
TSSNR/L-CH

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
	3232 P12-CH	32	32	32	170	35	40	
	3225 P15-CH	32	32	25	170	35	32	SNGX 1507...CH



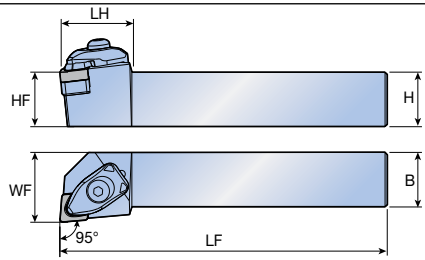
A297

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	-

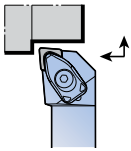
TCLNR/L-DA

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

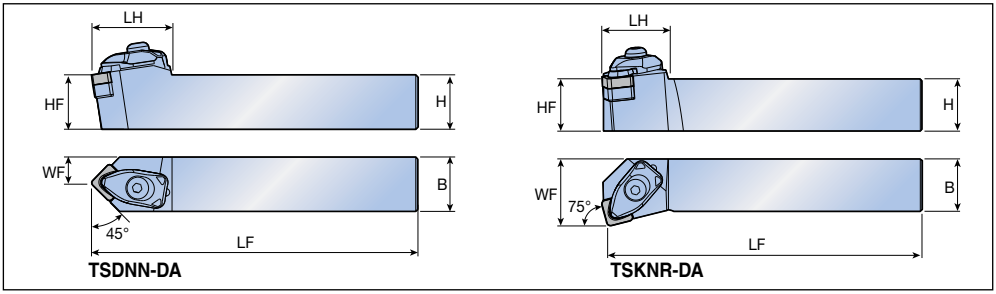


Spare parts

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



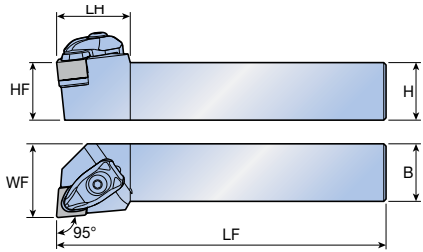
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
45°	**TSDNN**	**2525 M1204-DA**	25	25	25	150	37	12.5	SNGX 1204…DA A306
75°	**TSKNR/L**	**2525 M1204-DA**	25	25	25	150	29	32	

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	

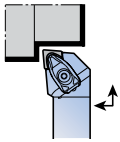
TCLNR/L-F

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	

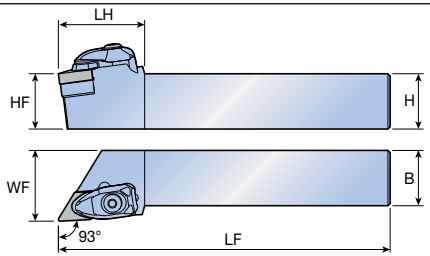


Spare parts

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	

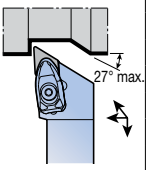
TDJNR/L-F

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		

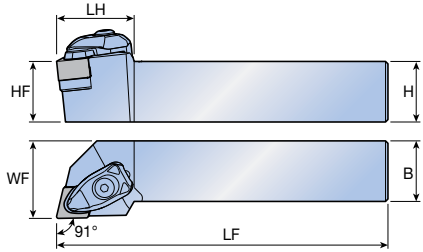


Spare parts

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	

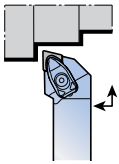
TEGNR/L-F

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

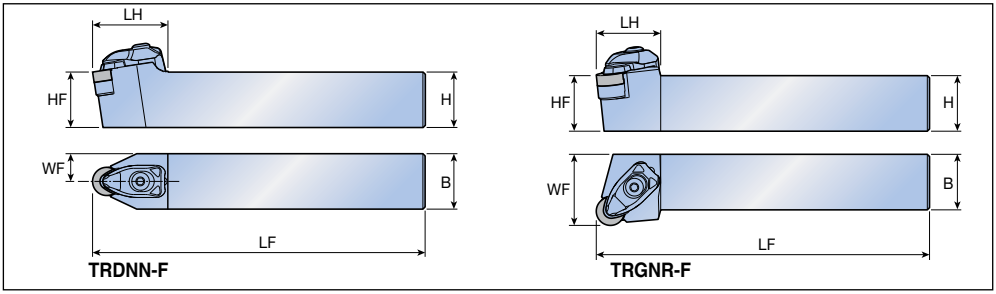


Spare parts

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.

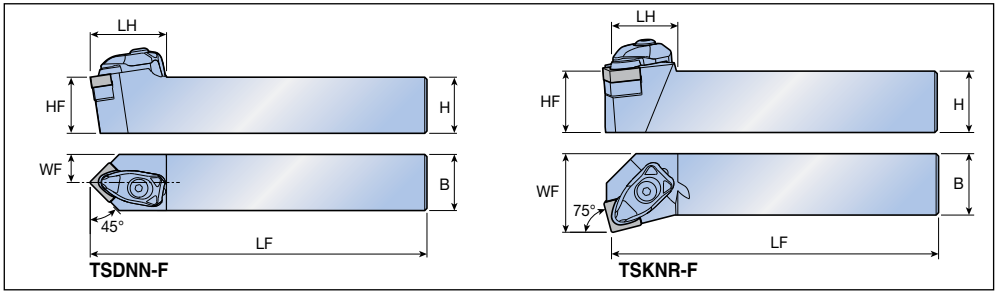
▸ RN...N 1204/1207 are exchangeable, RN...N 1203 is not exchangeable on same holder

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



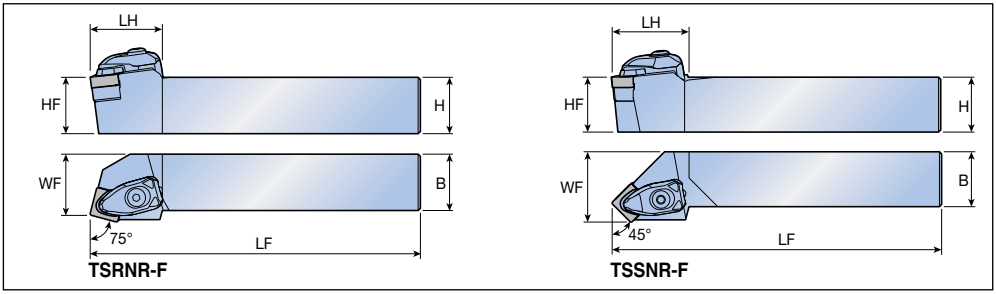
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
45°	**TSDNN**	**2020 K1204-F**	20	20	20	125	34	10	SN...N 1204... A296, A306
		2525 M1204-F	25	25	25	150	34	12.5	
		2525 M1207-F	25	25	25	150	34	12.5	SN...N 1207...
		3225 P1207-F	32	32	25	170	34	12.5	
		3232 P1207-F	32	32	32	170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

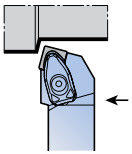
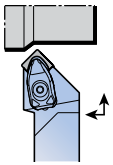
Spare parts

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



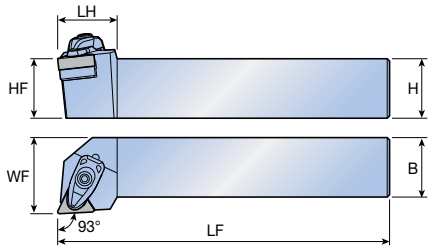
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
75°	**TSRNR/L**	**2525 M1204-F**	25	25	25	150	32	27	SN...N 1204...	A296, A306
		**3232 P1204-F**	32	32	32	170	32	35		
		2525 M1207-F	25	25	25	150	32	27	SN...N 1207...	
		3225 P1207-F	32	32	25	170	32	27		
		3232 P1207-F	32	32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

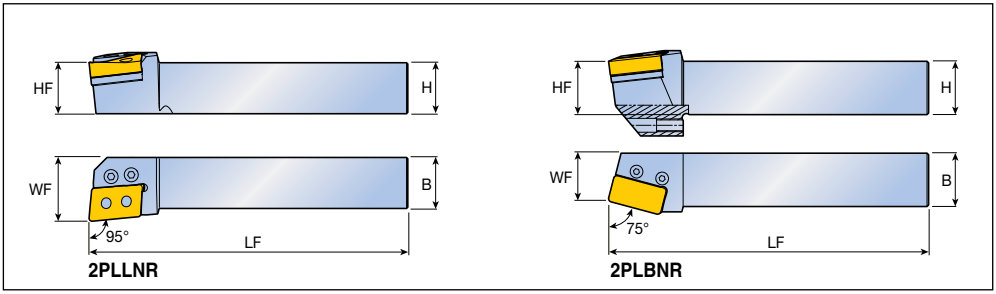
▸ TNGN 1604/1607 Inserts are not exchangable on same holder

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

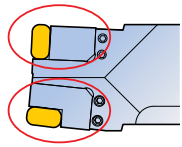
Designation	Lever	Screw	Shim	Shim pin	Set screw	Wrench	
2PLLNR/L...	LCL 8	LCS 8-L39	LN 4025-T6.35-R/L	LSP 8	-	L-W 5	
2PLBNR/L...	LCL 8	LCS 8-L43	LN 5025-T6.35	LSP 8	SS M12x1.75x25	L-W 5	

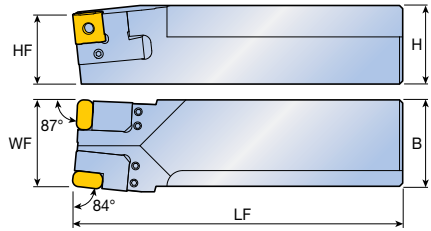
TRWR/L

TOP-RAIL holders

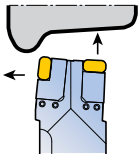
TRWR 177-CA-19

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



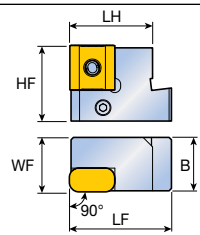


TRWR

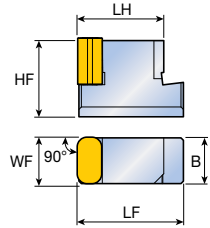
Approach angle	Designation	Dimension (mm)					Cartridge
		H	HF	B	LF	WF	
	* TRWR/L 50-55 TG	50	44	55	210	55	Left TRWR/L 175-CA-19 TRWR/L 175-CA-30  Right TRWR/L 177-CA-19 

▸ *: 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			

Accessories

Hose

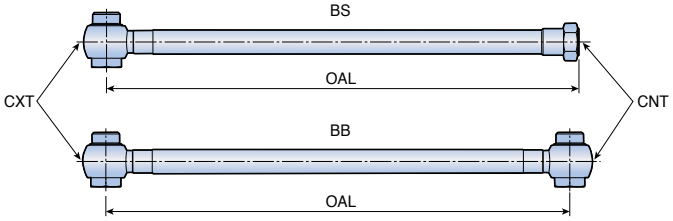


Fig.1

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

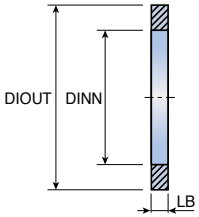
▸ Hose is ordered separately

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

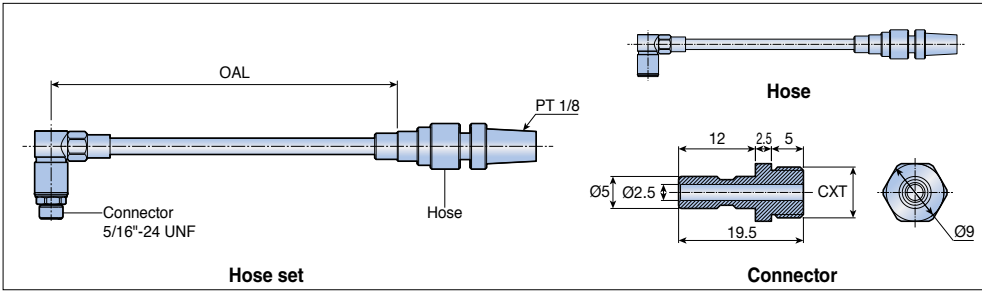
Seal washer



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

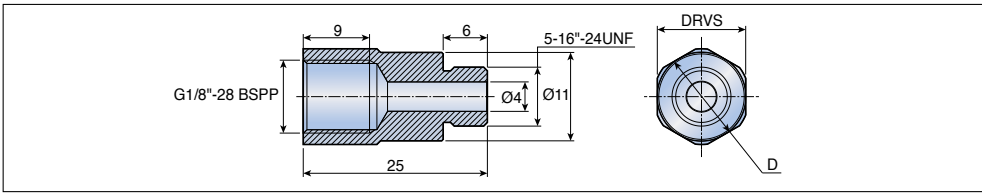
Coupling system



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

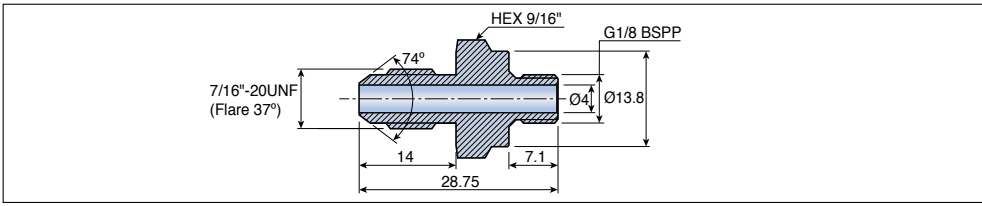
Connector



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

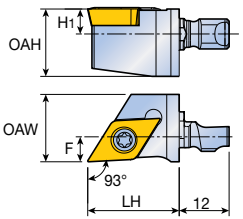


Designation
TB NIPPLE G1/8-7/16 UNF

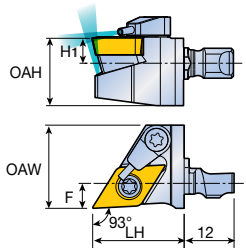
▸ Adapter is ordered separately

QE1 SDJCR QE1 SDJCR-TB

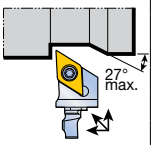
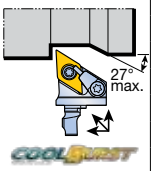
Screw type modular heads for external turning



QE1 SDJCR



QE1 SDJCR-TB

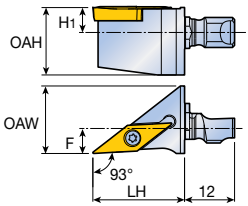
Approach angle	Designation	Dimension (mm)					Shank	Insert
		OAH	LH	OAW	H1	F		
93°	**QE1 SDJCR 11**	16.2	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB	DC... 11T3... A265-A268, A311
								
93°	**QE1 SDJCR 11-TB**	16.2	22.0	20.0	6.0	7.0		
								

Spare parts

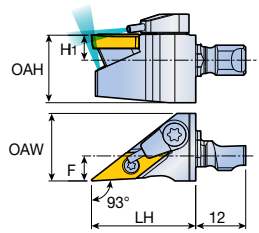
Designation	Screw	Cooling unit	Wrench			
						
...11	SO 35080I	-	T 15			
...11-TB	SO 35080I	S-CU-TB	T 15			

QE1 SVJBR QE1 SVJBR-TB

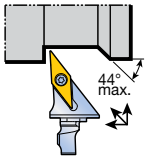
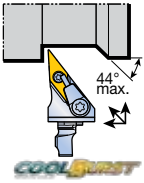
Screw type modular heads for external turning



QE1 SVJBR



QE1 SVJBR-TB

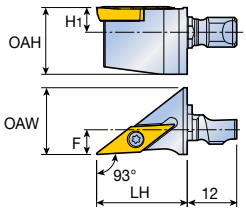
Approach angle	Designation	Dimension (mm)					Shank	Insert
		OAH	LH	OAW	H1	F		
93°	**QE1 SVJBR 11**	16.2	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB	VB.. 1103.. A281, A282, A315
								
93°	**QE1 SVJBR 11-TB**	16.2	25.0	16.2	6.0	7.0		
								

Spare parts

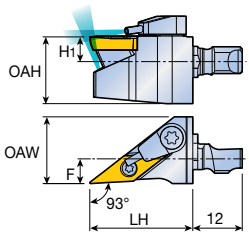
Designation	Screw	Cooling unit	Wrench			
						
...11	SO 25065I	-	T 7			
...11-TB	SO 25065I	S-CU-TB	T 7			

QE1 SVJCR QE1 SVJCR-TB

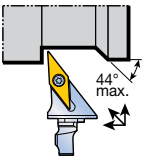
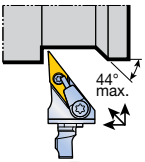
Screw type modular heads for external turning



QE1 SVJCR



QE1 SVJCR-TB

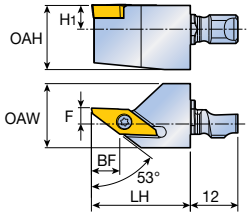
Approach angle	Designation	Dimension (mm)					Shank	Insert
		OAH	LH	OAW	H_1	F		
93°	**QE1 SVJCR 11**	16.2	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB	VC… 1103… A283, A284, A315
								
93°	**QE1 SVJCR 11-TB**	16.2	25.0	16.2	6.0	7.0		
								

Spare parts

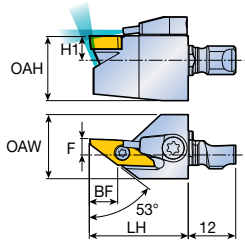
Designation	Screw	Cooling unit	Wrench			
						
...11	SO 25065I	-	T 7			
...11-TB	SO 25065I	S-CU-TB	T 7			

QE1B SVXCR QE1B SVXCR-TB

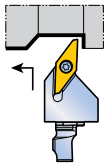
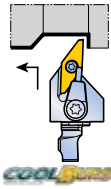
Screw type modular heads for back turning



QE1B SVXCR



QE1B SVXCR-TB

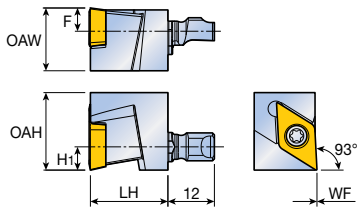
Approach angle	Designation	Dimension (mm)						Shank	Insert
		OAH	LH	OAW	BF	H1	F		
53°	**QE1B SVXCR 11**	16.2	25.0	16.2	7.2	6.0	3.0	QE1 S12N-TB QE1 S16R-TB	BTVC 1103.. A259
									
53°	**QE1B SVXCR 11-TB**	16.2	25.0	16.2	7.2	6.0	3.0		
									

Spare parts

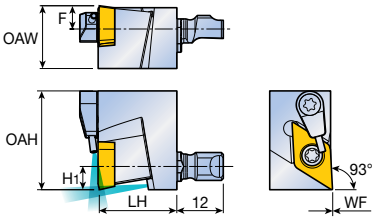
Designation	Screw	Cooling unit	Wrench			
						
...11	SO 25065I	-	T 7			
...11-TB	SO 25065I	S-CU-TB	T 7			

QE1Y SDJCR QE1Y SDJCR-TB

Screw type Y-axis modular heads



QE1Y SDJCR



QE1Y SDJCR-TB

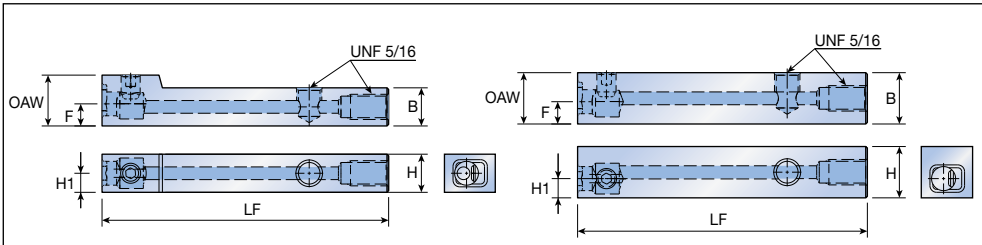
Approach angle	Designation	Dimension (mm)						Shank	Insert
		OAW	OAH	LH	WF	H_1	F		
93°	**QE1Y SDJCR 11**	16.2	20.0	20.0	0.0	6.0	7.0	QE1 S12N-TB QE1 S16L-TB	DC.. 11T3.. A265-A268, A311
93°	**QE1Y SDJCR 11-TB**	16.2	25.5	20.0	0.0	6.0	7.0		

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) QE1B...R(-TB) QE1Y...R(-TB) A137-A141
QE1 S16R-TB	16	6	16	107	16	7	QE1...R(-TB) 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

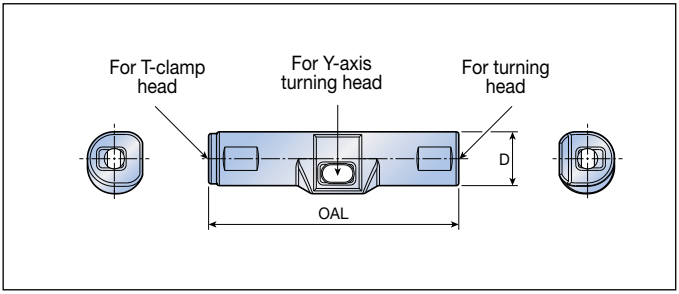
Spare parts

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

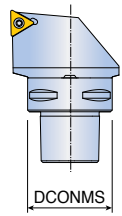
▸ T-clamp head

▸ Turning head

C-ADAPTER Designation System

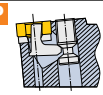
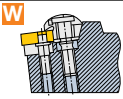
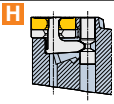
C4	-	T	C	L	N	R
1		2	3	4	5	6

1 Coupling size

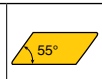
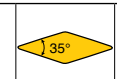


Symbol	DCONMS(mm)
C4	40
C5	50
C6	63

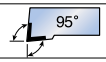
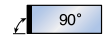
2 Clamping system

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

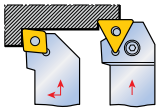
ADVANCE CUTTING TaeguTec

27	055	-	09	
7	8		9	10

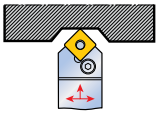
5 Insert clearance angle

			
0°	5°	7°	11°
N	B	C	P

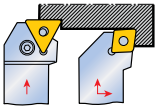
6 Hand of tool



R: Right hand

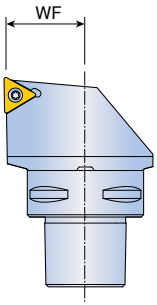


N: Neutral

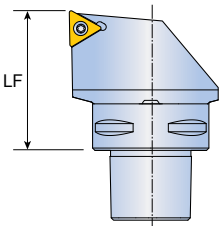


L: Left hand

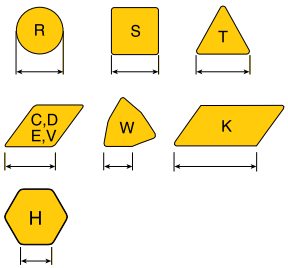
7 WF dimension (mm)



8 Tool length (mm)



9 Cutting edge length



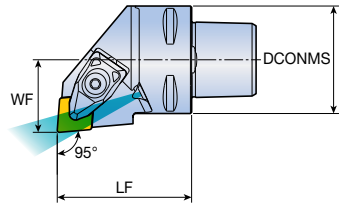
See page A225

10 Manufacturer's type designation

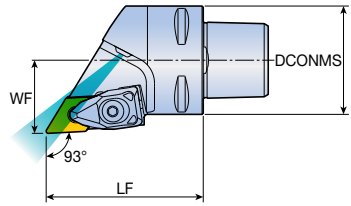
Unique to manufacturer

C…TCLNR/L C…TDJNR/L

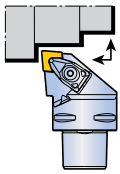
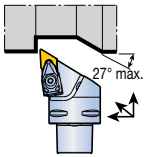
T-holders with C-ADAPTER



C…TCLNR



C…TDJNR

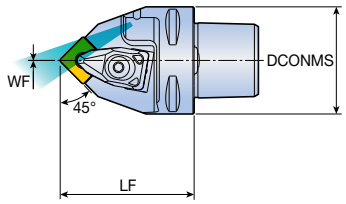
Approach angle	Designation	Dimension (mm)			Insert	
		DCONMS	WF	LF		
95°	**C4-TCLNR/L 27050-12**	40	27	50	CN...1204...	A226, A228-A232, A291, A292, A303
	**C5-TCLNR/L 35060-12**	50	35	60		
	C6-TCLNR/L 45065-12	63	45	65		
	C4-TCLNR/L 27055-16	40	27	55	CN...1606...	
	C5-TCLNR/L 35060-19	50	35	60	CN...1906...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

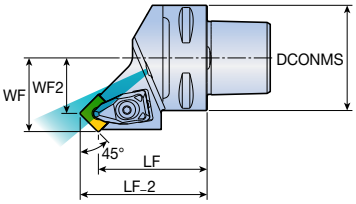
Designation	Clamp	Clamp screw	Spring	Shim		Shim screw	Nozzle	Wrench	
									
C4...12	DLM 4	DLS 4	DSP 4	TSC 44	-	SO 40050I	NZ 83	L-W 3	T 15
...12	DLM 4	DLS 4	DSP 4	TSC 44	-	SO 40050I	NZ 104	L-W 3	T 15
...16	DLM 5	DLS 5	DSP 5	TSC 54	-	SO 50090I	NZ 83	L-W 4	T 20
...19	DLM 6	DLS 5	DSP 5	LSC 63	-	SO 80180I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

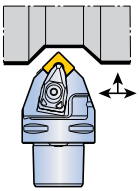
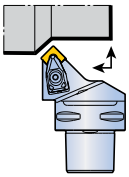
T-holders with C-ADAPTER



C…TSDNN



C…TSSNR

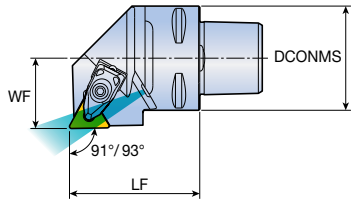
Approach angle	Designation	Dimension (mm)					Insert
		DCONMS	WF	WF2	LF	LF_2	
45°	**C4-TSDNN 00050-12**	40	-	-	50	-	SN...1204... A241, A243-A246
	**C5-TSDNN 00060-12**	50	-	-	60	-	
	C6-TSDNN 00065-12	63	-	-	65	-	
45°	**C4-TSSNR/L 27042-12**	40	27	18.7	42	50.3	
	**C5-TSSNR/L 35052-12**	50	35	26.7	52	60.3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

Spare parts

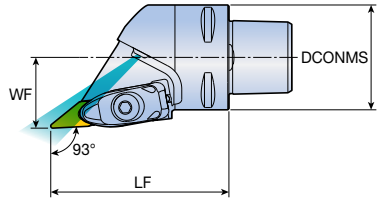
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
C4...12	DLM 4	DLS 4	DSP 4	TSS 44	SO 40050I	NZ 83	L-W 3	T 15
...12	DLM 4	DLS 4	DSP 4	TSS 44	SO 40050I	NZ 104	L-W 3	T 15

C...TTGNR/L C...TTJNR/L C...TVJNR/L

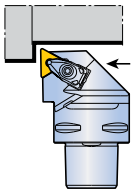
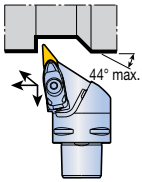
T-holders with C-ADAPTER



C...TTGNR (91°) C...TTJNR (93°)



C...TVJNR

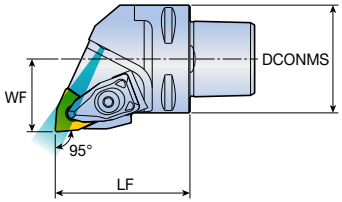
Approach angle	Designation	Dimension (mm)			Insert
		DCONMS	WF	LF	
91°/93°	**C4-TTGNR/L 27050-16**	40	27	50	TN...1604... A247-A250, A299, A307
	**C5-TTGNR/L 35060-16**	50	35	60	
	C6-TTGNR/L 45065-16	63	45	65	
	C4-TTJNR/L 27050-16	40	27	50	
	C5-TTJNR/L 35060-16	50	35	60	
	C6-TTJNR/L 45065-16	63	45	65	
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

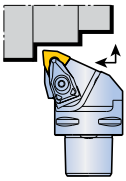
Designation	Clamp	Clamp screw	Spring	Shim		Shim screw	Nozzle	Wrench	
									
C4...TT...16	DLM 3	DLS 3	DSP 3	TST 33	-	SO 35080I	NZ 83	L-W 2.5	T 15
...TT...16	DLM 3	DLS 3	DSP 3	TST 33	-	SO 35080I	NZ 104	L-W 2.5	T 15
C4...TV...16	DLM 3V	DLS 5	DSP 5	-	TSV 33	SO 35080I	NZ 83	L-W 4	T 15
...TV...16	DLM 3V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

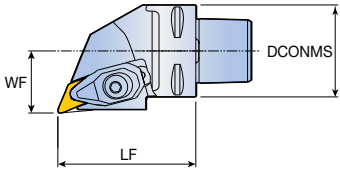
Approach angle	Designation	Dimension (mm)			Insert
		DCONMS	WF	LF	
95°	**C4-TWLNR/L 27050-06**	40	27	50	WN...G 0604...
	**C4-TWLNR/L 27050-08**	40	27	50	WN... 0804... A253-A255, A300, A309
	C5-TWLNR/L 35060-08	50	35	60	
	C6-TWLNR/L 45065-08	63	45	65	

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

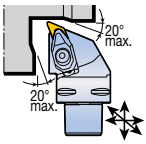
C…TZQNR/L-TB

High pressure T-holders with C-ADAPTER

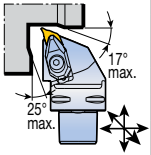


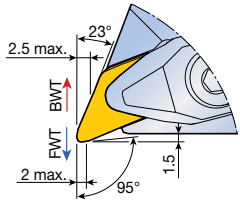
C…TZQNR-TB COOLBURST

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	

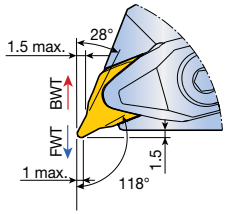


ZNMV Y-BF 28°(BWT) 118°(FWT)

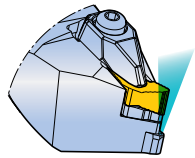




ZNMV



ZNMV Y-BF



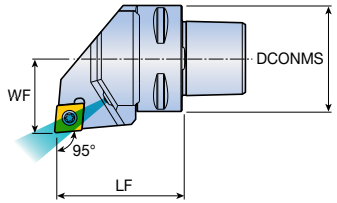
- BWT: Backward turning
- FWT: Forward turning

Spare parts

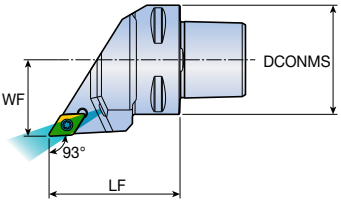
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
C...1410-TB	DLM 3.3Z-NV	DLS 5	DSP 5	TSZ 140310	TS 35083I/HG	L-W 4	T 10

C…SCLCR/L C…SDJCR/L

Screw type holders with C-ADAPTER

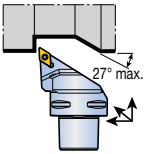


C…SCLCR



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		

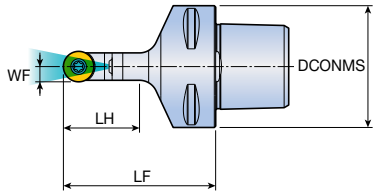


Spare parts

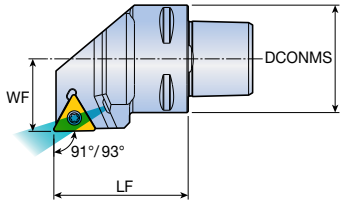
Designation	Screw	Shim		Shim screw	Nozzle	Wrench		
C4...09	SO 35124I	SSC 32	-	SO 50090S	NZ 83	T 15	L-W 3.5	
...09	SO 35124I	SSC 32	-	SO 50090S	NZ 104	T 15	L-W 3.5	
C4...11	SO 35124I	-	SSD 32	SO 50090S	NZ 83	T 15	L-W 3.5	
...11	SO 35124I	-	SSD 32	SO 50090S	NZ 104	T 15	L-W 3.5	
C4...12	SO 45130I	SSC 43N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

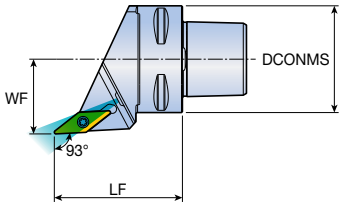
Approach angle	Designation	Dimension (mm)				Insert
		DCONMS	WF	LF	LH	
45°	**C4-SRDCN 00050-10A**	40	5	50	25	RC...T 10T3... A271
	C5-SRDCN 00060-10A	50	5	60	25	
	C6-SRDCN 00065-10A	63	5	65	25	
	C4-SRDCN 00050-12A	40	6	50	28	RC...T 1204...
	C5-SRDCN 00060-12A	50	6	60	28	
	C6-SRDCN 00065-12A	63	6	65	28	
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

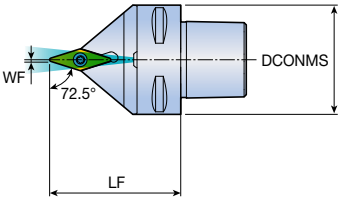
Designation	Screw	Shim		Shim screw	Nozzle	Wrench		
C4...10A	TS 40097I	TRC 3-0	-	SR TC-3	NZ 62	T 15	-	
...10A	TS 40097I	TRC 3-0	-	SR TC-3	NZ 62	T 15	-	
C4...12A	SO 40050I	TRC 4-0	-	SR TC-4S	NZ 62	T 15	-	
...12A	SO 40050I	TRC 4-0	-	SR TC-4S	NZ 62	T 15	-	
C4...16	SO 35124I	-	SST 32	SO 50090S	NZ 83	T 15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

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

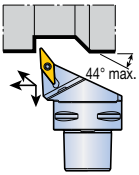
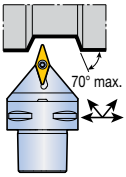
Screw type holders with C-ADAPTER



C...SVJBR



C...SVVBN

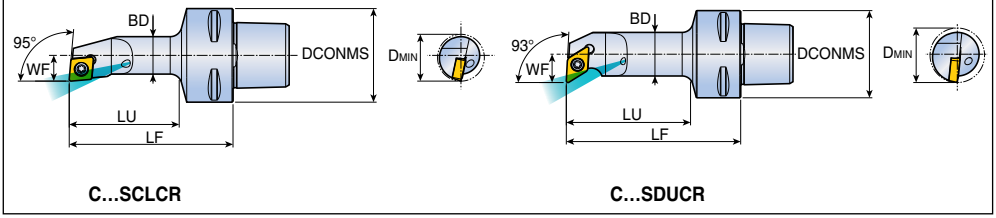
Approach angle	Designation	Dimension (mm)			Insert
		DCONMS	WF	LF	
93°	**C4-SVJBR/L 27050-16**	40	27	50	VB...T 1604... A281, A282, A315
	**C5-SVJBR/L 35060-16**	50	35	60	
	C6-SVJBR/L 45065-16	63	45	65	
72.5°	**C4-SVVBN 00050-16**	40	0.6	50	
	**C5-SVVBN 00060-16**	50	0.6	60	
	C6-SVVBN 00065-16	63	0.6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

Spare parts

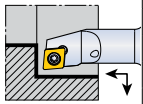
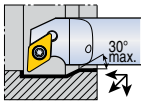
Designation	Screw	Shim	Shim screw	Nozzle	Wrench			
C4...16	SO 35124I	SSV 32	SO 50090S	NZ 83	T 15	L-W 3.5		
...16	SO 35124I	SSV 32	SO 50090S	NZ 104	T 15	L-W 3.5		

C…SCLCR/L C…SDUCR/L

Screw type boring bar with C-ADAPTER



C…SCLCR C…SDUCR

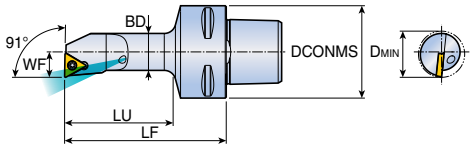
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	LF	LU	WF	BD	DMIN	
95°	**C4-SCLCR/L-11070-09**	40	70	47	11	16	20	CCMT 09T3… A263
	**C5-SCLCR/L-11070-09**	50	70	46	11	16	20	
93°	**C4-SDUCR/L-13080-11**	40	80	57	13	20	25	DCMT 11T3… A268
	**C5-SDUCR/L-13080-11**	50	80	56	13	20	25	

Spare parts

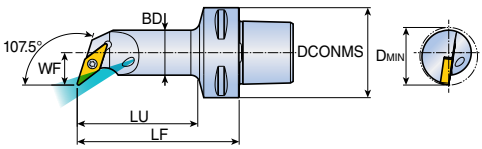
Designation	Screw	Wrench				
						
C...SCLCR/L	SO 35080I	T 15				
C...SDUCR/L	SO 35080I	T 15				

C...STFCR/L C...SVQBR/L

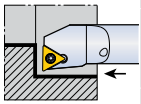
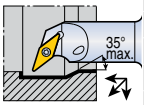
Screw type boring bar with C-ADAPTER



C...STFCR



C...SVQBR

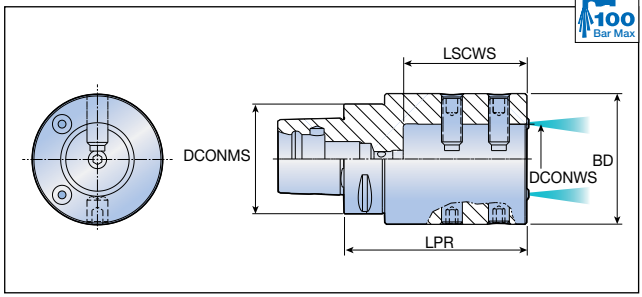
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	LF	LU	WF	BD	DMIN	
91°	**C4-STFCR/L-11070-1102**	40	70	47	11	16	20	TC...T 1102... A275, A276, A313-A314
	**C5-STFCR/L-11070-1102**	50	70	46	11	16	20	
107.5°	**C4-SVQBR/L-18090-16**	40	90	68	18	25	32	VBMT 1604... A282
	**C5-SVQBR/L-18090-16**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

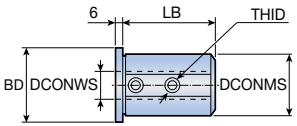


Fig.1

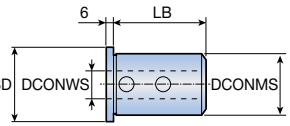


Fig.2

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

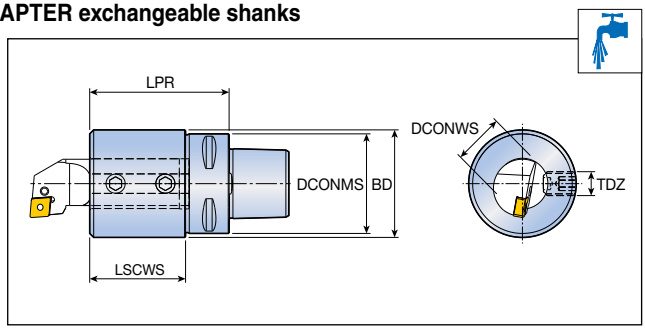
Spare parts

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

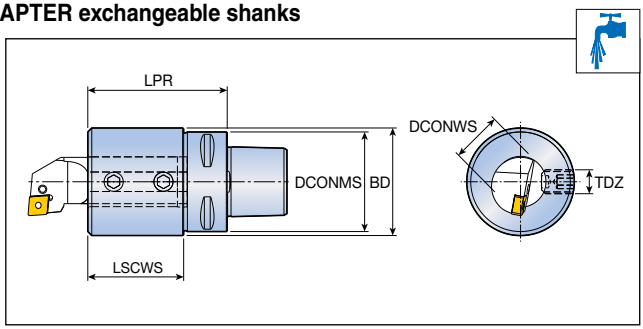
Holders for boring bars with C-ADAPTER exchangeable shanks



	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

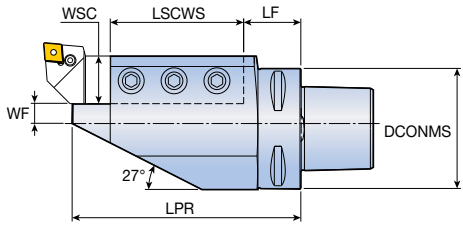
Spare parts

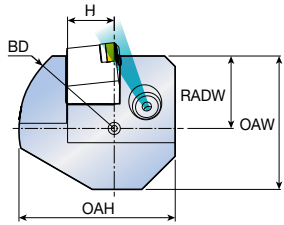
Designation	Screw	Wrench				
						
...10	SR M6x10 DIN1835-B	L-W 3*****				
...12/16	SR M8x10 DIN1835-B	L-W 4*****				
...20	SR M10x12 DIN1835-B	L-W 5*****				
...25/32/40/50	SR M12x16 DIN1835-B	L-W 6*****				

▸ *****: 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

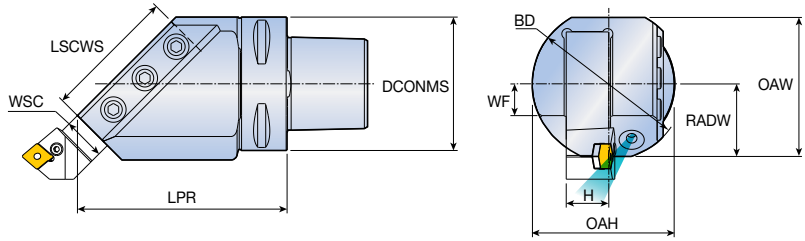
Designation	Screw	Nozzle	Wrench	
...16-1	SR M8x16 DIN915	SATZ-M10x1-M5	HP M10*	L-W 5*
...20-1	SR M10x25 DIN915	SATZ-M10x1-M5	HP M10*	L-W 5*
...25-1/32-1	SR M12x30 DIN915	SATZ-M12x1-M6	HP M12*	L-W 6*

▸ *: 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

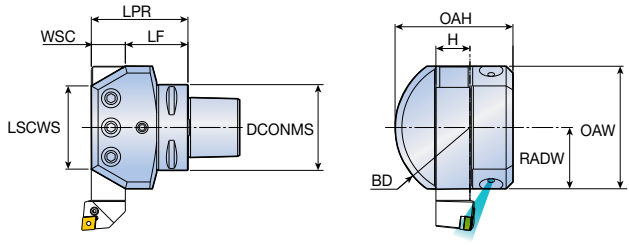
Spare parts

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

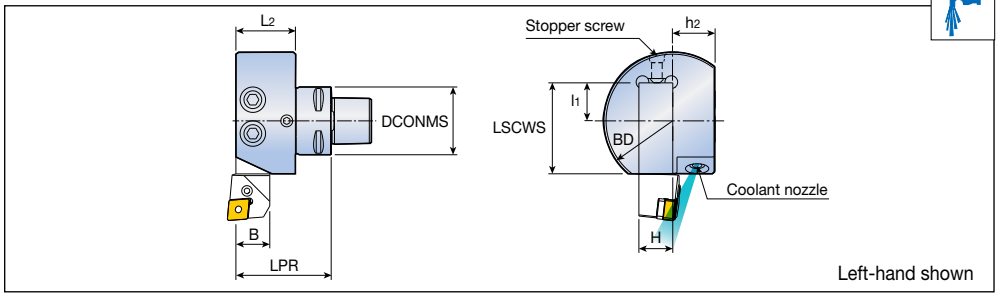
Spare parts

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

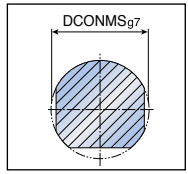
T-TURN

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

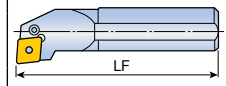
1 Boring bar

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

2 Bar diameter



3 Tool length

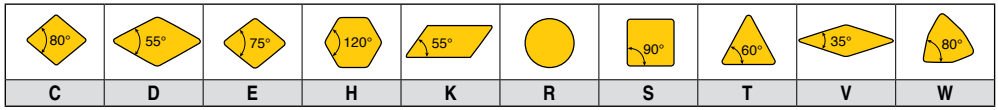


K	125	U	350
M	150	V	400
Q	180	W	450
R	200	Y	500
S	250	X	Special
T	300		

4 Clamping system

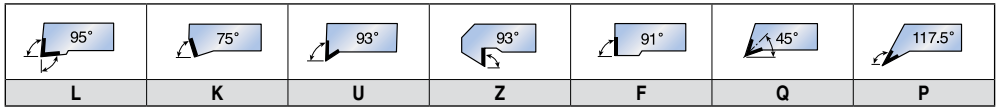
P	C	S	M	T	W	H
Lever lock	Top clamp	Screw clamp	Multi lock	T-holder	Wedge clamp	Hook lever

5 Insert shape



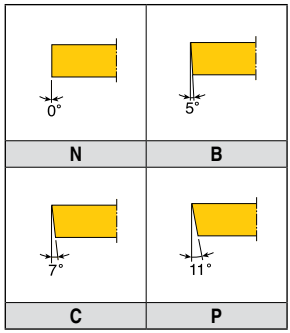
C	D	E	H	K	R	S	T	V	W

6 Approach angle



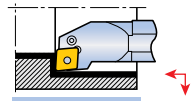
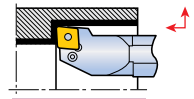
L	K	U	Z	F	Q	P

7 Insert clearance angle

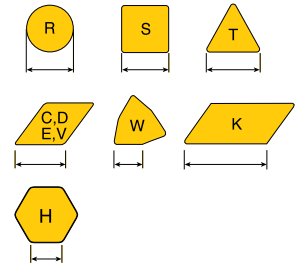


N	B
C	P

8 Hand of tool

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

9 Cutting edge length



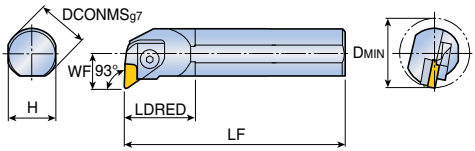
See page A225

10 Manufacturer's type designation

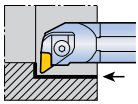
Unique to manufacturer

S-CKUNR/L

Top clamp type boring bars



S-CKUNR

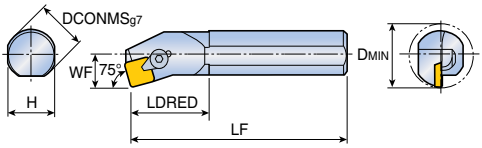
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S32T CKUNR/L16**	32	30	300	45	22	44	KNUX 1604...R/L A239
	**S40T CKUNR/L16**	40	37	300	55	27	54	
	S40V CKUNR/L16	40	37	400	55	27	54	
	S50U CKUNR/L16	50	47	350	60	35	67.2	

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

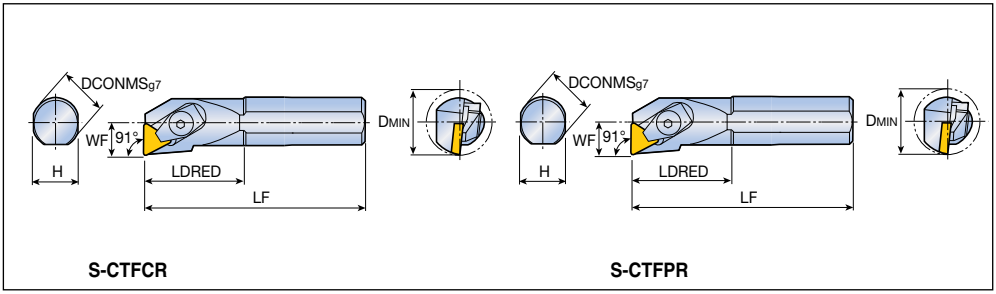
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
75°	**S16R CSKPR/L09**	16	15	200	30	11	20	SPMR, SP...N 0903... SPMR, SP...N 1203... A273, A302
	S20S CSKPR/L09	20	18	250	32	13	25	
	S20R CSKPR/L12	20	18	200	34	13	25	
	S25T CSKPR/L12	25	23	300	42	17	32	
	S32U CSKPR/L12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

Spare parts

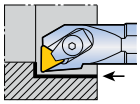
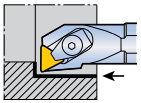
Designation	Clamp		Screw	Snap ring	Shim	Shim pin	Wrench	
...09	CL 2C	-	CLS 2C	CSR 2C	-	-	L-W 2.5	
S20R...12	CL 3C	-	CLS 3C	CSR 2	CSS 42	CSP 3	L-W 3	
S25T...12	-	CL 3	CLS 3S	WSR 4	CSS 42	CSP 3	L-W 3	
S32U...12	-	CL 3	CLS 3	WSR 4	CSS 42	CSP 3	L-W 3	

S-CTFCR/L S-CTFPR/L

Top clamp type boring bars



S-CTFCR S-CTFPR

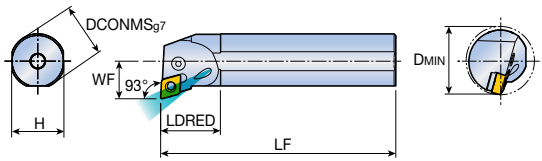
Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
91°	**S10K CTFCR/L 06**	10	9	125	25	6.5	12	TCGR 0601...	
									
91°	**S10K CTFPR/L 06**	10	9	125	25	6.5	12	TP...R 0601...	 A278-A280, A302, A313-A314
	**S12M CTFPR/L 06**	12	11	150	30	9	16		
	S12M CTFPR/L 09	12	11	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

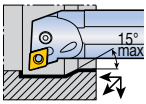
A-HXUNR/L

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...



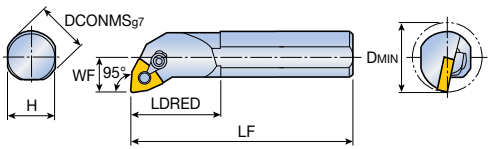
A257

Spare parts

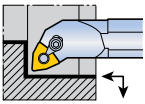
Designation	Lever	Lever screw	Shim	Shim pin	Wrench			
								
...1105	LCL 11-NX	LCS 4S	LSX 3.52B	LSP 4	L-W 3			

S-MWLNR/L

Multi lock type boring bars



S-MWLNR

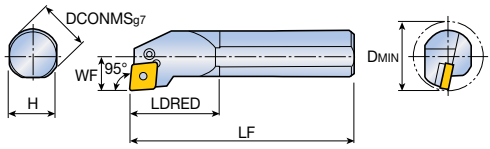
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S25R MWLNR/L 08**	25	23	200	42	17	32	WN... 0804...
	**S32S MWLNR/L 08**	32	30	250	45	22	40	 A253-A255, A300, A309

Spare parts

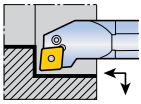
Designation	Clamp	Screw	Snap ring	Lock pin	Wrench			
								
...08	CL 2	CLS 2	CSR 2	MLP 4S	L-W 2.5			

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...	

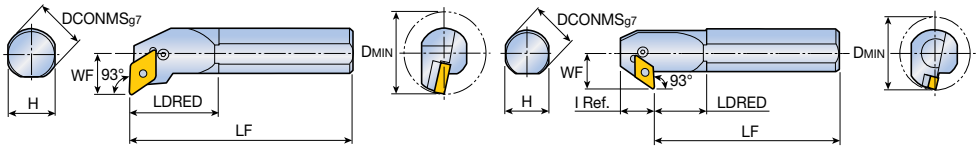
Spare parts

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		

S-PDUNR/L S-PDZNR/L

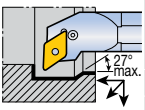
T-TURN

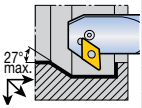
Lever lock type boring bars



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...
	S40T PDUNR/L 15	40	37	300	55	27	-	50	A234-A238, A293, A304
	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	





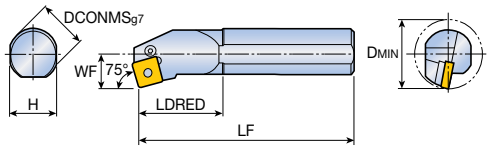
For back boring

Spare parts

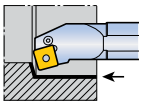
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
S32T ...15	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			
S40T PDZ...15	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			
...15	LCL 4A	LCS 4	LSD 42	LSP 4	L-W 3			
...15-A	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			

S-PSKNR/L

Lever lock type boring bars



S-PSKNR

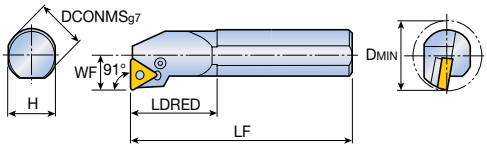
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
75°	**S25T PSKNR/L12**	25	23	300	33	17	32	SN...1204...
	**S32T PSKNR/L12**	32	30	300	45	22	40	A241-A246, A296, A297, A306
	S40T PSKNR/L12	40	37	300	41.5	27	50	
	S50U PSKNR/L19	50	47	350	56	35	63	SN...1906...

Spare parts

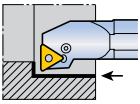
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
								
S25T...12	LCL 4B	LCS 4B	-	-	LSR 4B	L-W 2.5		
S32T...12	LCL 4	LCS 4S	LSS 42	LSP 4	-	L-W 3		
S40T...12	LCL 4	LCS 4	LSS 42	LSP 4	-	L-W 3		
...19	LCL 6	LCS 6	LSS 63	LSP 6	-	L-W 4		

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		

S-SCLCR/L

Screw type boring bars

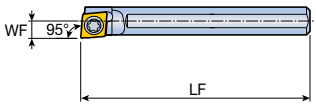


Fig.1

S-SCLCR

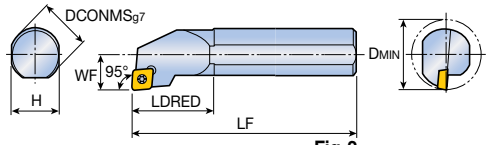


Fig.2

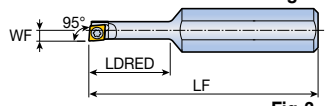
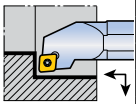


Fig.3

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	

▸ 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

T-TURN

Screw type boring bars

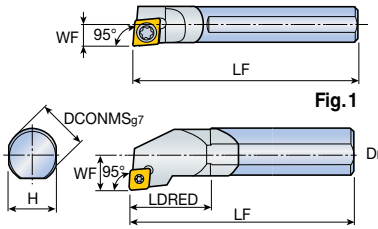
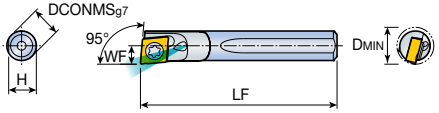


Fig.1

Fig.2

C-SCLCR



E-SCLCR

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

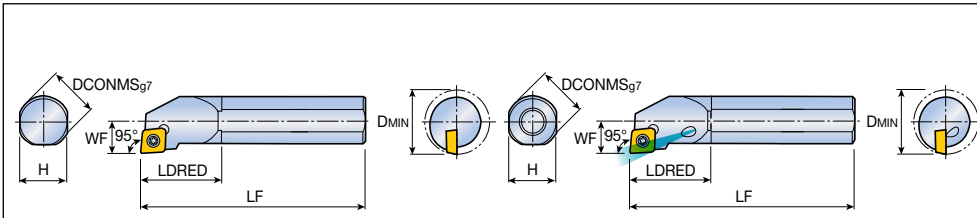
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

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					

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

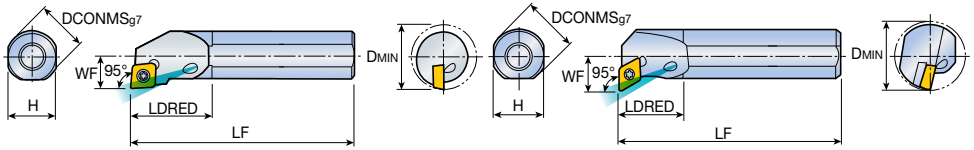
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

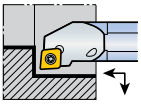
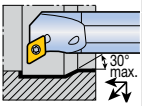
Designation	Screw	Wrench						
...06	SO 25050I	T 7						
...08	SO 30055I	T 9						
...09	SO 35080I	T 15						
...0903, 09T3	TS 35070I/HG	T 15						

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

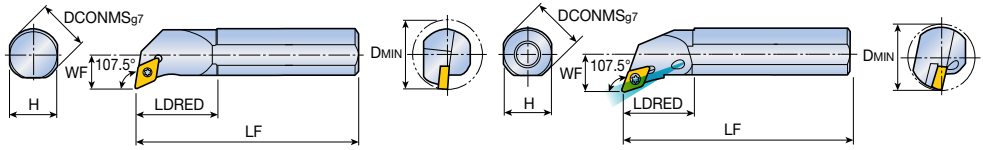
Spare parts

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		

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	

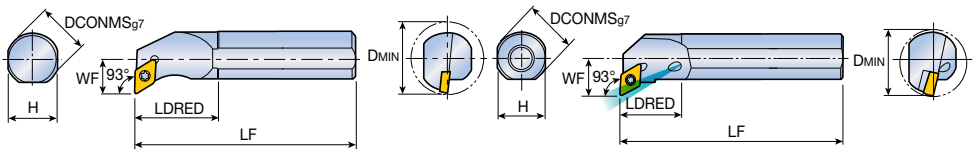
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

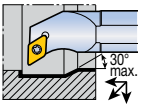
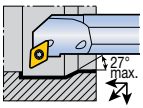
Designation	Screw	Shim	Shim screw	Wrench		Seal		
S10 ...07	SO 25050I	-	-	T 7	-	-		
S ...07	SO 25065I	-	-	T 7	-	-		
S ...11	SO 35080I	-	-	T 15	-	-		
A16S...11	SO 35120I	-	-	T 10	-	PL 16		
A20S...11	SO 35120I	SSD 32	SO 50090S	T 10	L-W 3.5	PL 20		
A25T...11	SO 35120I	SSD 32	SO 50090S	T 10	L-W 3.5	PL 25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

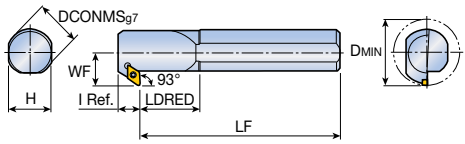
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

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		

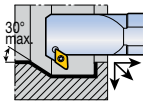
S-SDZCR/L

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... A265-A268, A311
	S20S SDZCR/L 07	20	18	250	28	15	12	30	
	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

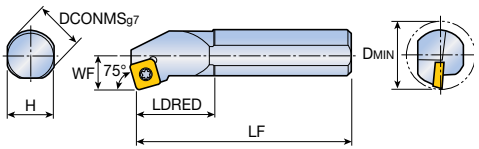
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

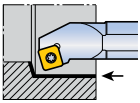
Designation	Screw	Shim	Shim screw	Wrench				
								
...07	SO 25065I	-	-	T 7	-			
S20S ...11	SO 35080I	-	-	T 15	-			
S32T ...11	SO 35124I	SSD 32	SO 50090S	T 15	L-W 3.5			

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...

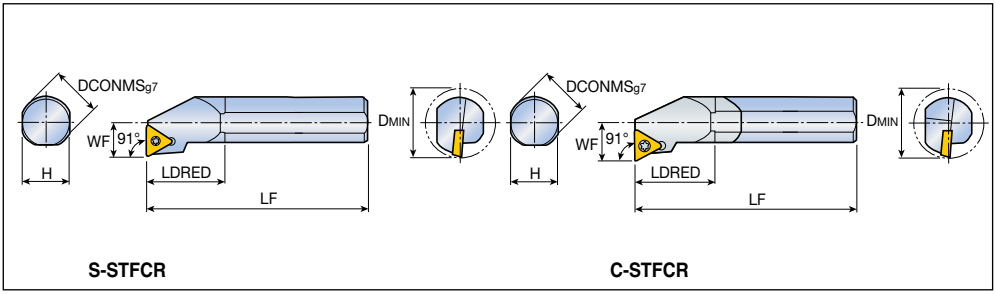
Spare parts

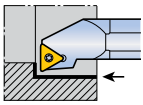
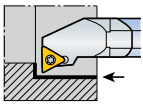
Designation	Screw	Wrench						
								
...09	SO 35080I	T 15						
...12	SO 45100I	T 20						

S-STFCR/L C-STFCR/L

T-TURN

Screw type boring bars



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	

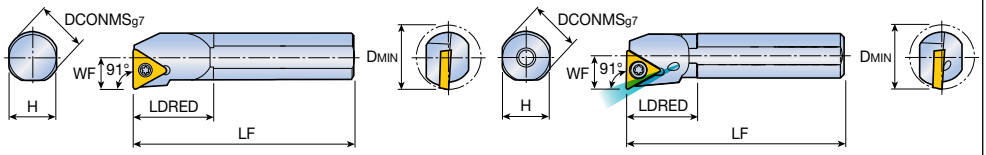
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

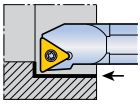
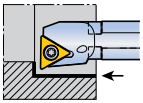
Designation	Screw	Shim	Shim screw	Wrench				
								
...06T1	TS 20038I	-	-	T 6	-			
S08K...09	TS 22046I	-	-	T 7	-			
...09	SO 22050I	-	-	T 7	-			
S10K...1102	SO 22050I	-	-	T 7	-			
...1102	SO 25065I	-	-	T 7	-			
S20S...16	SO 35080I	-	-	T 15	-			
S25T...16	SO 35080I	-	-	T 15	-			
S32T...16	SO 35124I	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...

A277-A280, A302, A313-A314

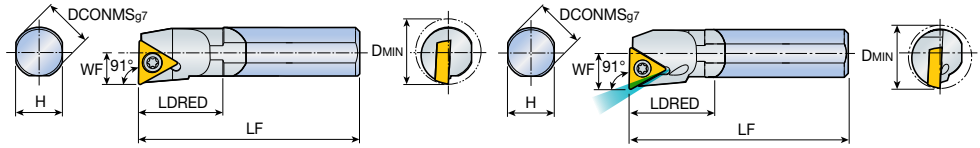
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

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, A313-A314
	✓ **C12M STFPR/L 11-FF**	12	11	150	18	8	16	
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	

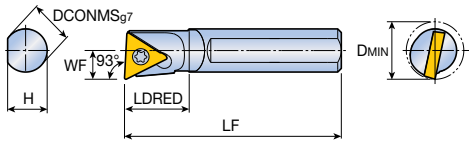
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder
▸ Only -FF/-GF inserts available for 11 size holders

Spare parts

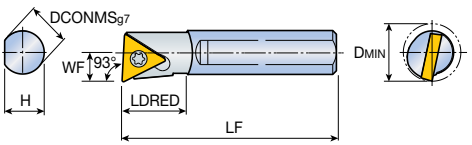
Designation	Screw	Wrench					
							
...09	TS 22046I	T 7					
C ...11-FF	SO 25065I	T 7					
C10K ...1103	SO 30055I	T 9					
C12M...1103	SO 30100I	T 9					
E ...1102	SO 25050I	T 7					
E ...1103	SO 30100I	T 9					

S-STUBR/L C-STUBR/L

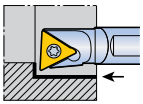
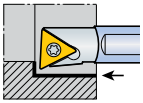
Screw type boring bars



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	
								

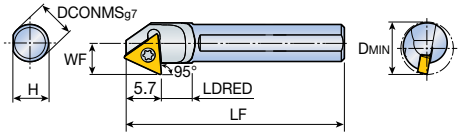
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

Designation	Screw	Wrench						
								
...06-D08	TS 20043I/HG-P	T 6P						

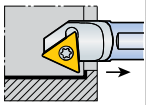
C-STZBR/L

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



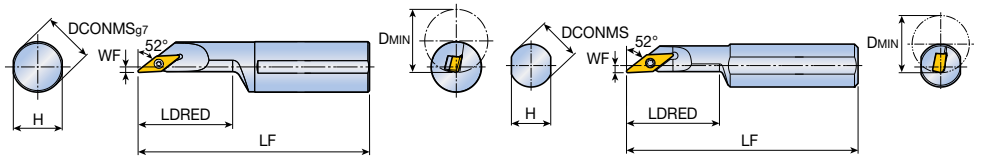
▸ ✓: Designates carbide shank

Spare parts

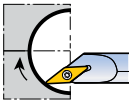
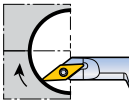
Designation	Screw	Wrench						
								
...06-D085	SO 25043I	T 6P						

S-SVJBR/L S-SVJCR/L

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		

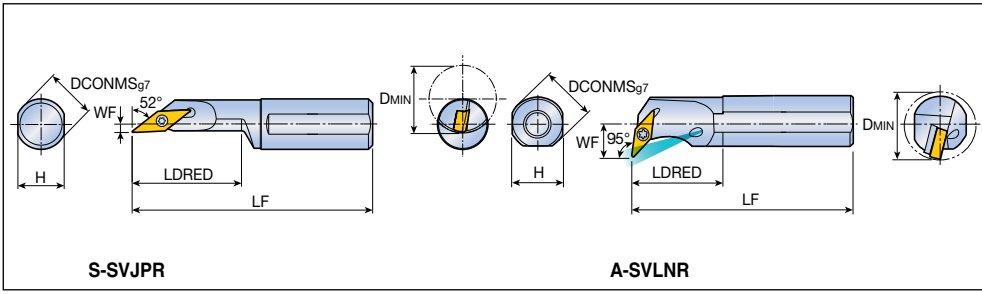
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

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	

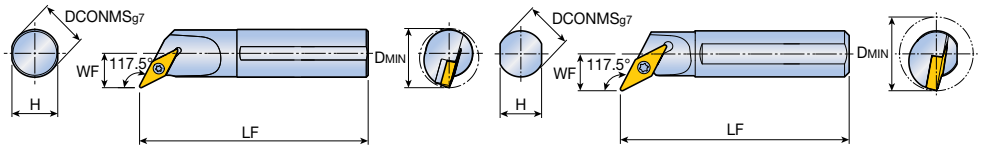
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

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...

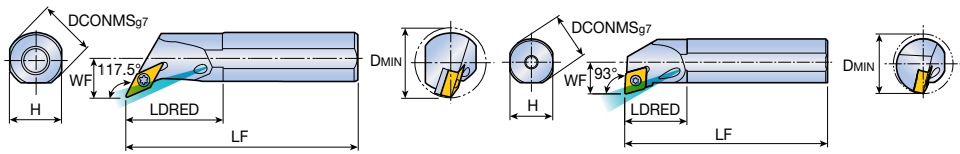
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

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**

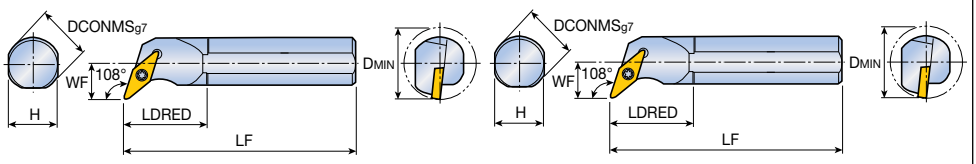
Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
117.5°	**A25T SVPNR/L 13**	25	23	300	45	19	33	VN... 13...	A251-A252
	A32T SVPNR/L 13	32	30	300	47	26	44		
93°	**A25R SXUNR/L 1105**	25	23	200	33.4	17	32	XN... 1105...	A257

Spare parts

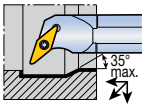
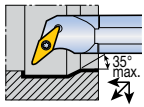
Designation	Screw	Shim	Shim screw	Wrench		Seal		
...1105	TS 40G110I	-	-	T 15	-	-		
A25T...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	L-W 3.5	PL 25		
A32T...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	L-W 3.5	PL 32		

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

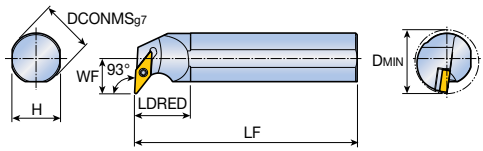
Spare parts

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

T-TURN

Screw type boring bars



S-SVUBR

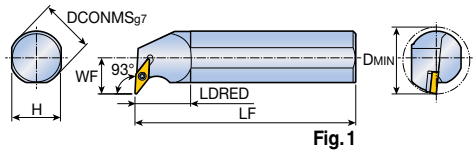


Fig. 1

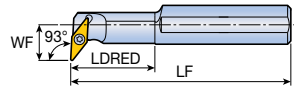
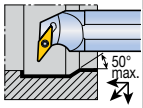
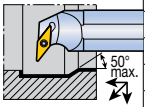


Fig. 2

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		

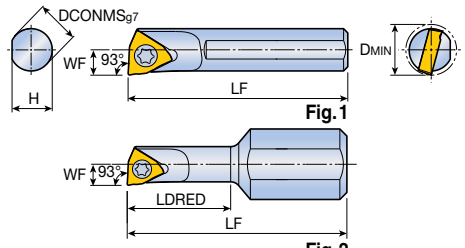
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

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			

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		

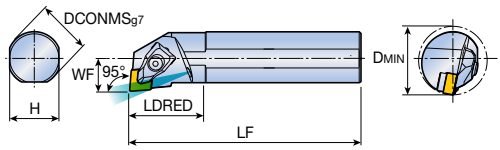
▸ ✓: Designates carbide shank ▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

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

A-TCLNR/L

T-holder type boring bars



A-TCLNR

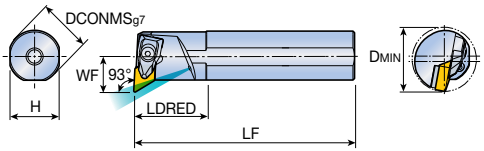
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**A25T TCLNR/L 12**	25	23	300	45	17	32	CN... 1204... A226, A228-A232, A233, A291, A292, A303
	A32T TCLNR/L 12	32	30	300	45	22	40	
	A40T TCLNR/L 12	40	37	300	45	27	50	
	A50U TCLNR/L 12	50	47	350	45	35	63	

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

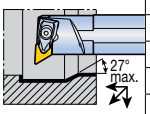
A-TDUNR/L

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	



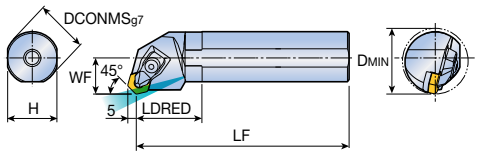
Spare parts

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

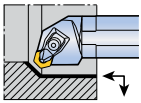
A-THSNR/L

T-TURN

T-holder type boring bars



A-THSNR

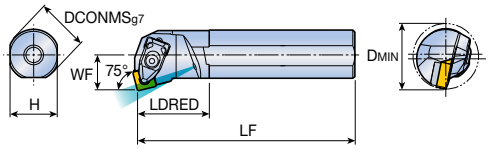
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
45°	**A32T THSNR/L 05**	32	30	300	40	22	40	HN...G 0504... A239
	**A40T THSNR/L 05**	40	37	300	45	27	50	
	A50U THSNR/L 05	50	47	350	45	35	63	

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

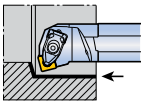
A-TSKNR/L

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



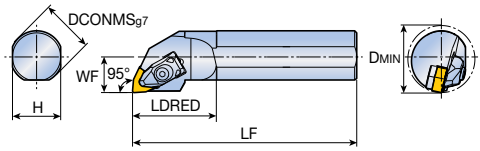
▸ L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

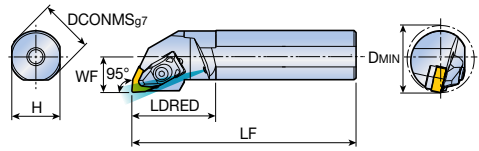
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
A25T ...12	DLM 4	DLS 4	DSP 4	LSS 42	TS 50A105I	NZ 62	L-W 3	T 20

S-TWLNR/L A-TWLNR/L

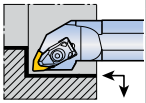
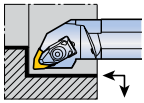
T-holder type boring bars



S-TWLNR



A-TWLNR

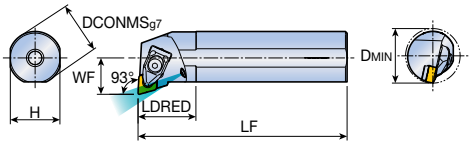
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S25T TWLNR/L 08**	25	23	300	35	17	32	WN... 0804...
	**S32T TWLNR/L 08**	32	30	300	45	22	40	A253-A255, A300, A309
95°	**A20S TWLNR/L 06**	20	18	250	35	13	25	WN... 0604...
	**A25T TWLNR/L 06**	25	23	300	40	17	32	
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

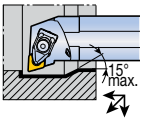
A-TXUNR/L

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...



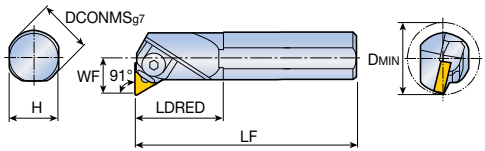
A257

Spare parts

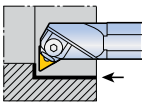
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
A32S...1105	DLM 3.5-NX	DLS 4	DSP 4	LSX 3.52B	TS 50A105I	NZ 62	L-W 3	T 20

S-WTFNR/L

Wedge clamp type boring bars



S-WTFNR



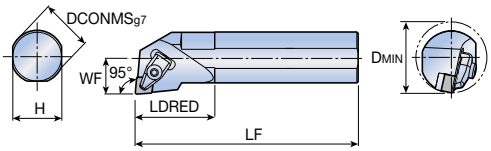
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**S25T WTFNR/L 16**	25	23	300	50	17	32	TN... 1604...
	S32T WTFNR/L 16	32	30	300	55	22	40	A247-A250, A299, A307
	S40T WTFNR/L 16	40	37	300	60	27	50	
	S40T WTFNR/L 22	40	37	300	60	27	50	TN... 2204...
	S50U WTFNR/L 22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

Spare parts

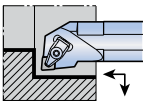
Designation	Wedge clamp	Screw	Snap ring	Shim	Pin screw	Wrench	
S25T ...16	WC 33	WCS 4B	WSR 4	-	WSS 33-1	L-W 3	
...16	WC 33	WCS 4	WSR 4	WST 33	WSS 33	L-W 3	
...22	WC 43	WCS 4	WSR 4	WST 43	WSS 43	L-W 3	

S-TCLNR/L-CH

T-holder type boring bars for CH dimple insert



S-TCLNR-CH

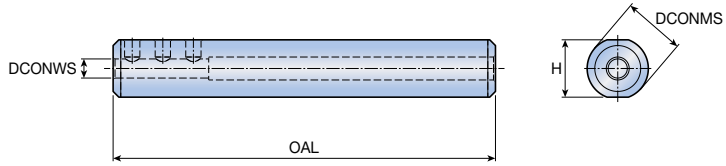
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S40T TCLNR/L 1207-CH**	40	37	300	50	27	70	CN...X 1207... A292
	**S50U TCLNR/L 1207-CH**	50	47	350	50	32	70	

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

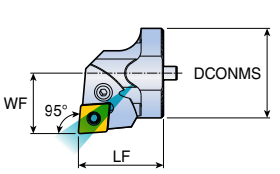
Designation	Dimension (mm)			
	DCONWS	H	OAL	DCONMS
TSL 16-04	4	15	100	16
16-05	5	15	100	16
16-06	6	15	100	16
16-07	7	15	100	16

Spare parts

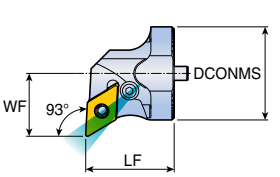
Designation	Set screw	Wrench					
							
TSL...	SS M4x0.7x4	L-W 2					

QH-PCLNR/L QH-PDUNR/L

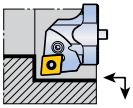
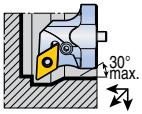
Screw type boring heads



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

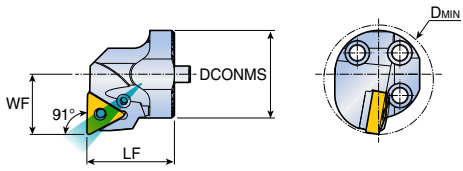
▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

Spare parts

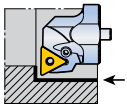
Designation	Lever	Screw	Shim		Shim pin	Wrench	
							
QH...12	LCL 4	LCS 4	LSC 42	-	LSP 4	L-W 3	
QH...1506	LCL 4A	LCS 4	-	LSD 42	LSP 4	L-W 3	

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

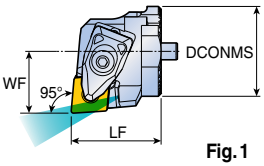
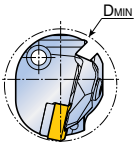


Fig.1



QH-TCLNR

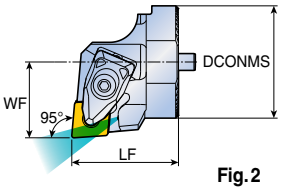
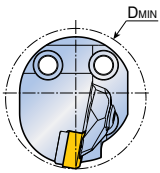
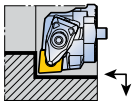


Fig.2



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

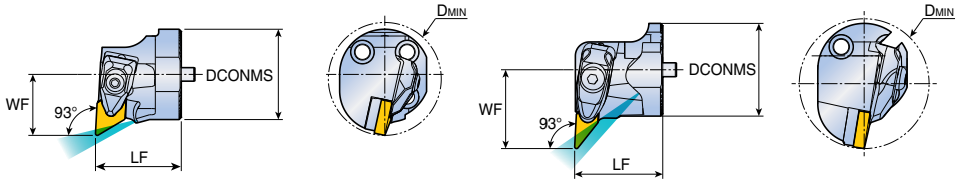
Spare parts

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

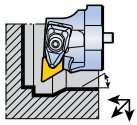
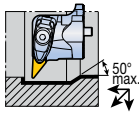
QH-TDUNR/L QH-TVUNR/L

HUSHBORE

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

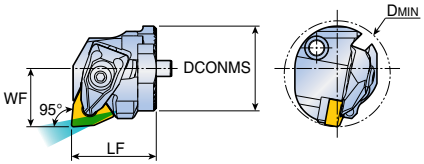


Fig.1

QH-TWLNR

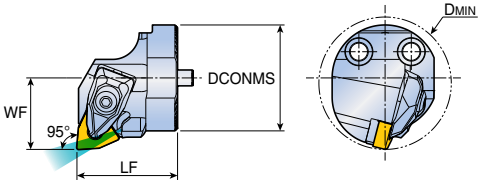
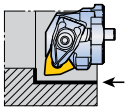


Fig.2

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

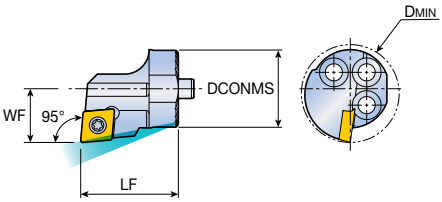


Fig. 1

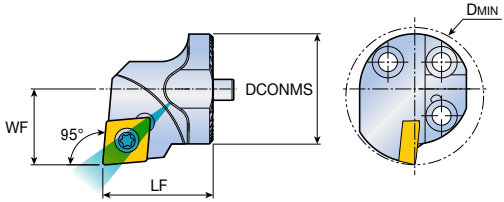
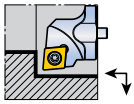


Fig. 2

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

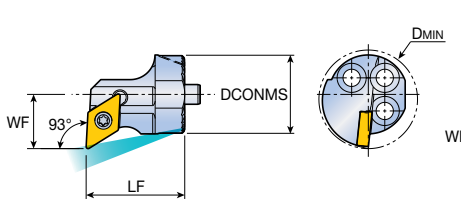


Fig.1

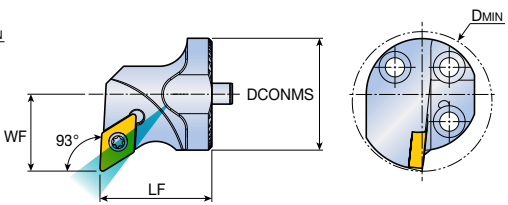
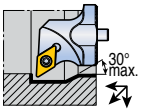


Fig.2

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	
	QH32-SDUCR/L-11	32	32	22	40	●	2	A265-A268, A311
	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		

QH-STFCR/L

Screw type boring heads

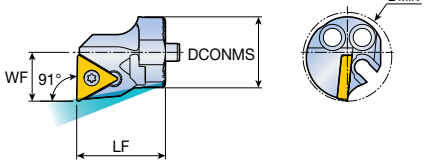


Fig.1

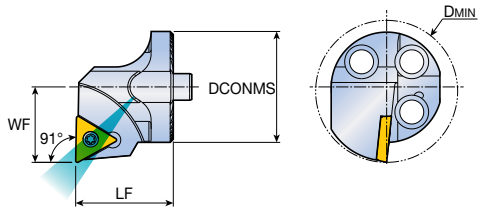
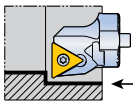


Fig.2

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		

QH-SVUBR/L

Screw type boring heads

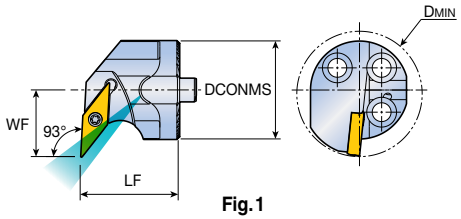


Fig.1

QH-SVUBR

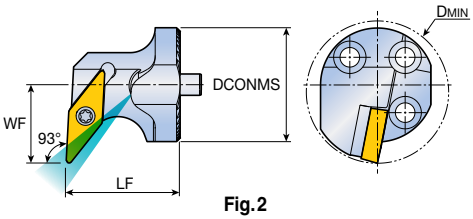
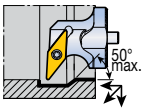


Fig.2

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

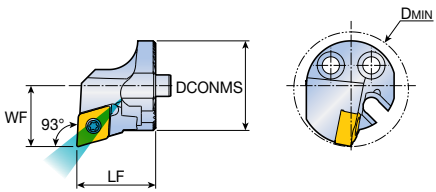
▸ *: When applying Ø50mm shank, DMIN for the assembly is Ø60mm
When applying Ø60mm shank, DMIN for the assembly is Ø70mm

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		

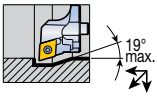
QH-SXUNR/L

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...



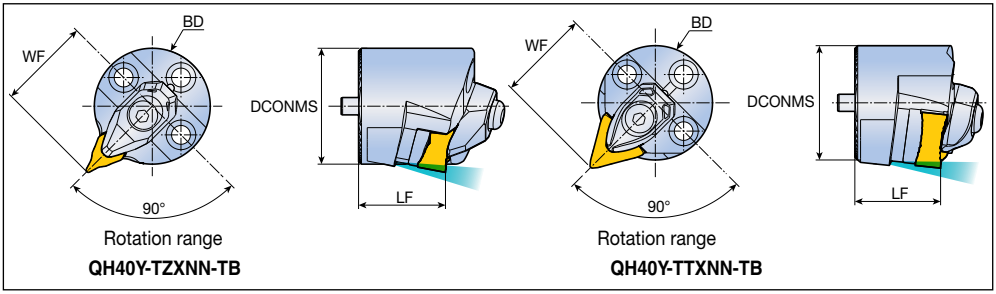
A257

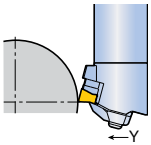
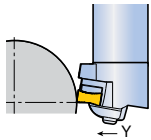
Spare parts

Designation	Screw	Wrench					
							
...1105	TS 40G110I	T 15					

QH40Y-TZXNN-TB QH40Y-TTXNN-TB

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

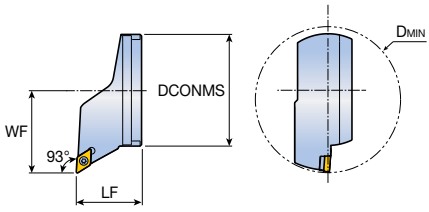
▸ Only ZNMV 1410...Y-BF inserts available

Spare parts

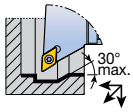
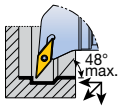
Designation	Clamp	Clamp screw	Spring	Shim		Shim screw	Wrench	
TZ...1410-TB	DLM 3.3Z-NV	DLS 5	DSP 5	TSZ 140310	-	TS 35083I/HG	L-W 4	T 10
TT...2109-TB	DLM 4.4T-NV	DLS 5	DSP 5	-	TSTV 210510	TS 35083I/HG	L-W 4	T 10

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

Screw type boring heads



QH-SDUCR **QH-SVLCR**

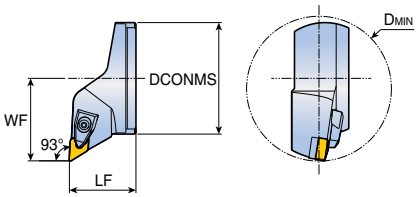
Approach angle	Designation	Dimension (mm)				Insert
		DCONMS	LF	WF	DMIN	
93°	**QH80-SDUCR/L-11-VH**	77	45	57	100	DC...T 11T3... A266-A268, A311
						
95°	**QH80-SVLCR/L-16-VH**	77	45	57	100	VC...T 1604... A283
						

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

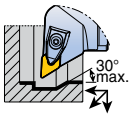
QH-TDUNR/L-VH

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

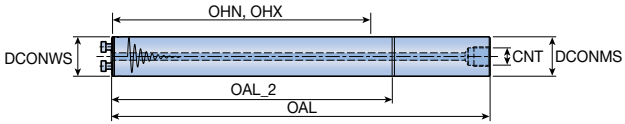


Fig.1

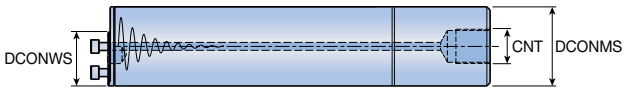


Fig.2

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

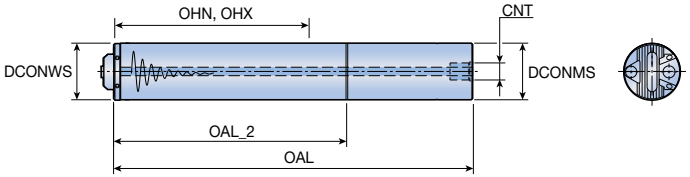
- (1) Carbide shank
- OHN: Minimum overhang
- OHX: Maximum overhang
- OAL_2: Minimum length after shortening(only steel bar can be shortened)

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	

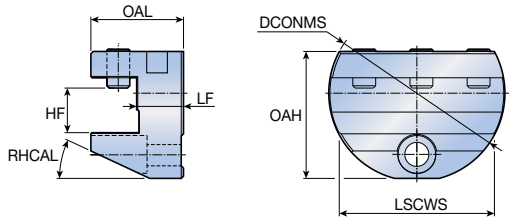
▸ (1) Carbide shank
▸ OHN: Minimum overhang
▸ OHX: Maximum overhang
▸ OAL_2: Minimum length after shortening(only steel bar can be shortened)

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

QH80-VH

Perpendicular adaptor for external square-shank tools



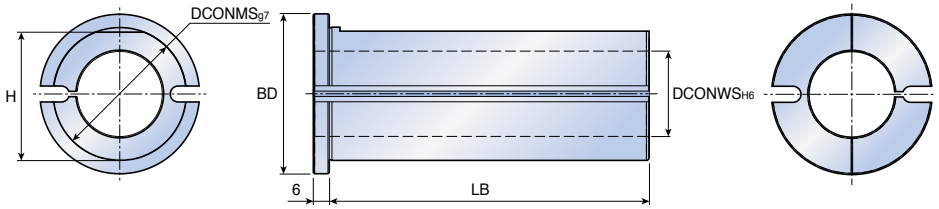
Designation	Dimension (mm)						
	DCONMS	LF	HF	OAL	OAH	LSCWS	RHCAL
QH80- 2020-VH	77.0	20.5	20.0	40.5	55.5	67.8	25.0

- 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

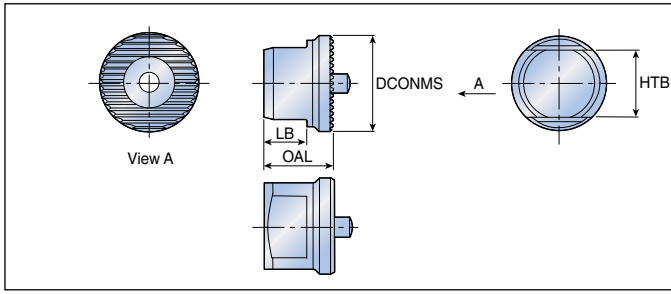


QSL

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

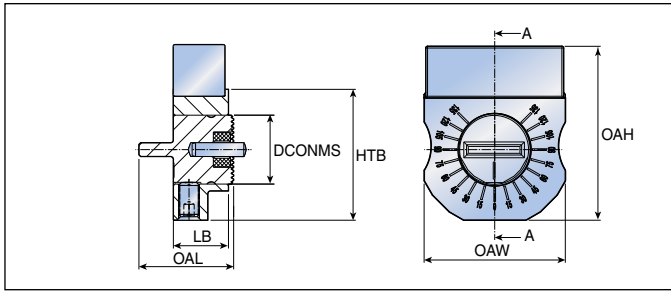
Center height set up device for Anti-vibration boring bars



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

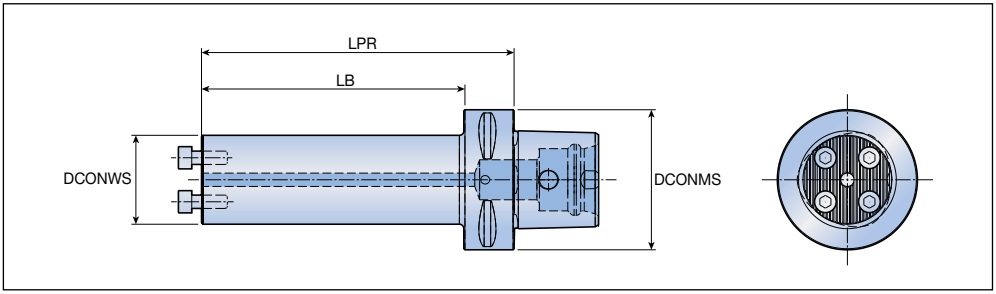
QH-SET-LEV

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

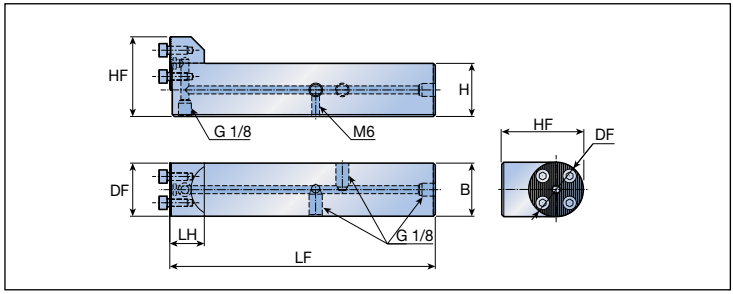
Spare parts

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	

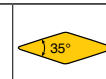
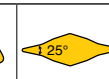
▸ Please refer to A203-A212 pages for HUSH-BORE heads

Turning Inserts

Insert Designation System

C	N	M	G
1	2	3	4

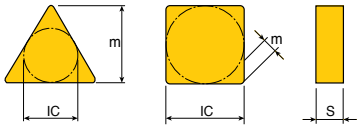
1 Shape

										
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

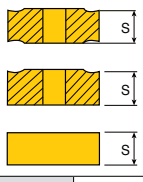
Insert Designation System

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

5 Cutting edge length

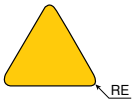
I.C(mm)	C	D	E	R	S	T	V,Y	W	K	H
3.97	03	04			03	06		02		
4.76	04	05			04	08	08			
5.56	05	06			05	09	09	03		
6.35	06	07			06	11	11			
7.94	08	09			07	13	13	05		
8.0				08						
9.52	09	11		09	09	16	16	06	16	
10.0				10						
11.11		13								
12.0				12						
12.7	12	15	13		12	22	22	08		05
15.88	16	19		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



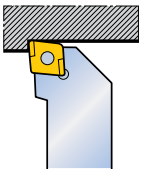
01	1.59mm
T1	1.98mm
02	2.38mm
T2	2.78mm
03	3.18mm
T3	3.97mm
04	4.76mm
05	5.56mm
06	6.35mm
07	7.94mm
09	9.52mm

7 Corner radius

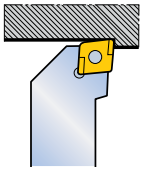


01	0.1mm
02	0.2mm
04	0.4mm
05	0.5mm
08	0.8mm
12	1.2mm
16	1.6mm
20	2.0mm
24	2.4mm
32	3.2mm

8 Hand of insert



R: Right hand



L: Left hand

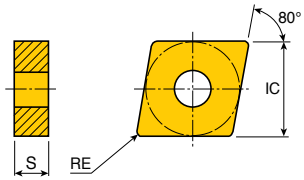
9 Chip breaker

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

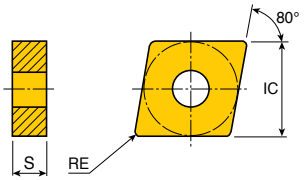
●: Standard items

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																									

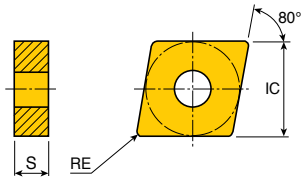
A58

●: Standard items

CNMG

T-TURN

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																●						

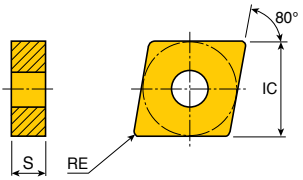
A58-A59, A100-A101, A146, A170, A194, A203, A205

●: 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								●	●												

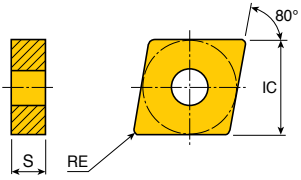
A58-A59, A100-A101, A146, A170, A194, A203, A205

●: 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

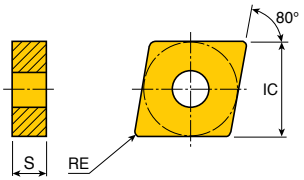
▸ ✓: Type B chip breaker

●: 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

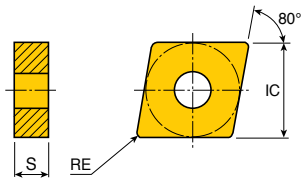
▸ ✓: Type B chip breaker

●: 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

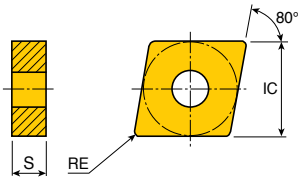
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated												PVD coated						
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
wiper	**CNMG**	**120404 WS**	0.5-2.0	0.05-0.35								●	●					●								
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

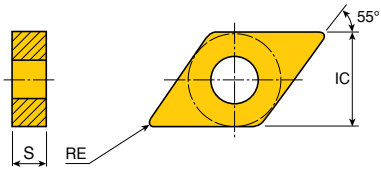
▸ *: Chip breaker shape is not the same as shown in the catalogue

●: 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

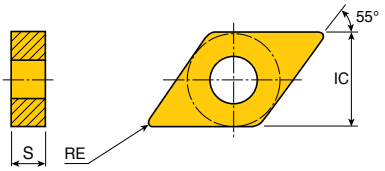
●: Standard items

ADVANCE CUTTING TaeguTec

DNMG

T-TURN

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				●	●	●															

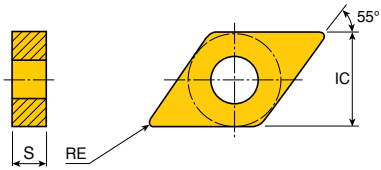
A52, A53, A60-A61, A74, A102, A146, A171, A177-A179, A195, A203, A206, A215

▸ #: 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

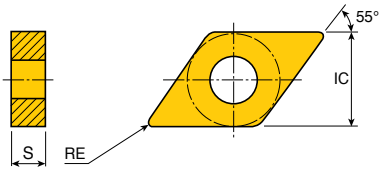
▸ ✓: Type B chip breaker

●: 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

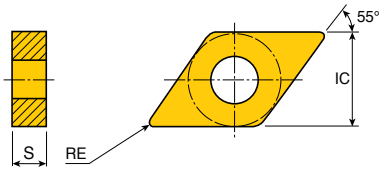
▸ #: Insert with screw hole

●: 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  Finishing	**DNMG 150408 WS ***	0.8-4.0	0.10-0.30					●							●									
	150608 WS *	0.8-4.0	0.10-0.30					●			●													
wiper  Medium	**DNMG 150412 WT ***	1.0-5.0	0.15-0.60														●							
	150612 WT *	1.0-5.0	0.15-0.60								●						●							
 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...

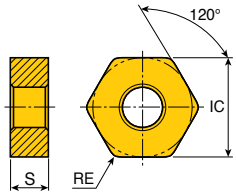
●: Standard items

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																●						

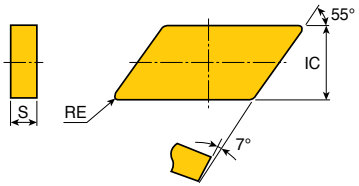
A103, A196

●: Standard items

KNUX

T-TURN

Negative 55° rhombic inserts



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

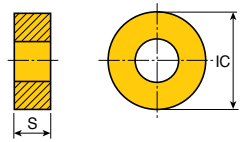
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated												PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Right hand Medium	**KNUX 160405 L11**	1.5-5.0	0.15-0.35								●	●			●		●								●
	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



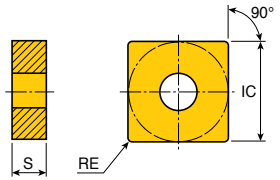
Size	Dimension (mm)	
	IC	S
12	12.7	4.76
15	15.88	6.35
19	19.05	6.35
25	25.4	9.52

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

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

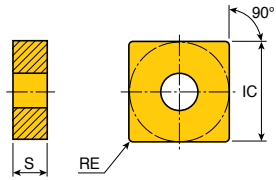
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated					
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Roughing	**SNMA 120408**	1.0-6.0	0.15-0.70				●	●																●
	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

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																									

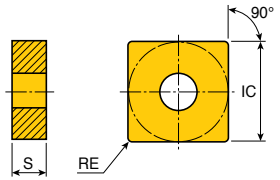
A51, A65, A66, A172

●: 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

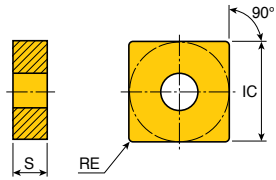
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**SNMG 120404**	1.0-5.0	0.17-0.45								●	●					●								
	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								●	●					●								

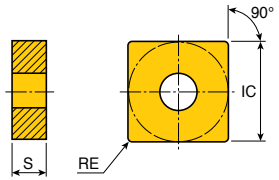
A65, A66, A104, A105, A147, A172, A197

●: Standard items

ADVANCE CUTTING TaeguTec

SNMG SNMM

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									●												

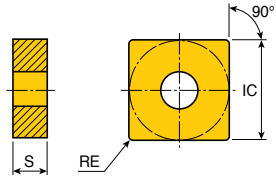
A65, A66, A104, A105, A147, A172, A197

▸ ✓: 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	**SNMM 250924 HZ**	4.0-15.0	0.55-1.50								●	●													
 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									●													
 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								●	●													

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

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

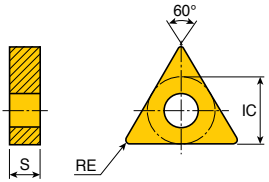
●: Standard items

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

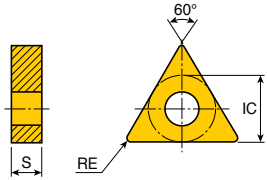
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated						
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Left hand Medium	**TNGG**	**160404 L**	1.0-3.5	0.12-0.30	●							●												
		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									●					●			●					

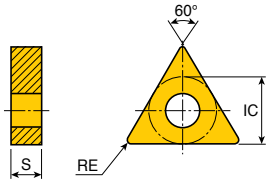
A54, A67, A68, A106, A114, A115, A148, A173, A200, A204

●: 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

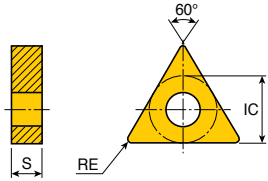
▸ ✓: Type B chip breaker

●: 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

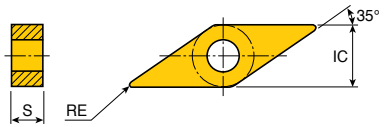
▸ ✓: Type B chip breaker

●: 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								
				PV3010	CT3000	TT3005	TT7005	TT7015	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	K10
 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

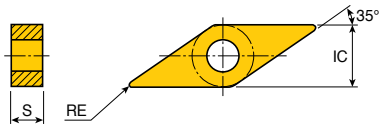
▸ #: Insert with screw hole

●: 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

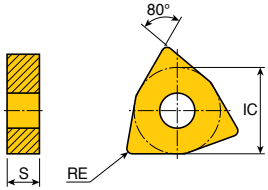
●: Standard items

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	●	●						●	●					●								

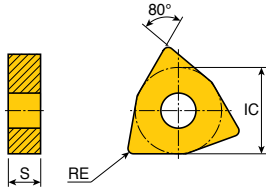
A57, A69, A109,
A149, A169,
A198, A207

●: Standard items

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

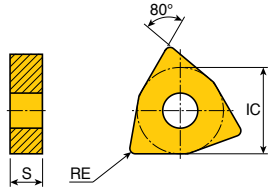
●: Standard items

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					●			●	●													
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				●	●			●	●	●												

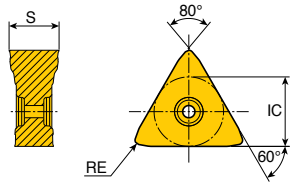
A57, A69, A109, A149, A169, A198, A207

▸ ✓: 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										●				●				

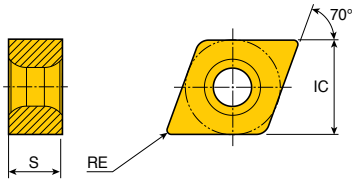
A107, A213

- BWT: Backward turning
- FWT: Forward turning

●: Standard items

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						●	●								●	●		

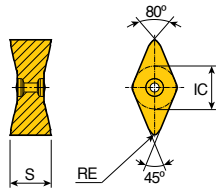
A110, A111, A190, A199, A212

- 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	●				●	●	●								●	●		

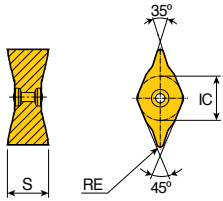
A112, A150

- 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

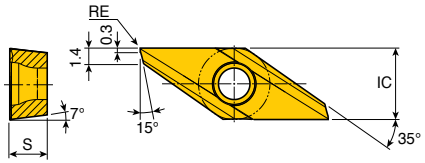
- BWT: Backward turning
- FWT: Forward turning

●: Standard items

BTVC

T-TURN

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
TOP-NOTCH	**BTVC**	**110300R-F**	0.03-3.5	0.01-0.12										●		
		110301MR-F	0.05-3.5	0.01-0.15										●		
		110302MR-F	0.10-3.5	0.01-0.15										●		

Right hand
Back Turn

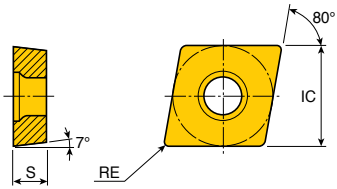
A91, A140

▸ - 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
TOPMINI	**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								●				
TOPMINI	**CCET**	**0602003 L-GW***	0.1-1.5	0.02-0.15								●				
wiper		**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								●				

Right hand Finishing

Right hand Finishing

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

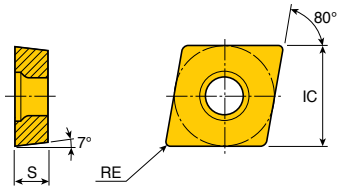
▸ *: Wiper inserts should be applied to ☐CLCR/L...

●: 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  Right hand Finishing	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								●				
	030101 R-FF	0.08-0.4	0.03-0.12								●				
	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								●				
 Medium For aluminum	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												●
	09T302 FL	0.5-2.5	0.10-0.25												●
	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  Finishing	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			●					●				
	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

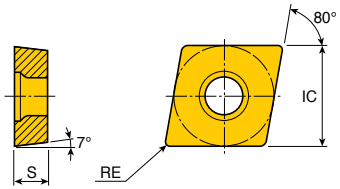
●: Standard items

TaeguTec

CCGT

T-TURN

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

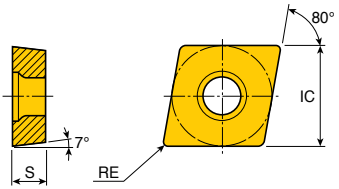
▸ - F: Sharp edge

●: 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						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 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

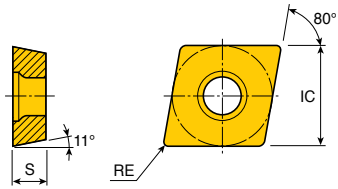
▸ *: Wiper inserts should be applied to ☐CLCR/L...

●: 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				●	●				●		●	●		●		●						

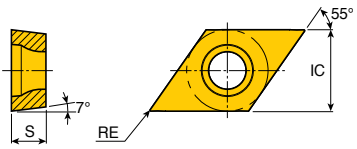
A176, A177

●: Standard items

DCET

T-TURN

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
TOPMAN	**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								●				
TOPMAN 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

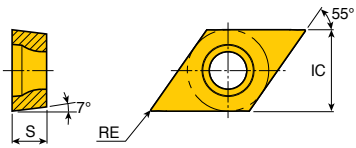
▸ *: FWiper inserts should be applied to ☐DJCR/L..., ☐DUCR/L..., ☐DZCR/L...

●: 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

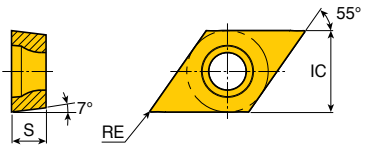
●: Standard items

ADVANCE CUTTING TaeguTec

DCGT

T-TURN

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															

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

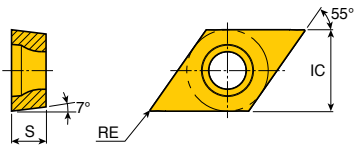
- M: Corner radius minus tolerance
- - F: Sharp edge
- - E: Micro honing edge

●: Standard items

DCMT

T-TURN

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								●	●		●	●						●				

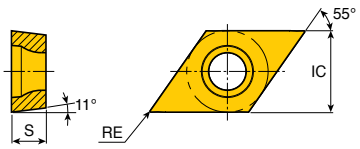
A73-A76, A95, A97, A99, A137, A141, A151, A154, A178-A180, A209, A214

●: Standard items

ADVANCE CUTTING TaeguTec

DPET DPGT

Positive 11° clearance 55° rhombic inserts



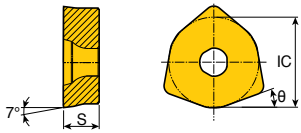
Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.03-0.2
11	9.52	3.97	0.03-0.2

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°

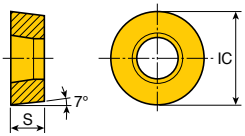
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated												PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 High feed For general	**FCMX 100616-HFG**	0.5-2.0	1.50-3.00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

A77

●: Standard items

RCGT RCMT RCMX

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								●	●	●												

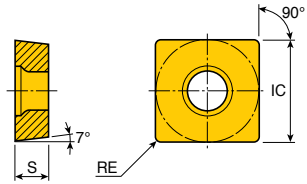
A62, A63,
A78, A79, A152

●: 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								●	●		●	●						●				

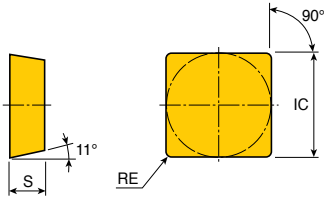
A80, A181

●: 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									●												

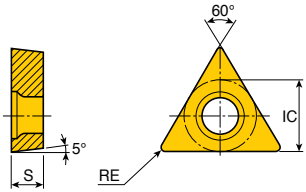
A48, A166

●: Standard items

TBGT

T-TURN

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
TOPMAN	TBGT	**0601003 R-FF**	0.05-0.3	0.03-0.10								●				
		**0601003 L-FF**	0.05-0.3	0.03-0.10								●				
Right hand Finishing		**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								●				

A185, A186

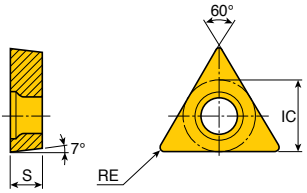
●: Standard items

ADVANCE CUTTING TaeguTec

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
TOP-NOTCH	**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								●				
Right hand Finishing		**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								●				
	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												●
Medium For aluminum		**16T308 FL**	0.5-3.0	0.10-0.30												●
TOP-NOTCH	**TCGT**	**110201 SA**	0.1-2.5	0.01-0.05			●					●				
		**110202 SA**	0.2-2.5	0.02-0.15			●					●				
Finishing		**110204 SA**	0.2-2.5	0.03-0.20			●					●				

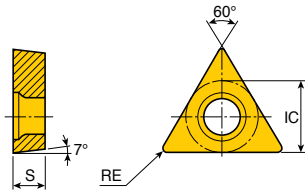
A81-A83,
A152, A155,
A182, A210,

●: 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

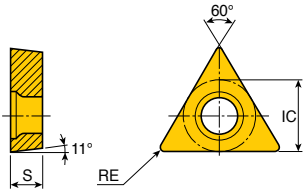
▸ ✓: Type B chip breaker

●: 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								●				

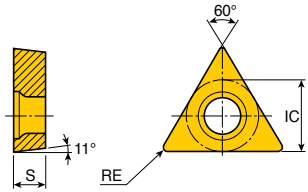
A82, A183, A184

●: Standard items

TPGN TPGT TPGX

T-TURN

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

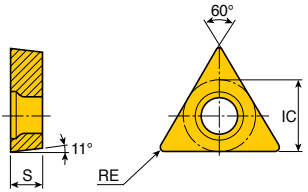
●: Standard items

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									●		●	●				●						

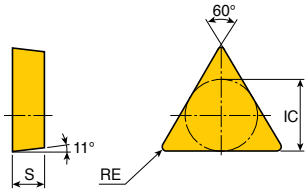
A49, A50, A82, A167, A183, A184

▸ ✓: 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									●												

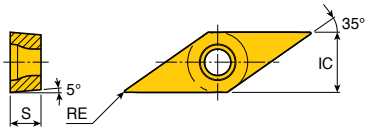

A49, A50, A167

●: Standard items

ADVANCE CUTTING TaeguTec

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
TOPTURN 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								●				
TOPTURN wiper 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								●				
TOPTURN 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								●				
TOPTURN 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								●				
TOPTURN Finishing For Swiss	VBGT	**110302M SL-F**	0.02-0.25	0.02-0.10									●	●		
TOPTURN 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

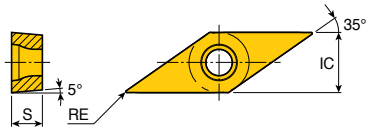
- *: Wiper inserts should be applied to ☐VJBR/L...
- M: Corner radius minus tolerance
- - F: Sharp edge

●: 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				●				●	●					●		●						
ARISTOTURN  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		●						●								●				●		

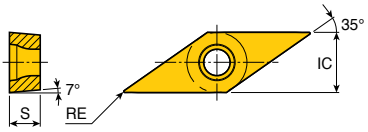
A84, A85, A88-A90, A92, A93, A96, A98, A99, A138, A153, A187, A189, A191, A192, A211

●: Standard items

ADVANCE CUTTING TaeguTec

VCGT

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												●
 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								●				
 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									●	●		
 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			●					●				
 Finishing For Swiss	**VCGT**	**110302M SL-F**	0.02-0.25	0.02-0.10									●	●		

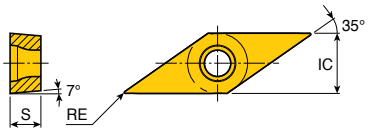
A86, A87, A96, A139, A189, A191, A192

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

●: Standard items

VCMT

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 Medium	**160404 PC**	0.3-2.0	0.05-0.20								●	●		●	●						●				
	160408 PC	0.3-2.0	0.07-0.20								●	●			●						●				
 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								●	●					●		●	●					

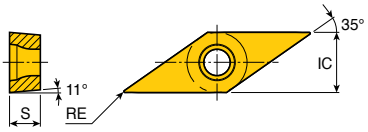
A86, A87, A90, A139, A189, A191, A192, A214

●: 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

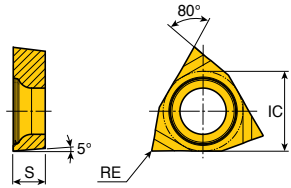
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated							Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing	**VPET 080201 L-GF**	0.2-1.5	0.02-0.15								●				
	080201 R-GF	0.2-1.5	0.02-0.15								●				
	080202 L-GF	0.3-1.5	0.03-0.17								●				
	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

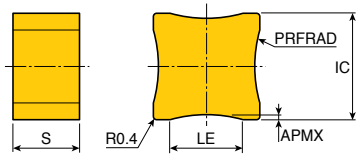
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Left hand Finishing	**WBGT**	**0601003 R-FF**	0.05-0.3	0.03-0.10								●				
		0601003 L-FF	0.05-0.3	0.03-0.10								●				
		060101 R-FF	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



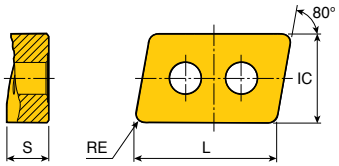
Size	Dimension (mm)				
	LE	IC	S	PRFRAD	APMX
SNG 452	8.7	12.70	7.94	10-70	0.14-1.0

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

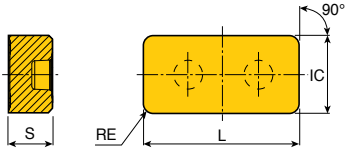
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated						
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Roughing	**LNMM**	**401224 R-HX**	6.0-32.0	0.70-1.50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


A133

●: Standard items

LNMX

Inserts



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

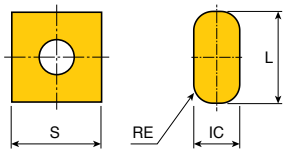
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated											PVD coated						
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Roughing	**LNMX**	**501432 HD**	6.0-40.0	0.70-1.60	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


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							●	●	●													

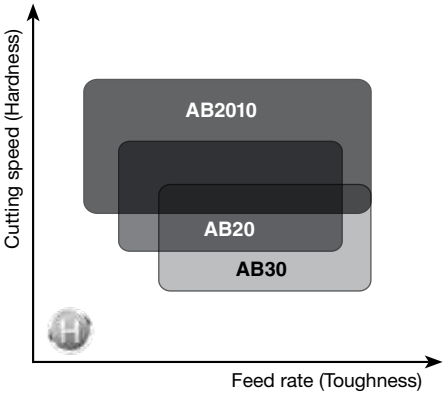
●: Standard items

Hard Turning for Ceramic Inserts

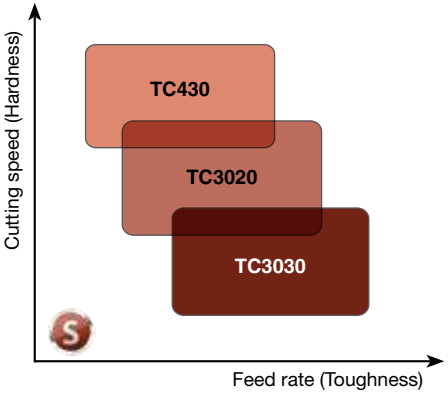
Selection guide for ceramic grades

For cast iron

For hardened steel (HRc 40~60)



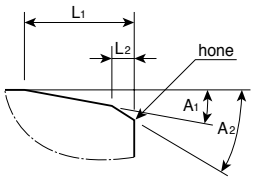
For super alloys



Information of Ceramic type

CE	Pressed type
CH	Dimple type
WZ	Wiper geometry

Edge preparations for ceramic inserts

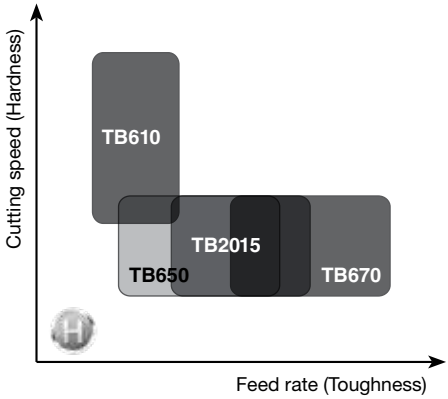
Single land		Double land			
Symbol	Width(mm) X angle	Symbol	Width(mm) X angle		Shape
			L1 X A1	L2 X A2	
T2	0.10 X 30°	U1	0.7 X 15°	0.15 X 30°	
T3	0.15 X 30°	U2	1.5 X 15°	0.15~0.2 X 30°	
T4	0.20 X 30°	U3	2.0 X 15°	0.2 X 30°	
T5	0.30 X 20°	- All items are honed			
T6	0.10 X 20°				
T7	0.20 X 20°				

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

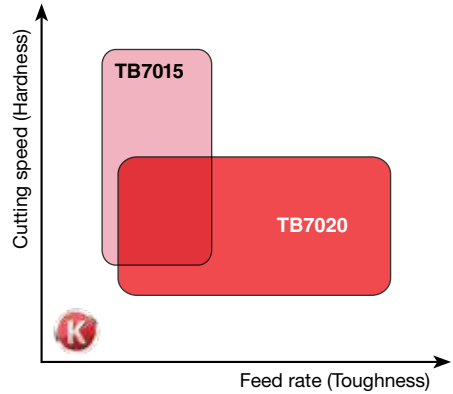
Hard Turning for CBN and PCD Inserts

Selection guide for CBN and PCD grades

For hardened steel (HRc ≥ 50, CBN)

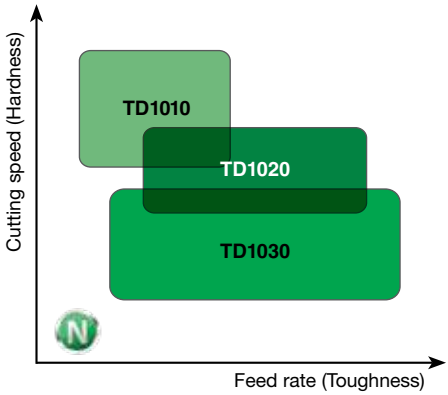


For cast iron (CBN)



▸ TB730 for General turning of sintered or powder metals

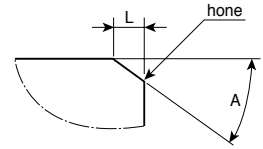
For non-ferrous material (PCD)



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

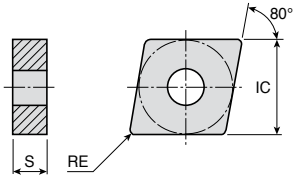
Edge preparations for CBN inserts

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								●		

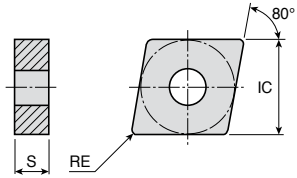
A58-A59 A119,
A126, A146, A170,
A194, A203, A205

●: Standard items

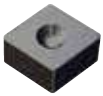
CNGN CNGX-CH CNMG-CE

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		●	●								

A58-A59, A119, A120, A121, A126, A146, A170, A194, A201, A203, A205

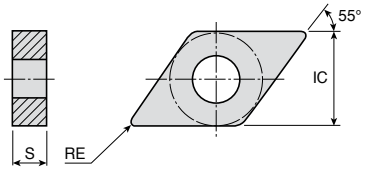
●: Standard items

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			●							

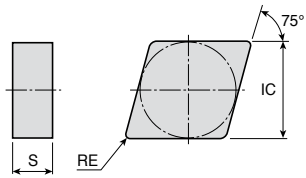
A52, A53, A60, A61, A122, A127, A146, A171, A195, A203, A206, A215

●: Standard items

TaeguTec

ENGN

Negative 75° rhombic inserts



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

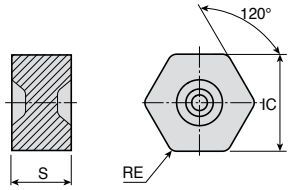
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**ENGN**	**130708**	0.1-2.5	0.05-0.20	●	●	●							
		130712 T5	0.1-2.5	0.05-0.25			●							
		130716	0.1-2.5	0.05-0.30		●								
		130716 U2	0.1-2.5	0.05-0.30			●							


A128

●: Standard items

HNGX-CH

Negative 120° hexagonal inserts

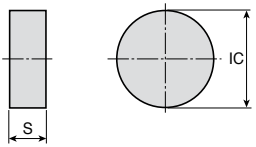


Size	Dimension (mm)		
	IC	S	RE
05	12.7	7.94	1.2-1.6

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									●	●

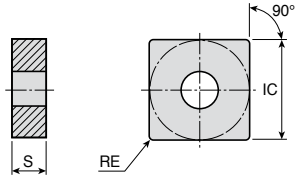
A129

●: 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

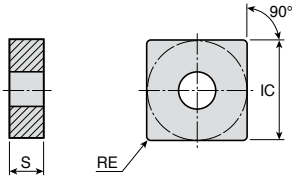
●: Standard items

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

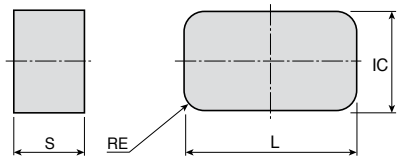
Insert	Designation	ap (mm)	Feed (mm/rev)	Ceramic										
				AB2010	AB20	AB30	AW120	SC500	AS500	SC10	AS10	TC430	TC3020	TC3030
 Dimple type	**SNGX 120712 CH**	0.1-3.0	0.05-0.30							●	●			
	120716 CH	0.1-3.0	0.05-0.35							●	●			
	120716 T7-CH	0.1-3.0	0.05-0.35					●	●		●			
	150716 T7-CH	0.1-3.5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

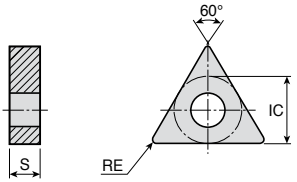
Insert	Designation	ap (mm)	Feed (mm/rev)	Ceramic										
				AB2010	AB20	AB30	AW120	SC500	AS500	SC10	AS10	TC430	TC3020	TC3030
	**LNU 6688 T**	1.0-20.0	0.20-1.00		●	●			●					
	**T32- 32**	1.0-15.0	0.20-0.25		●	●			●					

●: 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

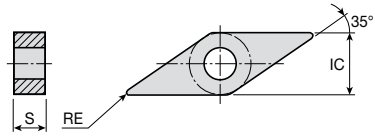
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**TNGA**	**160404**	0.1-2.5	0.05-0.15	●	●	●							
		160404 T2	0.1-2.5	0.05-0.15			●							
		160408	0.1-2.5	0.05-0.20	●	●	●							
		160408 T2	0.1-2.5	0.05-0.20			●							
		160412	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

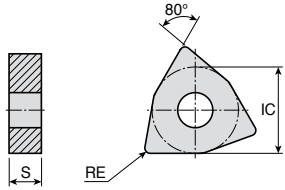
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**VNGA**	**160404**	0.05-1.0	0.05-0.10	●	●	●							
		160408	0.05-1.0	0.05-0.15	●	●	●							
		160412	0.05-1.5	0.05-0.20		●	●							
		220412	0.05-2.0	0.05-0.20			●							
 Dimple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

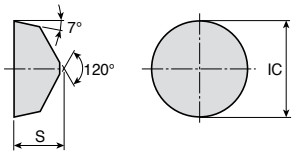
A57, A69, A109,
A149, A169,
A198, A207

●: Standard items

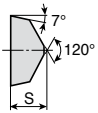
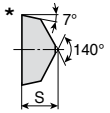
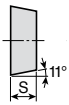
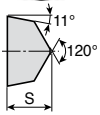
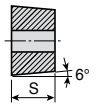
ADVANCE CUTTING
TaeguTec

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		●								
														

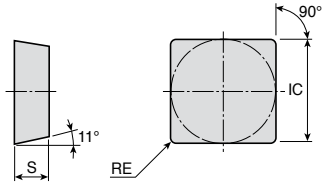
A116, A117, A118

▸ *: 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

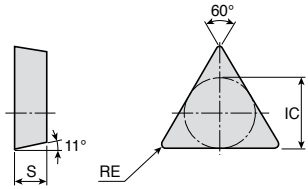
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**SPGN**	**120308**	0.1-3.5	0.05-0.20			●				●			
		120412	0.1-3.5	0.05-0.20							●			

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

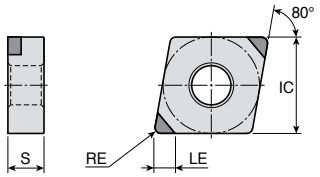
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**TPGN**	**110304**	0.1-2.0	0.05-0.10	●	●	●							
		110308	0.1-2.0	0.05-0.10	●	●	●							
		160304	0.1-2.5	0.05-0.15	●	●	●							
		160308	0.1-2.5	0.05-0.20	●	●	●							
		160308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

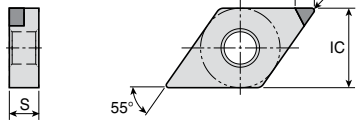
Insert	Designation	LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
					TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
	**CNGA 120404 WZ-LS2**	2.1	0.1-0.5	0.05-0.30	●	●	●						
	120408 WZ-LS2	2.1	0.1-0.5	0.05-0.30	●	●	●	●					
	120408 WZ-LS4	2.1	0.1-0.5	0.05-0.30	●	●	●						
	120412 WZ-LS2	2.5	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									●	
															

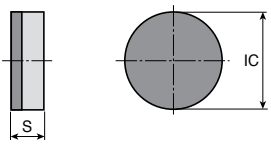
A52, A53, A60, A61,
A146, A171, A195,
A203, A206

●: Standard items

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						●				

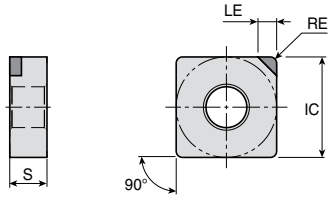
A129

●: 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						●			

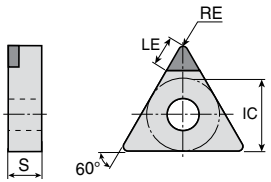
A65, A66, A104, A105,
A125, A130, A131,
A147, A172, A197

●: 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

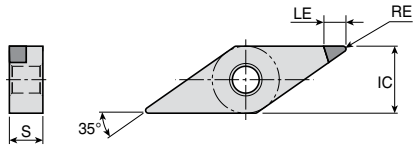
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
						TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
	**TNGA**	**160404 LN**	4.3	0.1-0.5	0.05-0.30		●	●		●				
		160404 LS3	2.2	0.1-0.5	0.05-0.30	●		●	●					
		160404 LS6	2.2	0.1-0.5	0.05-0.30		●							
		160408 LN	4.0	0.1-0.5	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								●	

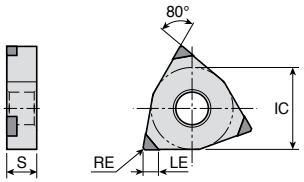
A55, A56, A108, A148, A206

●: Standard items

WNGA

T-TURN

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			●						

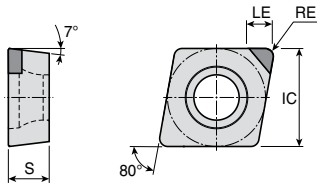
A57, A69, 109,
A149, A169,
A198, A207

●: Standard items

CCGW CCGT-CB CCGT-CF

T-TURN

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													

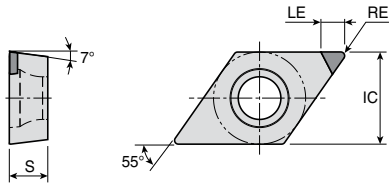
A70-A72, A94, A151, A174, A175, A208

●: 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

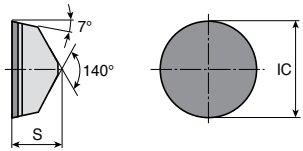
Insert	Designation	LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
					TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
	**DCGW 070202 LS**	2.6	0.05-0.5	0.05-0.30		●							
	070202 LS2	2.6	0.05-0.5	0.05-0.30	●		●	●					
	070204 LS	2.4	0.05-0.5	0.05-0.30		●			●				
	070204 LS2	2.4	0.05-0.5	0.05-0.30	●		●	●					
	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

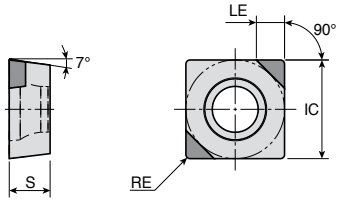
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN						PCD		
						TB610	TB650	TB670	TB730	TB7015	TB7020	TD1010	TD1020	TD1030
 Full Top CBN	**RCGX**	**060300 FT**	-	0.1-1.0	0.05-0.30					●				
		090300 FT	-	0.1-1.5	0.05-0.30					●				
		120400 FT	-	0.1-1.5	0.05-0.30					●				

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				●					

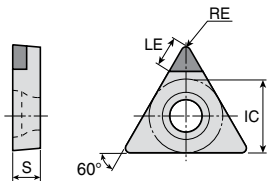
A80, A181

●: 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			●						

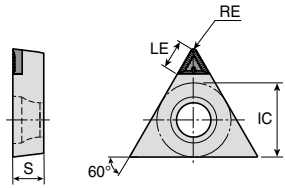
A49, A50,
A81-A83, A152, A155,
A167, A182, A210

●: Standard items

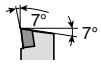
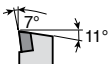
TCGW TPGN TCGT-CB

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

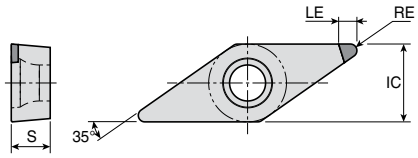
●: Standard items

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								●	
	160412 CB	6.2	0.5-3.5	0.10-0.50								●	
PCD chip breaker													
	**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								
							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	

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

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, 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
	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

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
	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						
150-250						
150-250						
150-250						
150-250						

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

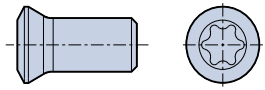
Recommended Cutting Conditions

Machining data for turning grades

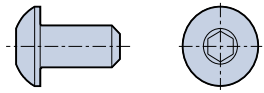
Cutting speed Vc(m/min)							
CBN							
TB610	TB2015	TB650	TB670	TB730	TB7015	TB7020	
				300-1200	300-1200	300-800	
				200-1000	200-1000	500-1000	
90-280	80-230	80-230	70-180	80-130			
80-250	70-200	70-200	60-150	60-120			
			100-200	120-180	120-180	120-180	
				100-140	100-140	100-140	

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

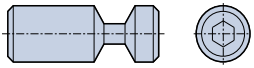


Designation	Thread	Length	Torx / Hexa	Tightening Torque
BH M2.5X0.45X10	M2.5	11.5	Hexa 1.5mm	0.8 Nm
BH M4X0.7X16-TB	M4	19	Hexa 3mm	2.8 Nm
BH M5X0.8X10	M5	13.55	Hexa 3mm	5.5 Nm
BH M5X0.8X21-MO-TB	M5	24.55	Hexa 3mm	5.5 Nm
BH M6X1X25	M6	29.2	Hexa 4mm	9.5 Nm

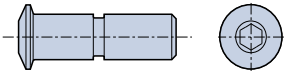


Recommeneded clamping torque for each screw

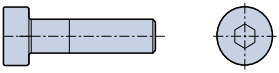
Designation	Thread	Length	Torx / Hexa	Tightening Torque
LCS 2	M5x0.8	14	Hexa 2mm	2.5 Nm
LCS 2B	M5x0.8	10	Hexa 2mm	2.5 Nm
LCS 3	M6x1.0	16.5	Hexa 2.5mm	3 Nm
LCS 3B	M5x0.8	12	Hexa 2mm	2.5 Nm
LCS 4	M8x1.0	21	Hexa 3mm	4 Nm
LCS 4B	M6x1.0	13.5	Hexa 2.5mm	3 Nm
LCS 4S	M8x1.0	18	Hexa 3mm	4 Nm
LCS 5	M8x1.0	23	Hexa 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



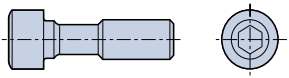
Designation	Thread	Length	Torx / Hexa	Tightening Torque
CLS 1.25	M3	4.7	Hexa 1.5mm	2 Nm
CLS 2C	M4	7.6	Hexa 2.5mm	2.5 Nm
CLS 2	M5	6.3	Hexa 2.5mm	3 Nm
CLS 3C	M5	9.5	Hexa 3mm	3.5 Nm
CLS 3S	M6	4.5	Hexa 3mm	4 Nm
CLS 3	M6	9.8	Hexa 3mm	4 Nm
CLS 4	M8	22	Hexa 4mm	8 Nm
CLS 16K	1/4-20 UNC	12	Hexa 4mm	6 Nm



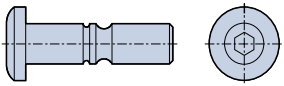
Designation	Thread	Length	Torx / Hexa	Tightening Torque
CSC 4	1/4-20 UNC	17	Hexa 4mm	6 Nm



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



PARTING & GROOVING

PARTING & GROOVING

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Guide to Icons


Holder Page


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Insert Page

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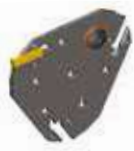
Tool Selection Guide

Parting, Grooving and Turning holders

Series				MINICUT COOLBURST SFTB SFTB-TB	MINICUT COOLBURST TGTB TGTB-TB	CUTSPEED SFGB	CUTSPEED COOLBURST SFGB-TB
							
Pages				B34	B35	B38	B39
Application	External	Parting		●	●	●	●
		Grooving		●	●	●	●
		Turning					
	Facing	Grooving					
		Turning					
	Internal	Grooving					
		Turning					
	Profiling						
	Threading						
	Undercut						

ADVANCE CUTTING TaeguTec

Tool Selection Guide

Parting, Grooving and Turning holders

CUTSPEED		T-CLAMP			
SFER/L	**SFER/L-TB**	**TGB**	**TGB-TB**	**TGBR/L TGBR/L-D..R/L TGBR/L-TI-D..R/L**	**TGBFR/L**
					
B40	B41	B42	B43	B44-B46	B47
●	●	●	●	●	
●	●	●	●	●	
					●

● 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** **QE1 TTER/L-TB**	**QE1 TQHR/L** **QE1 TQHR/L-TB**	**QE1Y TQHR** **QE1Y TQHR-TB**	COOLBURST **QH TTIR/L-TB**	**TTER/L-SH**
					
B55-B56	B64-B65	B66	B67	B70	B72
●	●	●	●		●
●	●	●	●		●
○	●	●	●		●
				●	
				●	
○	●	○	○		●
●		●	●		

● Recommended, ○ Suitable

Tool Selection Guide

Parting, Grooving and Turning holders

Series				T-CLAMP			
				COOLBURST TTER/L-SH-TB	TTER/L-D	TTER/L	COOLBURST 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

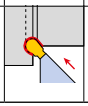
TTSER/L	TGFR/L	TTFR/L	TTFR/L-RN	TGFPR/L	TTFPR/L
					
B79	B80	B81	B82-B83	B84	B85
○					
●	●			●	
●	○			○	
	●	●	●	●	●
	○	●	●	○	●
○					

● Recommended, ○ Suitable

TaeguTec

Tool Selection Guide

Parting, Grooving and Turning holders

Series				T-CLAMP			
				TGIFR/L	TTFIR/L	TTIR/L-C TTIR/L	COOLBURST 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
●	●				
●			○		
				●	●
		●	●		

● Recommended, ○ Suitable

TaeguTec Member IMC Group

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

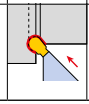
TGROOVE	TOPCUT		QUADRUSH	
TTLEN	**TTVER/L**	**TTVBR/L**	**TQHR/L-20**	**TQHR/L-20-TB**
				
B101	B102	B103	B104	B105
	●		●	●
●	●		●	●
	●	●	○	○
			○	○
		●	●	●

● Recommended, ○ Suitable

TaeguTec

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 **TQHR/L...EW-TB**	**TQHIR/L**	**TMS-TQHIL**	COOLBURST **TMS-TQHIL-TB**	**TMIHR/L** **TMIHR/L-C**	**TMIHN** **TMIHN-C**
					
B117	B118	B119	B119	B120	B121
●		●	●		
		○	○		
	●			●	●
	○			○	○

● Recommended, ○ Suitable

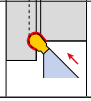
Tool Selection Guide

Internal application by diameter

Internal diameter (mm)	TOP MICRO MIN	WINGROOVE TMIHR/L	MINI RUSH TMIHN	TOP CAP TCAP	T-CLAMP TTSIR/L	QUAD RUSH 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

TaeguTec

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							●

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

TaeguTec Member IMC Group

Tool Selection Guide

Parting, Grooving and Turning Inserts

Series				T-CLAMP				
				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
						●	●
○	○		○		●	●	●
●	●		○			●	●
			●				
			●				
	●	●					○
				●			
	○						

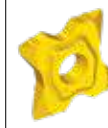
● Recommended, ○ Suitable

TaeguTec

Tool Selection Guide

Parting, Grooving and Turning Inserts

QUADRUSH

Series				TQS 20-MT	TQJ 27	TQC 27	TQS 27	TQS 27-MT 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
TaeguTec

Tool Selection Guide

Parting, Grooving and Turning Inserts

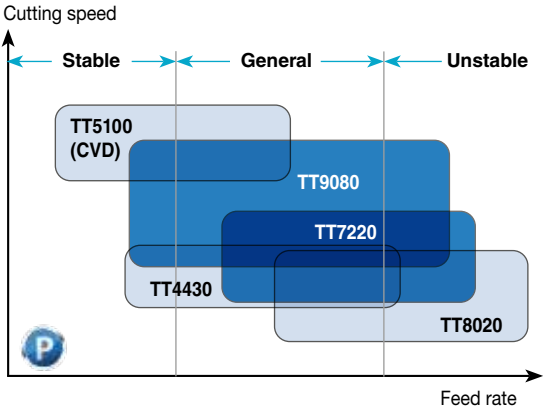
QUADRUSH			QUADRUSH	WINGROOVE	MINIRUSH	TOPCUT	TOPMICRO
TQS 27-ISO TQS 27-UN TQS 27-W	**TQBS 27**	**TQC 34**	**TQIS 14**	**TMIR/L**	**TMIS 8**	**TV..**	**MIN.**
							
P M N S	P M K N	P M K N S	P M K N S	P M K N S	P M K N S	P M N S	P M N S
B158-B159	B159	B160-B161	B162	B163	B163	B164-B167	B168-B180
		●				●	
	●	●	○			●	
		●				●	
			●	●	●		●
			○	○	○		●
		○					●
●						●	●

● Recommended, ○ Suitable

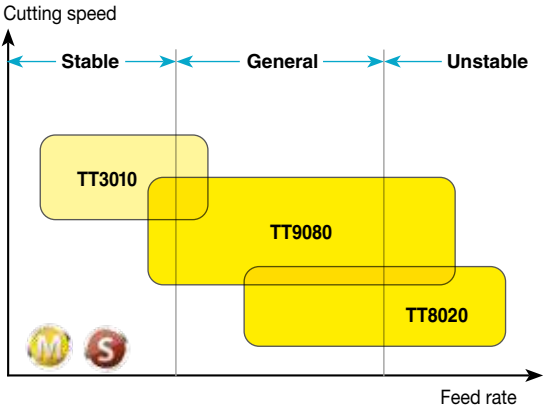
Grades

Selection guide for parting and grooving grades

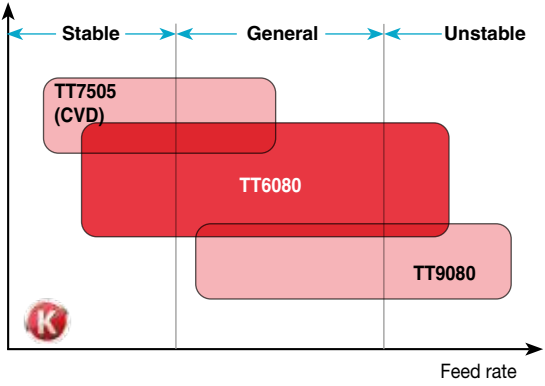
For steel (PVD & CVD coated)



For stainless steel & super alloy (PVD coated)



For cast iron (PVD & CVD coated)



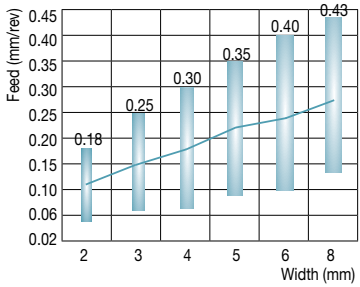
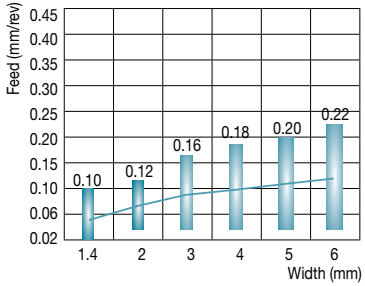
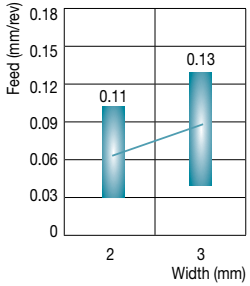
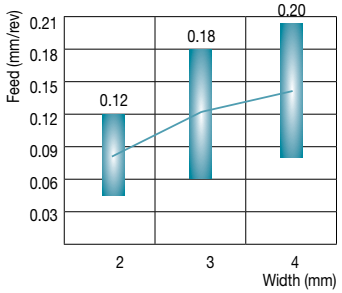
Grades

Parting and grooving grades

Grades	ISO	Characteristics & applications
TT7505 CVD coated	K05 – K15	• High speed grooving and turning of gray and ductile cast iron
TT6080 PVD coated	K05 – K25 H05 – H25	• General machining of gray and ductile cast iron for grooving and turning • Finish and medium machining of hardened steel
TT3010 PVD coated	S05 – S20	• High speed grooving and turning of heat-resistant super alloy
TT5100 CVD coated	P20 – P35 M20 – M35	• Medium grooving and turning of mild steel, low carbon steel and low carbon alloy steel • Low to medium speed machining of stainless steel
TT9080 PVD coated	P20 – P40 M20 – M40 S20 – S40	• General machining of steel, stainless steel and heat-resistant super alloy for parting, grooving and turning • Continuous cut and medium cutting speed
TT4430 PVD coated	P20 – P40 M20 – M40 S20 – S40	• General machining of steel, stainless steel and heat-resistant super alloy for small parts • Grooving, turning and parting
TT7220 PVD coated	P25 – P45 M25 – M45	• Rough machining of steel and stainless steel for parting, grooving and turning
TT8020 PVD coated	P30 – P50 M30 – M50 S30 – S50	• Low speed or rough and interrupted machining of steel, stainless steel and heat-resistant super alloy for parting, grooving and turning
CT3000 Cermet	P10 – P20 M10 – M20 K10 – K20	• Good surface finish turning of steel, stainless steel and cast iron
K10 Carbide	K05 – K15 N05 – N15 S05 – S15	• General machining of cast iron, aluminum alloys, non-ferrous materials and titanum alloys
TB2015 CBN	H10 – H20	• Continuous and light interrupted machining of hardened steel
TD1020 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 • Stable cutting edge & interrupted cut • Medium-to-high feed • For carbon steel, alloy steel and cast iron • For hard materials
J-Type 	 • 1st choice for soft materials in parting and deep grooving • Sharp cutting edge & low cutting force • Low-to-medium feed • Tubes, small diameter and thin-wall parts • For stainless steel & low carbon steel • For heat resistant super alloy
UF-Type 	 • Narrow chip breaker • Good chip control in low feed of ductile materials and low carbon steel • For Cr-Ni alloy steel and bearing steel
V-Type 	 • Sharp cutting edge and wide groove with minimized burrs • For tubes of small size workpieces • For stainless steel and mild steel

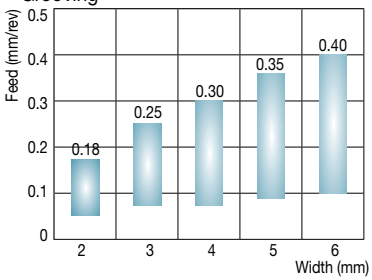
Chip Breakers

Groove-Turn

Chip breakers	Applications and features

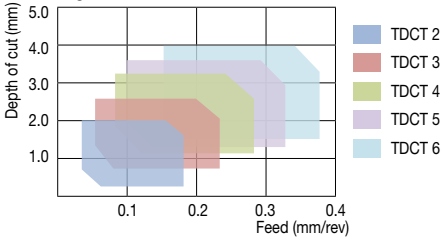
CT-Type

■ Grooving



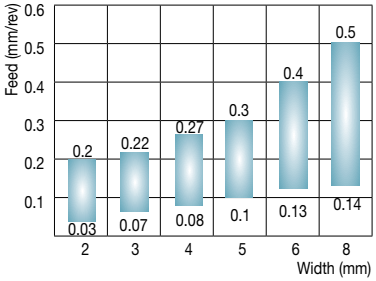
- Stable cutting edge in grooving and parting
- Covers C-type chip breaker applications including a built-in chip breaker for turning applications
- Medium-to-high feed range
- Steel, cast iron, stainless steel and heat resistant alloys

■ Turning



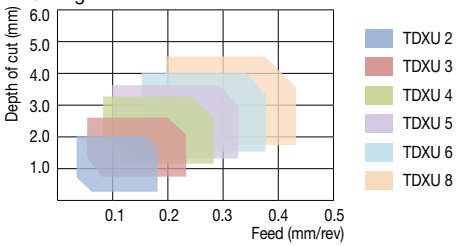
XU-Type

■ 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



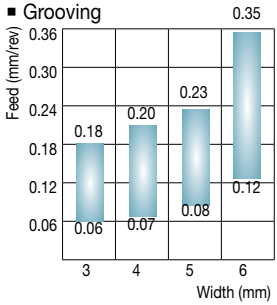
Chip Breakers

Groove-Turn

Chip breakers	Applications and features

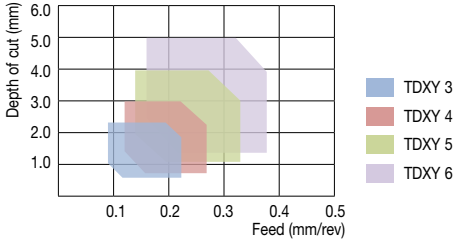
XY-Type

■ Grooving



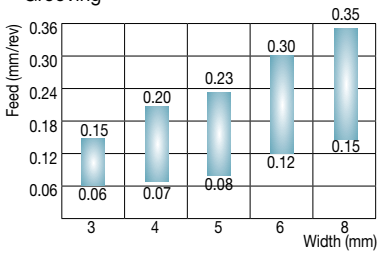
- For external and internal grooving as well as turning applications
- Good chip control when external face grooving and turning
- Flat bottom surface machining
- Low-to-medium feed grooving, medium-to-high feed turning
- Ideal for steel, stainless steel, cast iron and super alloys machining

■ Turning



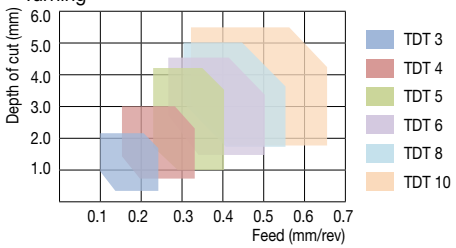
T-Type

■ Grooving



- 1st choice for side turning of cast iron
- Turning and grooving with various geometry
- Steel and cast iron
- High feed rate

■ Turning



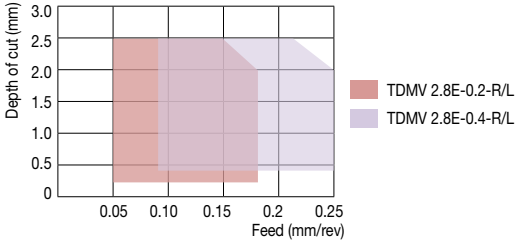
Chip Breakers

Groove-Turn

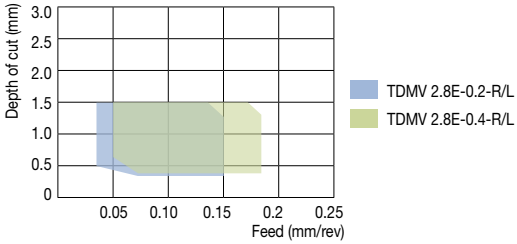
Chip breakers	Applications and features

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

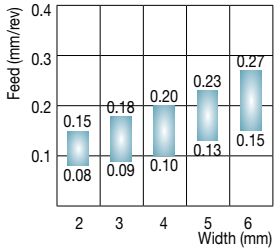
Chip Breakers

Groove-Turn

Chip breakers	Applications and features

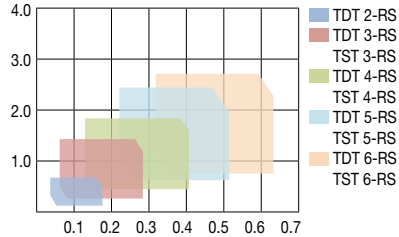
RS-Type

■ Grooving



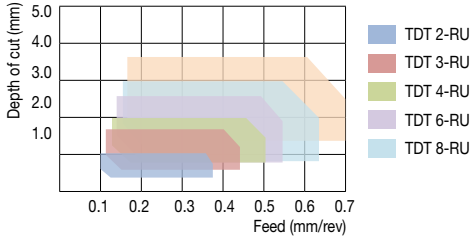
- 1st choice for medium to finishing machining of heat-resistant super alloys
- For external and internal profiling, turning and grooving applications
- Low cutting force and good surface finish due to the sharp edge
- Precision machining and excellent repeatability

■ Turning



RU-Type

■ Turning

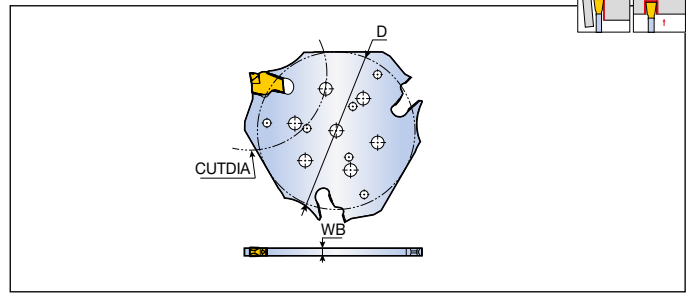


- Profiling in steel and cast iron
- Tough cutting edge
- Good chip control even in low depth
- Good surface finish
- High feed rate and low depth of cut

Parting & Grooving Toolholders

SFTB

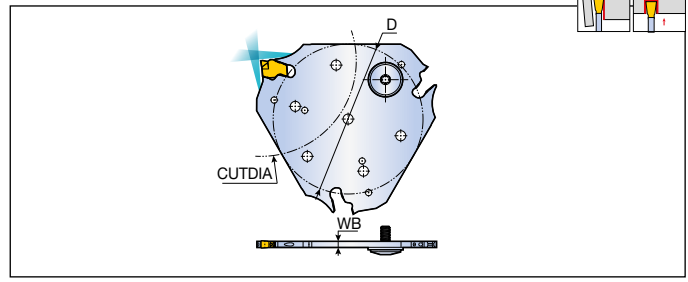
Triangular blades for parting and deep grooving



Designation		Insert seat size	Dimension (mm)			Block	Insert
			D	WB	CUTDIA		
SFTB	**D52-2**	2	53.2	1.8	52	THTBR/L-TB THTBR/L-R/L-TB B36-B37	SFC SFJ 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 THTBR/L-R/L-TB B36-B37	SFC SFJ 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		

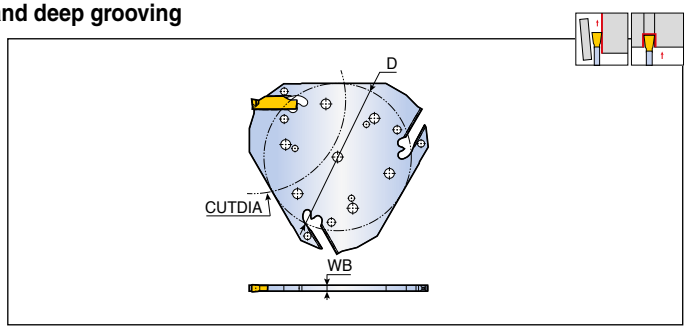
Spare parts

Designation	Sealing screw set	Extractor		
				
SFTB	-	ETG 3-4		
SFTB-TB	SGC 340-Q	ETG 3-4		

▸ Extractor should be ordered separately

TGTB

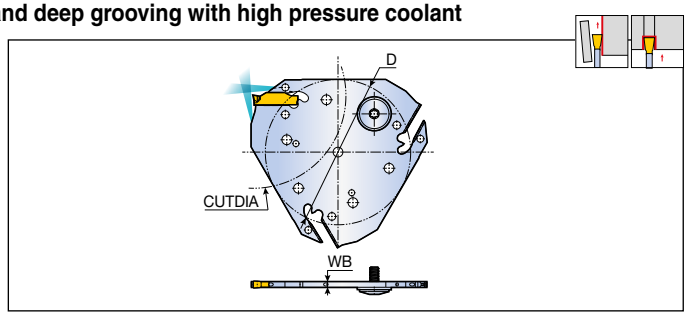
Triangular blades for parting and deep grooving



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

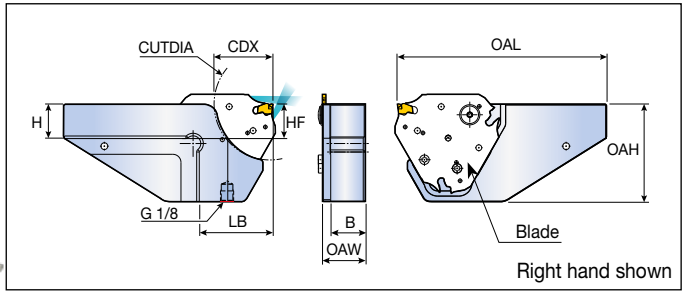
Spare parts

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

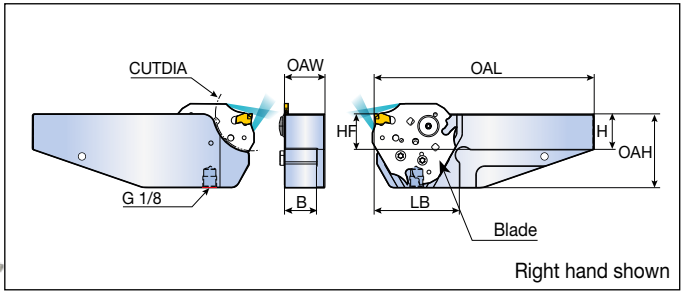
Designation		CUTDIA													
CDX		42	43	44	45	46	47	48	49	51	52	55	54-53	57-56	58-60
SFTB	**D120**	136	134	133	131	130	128	127	126	125	124	122	123	121	120

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

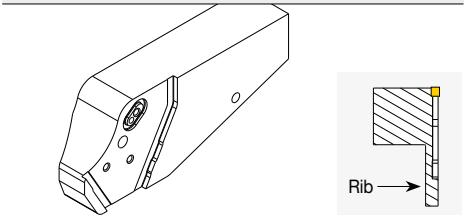
Designation		Dimension (mm)								Blade
		H	HF	B	OAL	OAH	OAW	LB	CUTDIA	
THTBR	**25-L-D52-TB**	25	25	22.5	155	52	28.5	60	52	SFTB/SFTB-TB TGTB/TGTB-TB B34-B35
	25-L-D82-TB	25	25	22.5	176.5	72	28.5	78	82	
	25-L-D120-TB	25	25	22.5	211	95	28.5	113	120	
THTBL	**25-R-D52-TB**	25	25	22.5	155	52	28.5	60	52	
	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

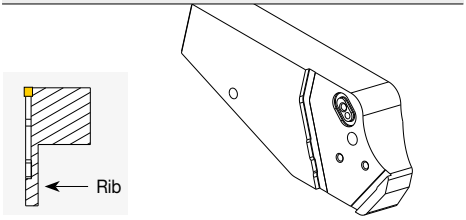
Designation	Locating pin	Screw	O-Ring	Wrench
THTBR/L--R/L-TB	SIDE THRUST PIN 3MM	SH M4X0.7X10-TX	O-RING ID10X2	T 20

THTB**R**-TB



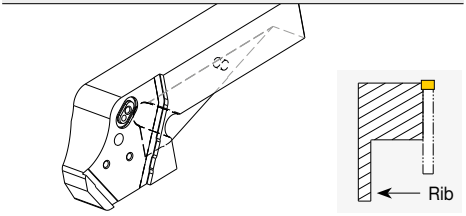
R-Pocket orientation

THTB**L**-TB



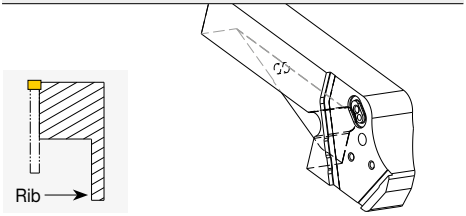
L-Pocket orientation

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

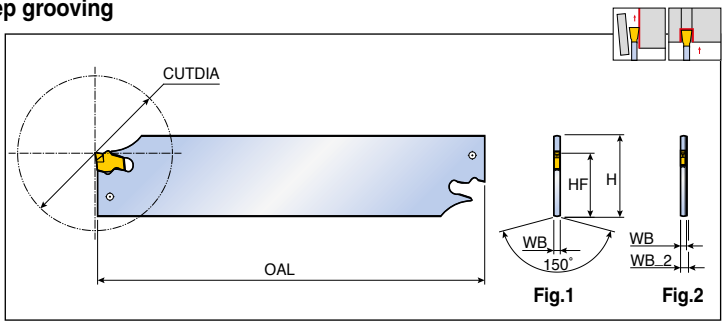


Fig.1 Fig.2

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

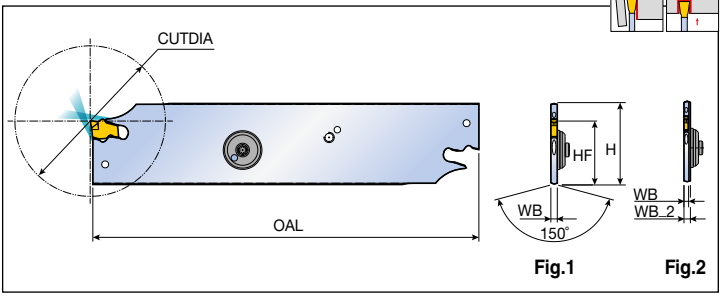


Fig.1 Fig.2

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		

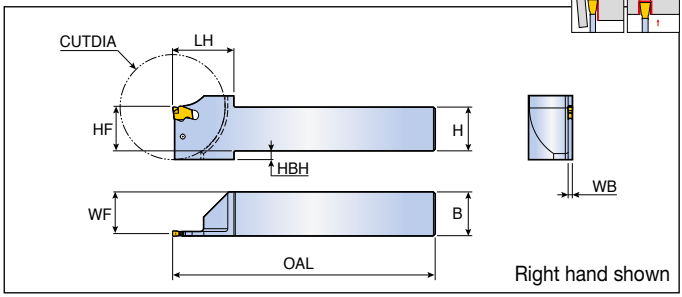
Spare parts

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

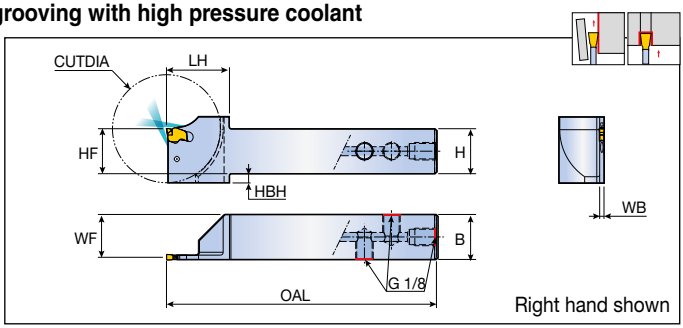
Spare parts

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

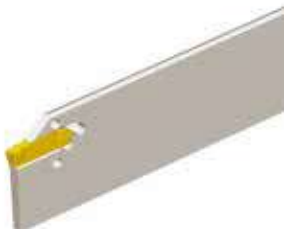
Spare parts

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



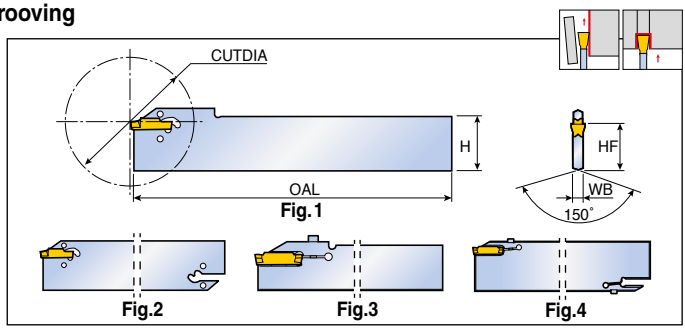


Fig.1 Fig.2 Fig.3 Fig.4

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

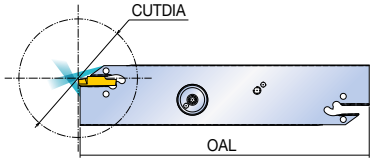


Fig.1

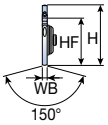
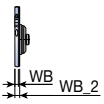


Fig.2



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		

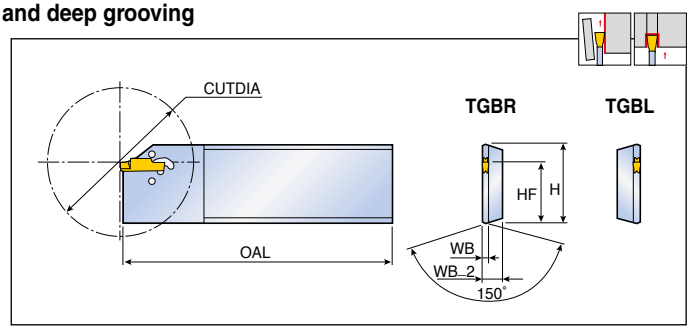
Spare parts

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

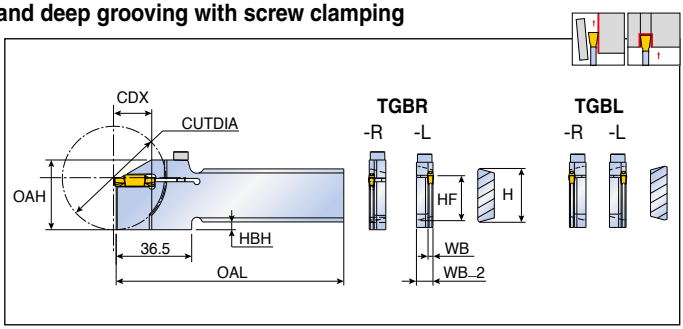
Spare parts

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	

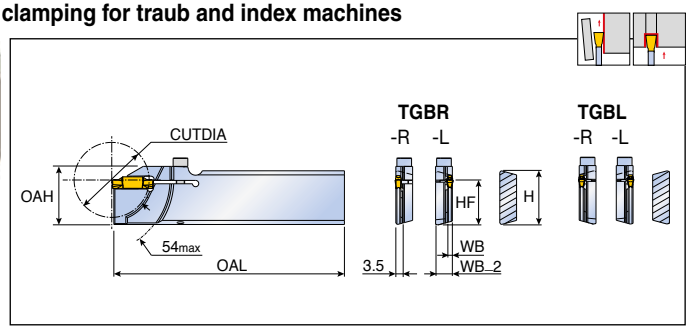
- (1) for Traub machines, model TNC 30, TNM 28, TNS 26/30/42/112, TNA 300, TNK 260
- (2) for Tornos Bechler, model Emco 2000/20, 2000/26
- (3) for Traub machines, model TNC 42/65, TNM 42/65, TNS 42/60/65, TNA 300/400

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		

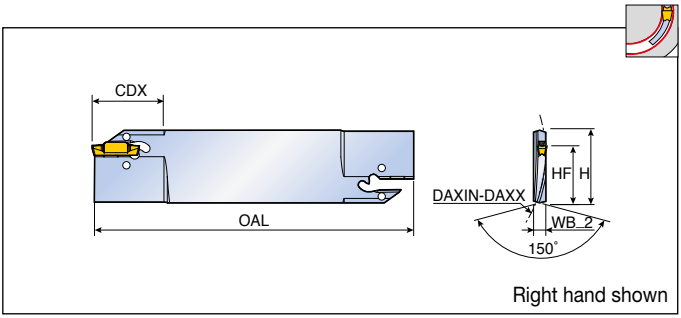
Spare parts

Designation	Screw	Wrench		
				
TGBR/L -TI-DR/L	SH M4x0.7x16	L-W 3		

TGBFR/L

T-CLAMP

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

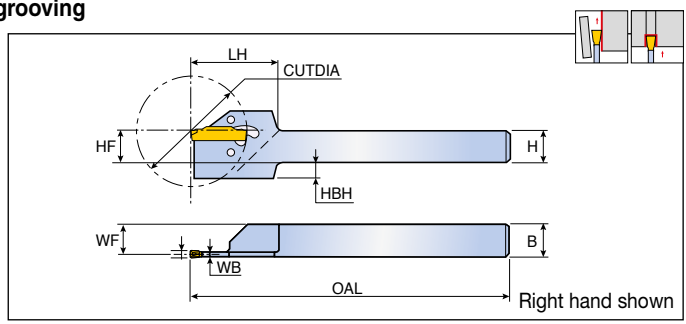
Spare parts

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

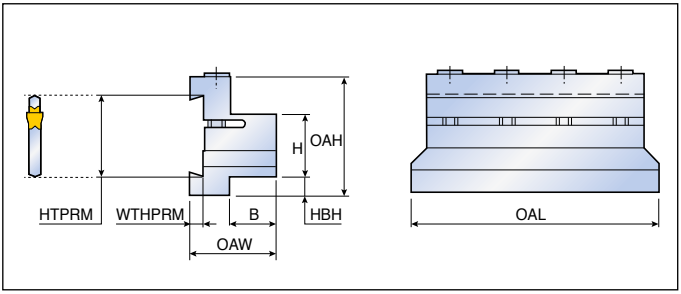
Spare parts

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



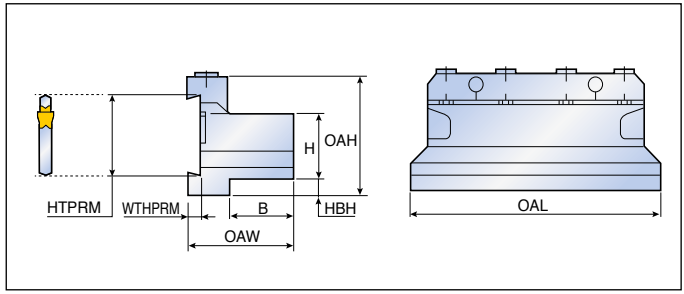
Designation	Dimension (mm)							
	HTPRM	H	HBH	OAH	WTHPRM	OAL	B	OAW
TTBN 16-26	26	16	12	38	4.0	87	15	29
20-26	26	20	8	38	4.0	87	19	33
25-26	26	25	3	38	4.0	110	20	34
20-32	32	20	13	48	5.5	100	19	35
25-32	32	25	8	48	5.5	110	20	36
32-32	32	32	3	48	5.5	120	28	44
25-45	45	25	25	66	5.5	110	22	40
32-45	45	32	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

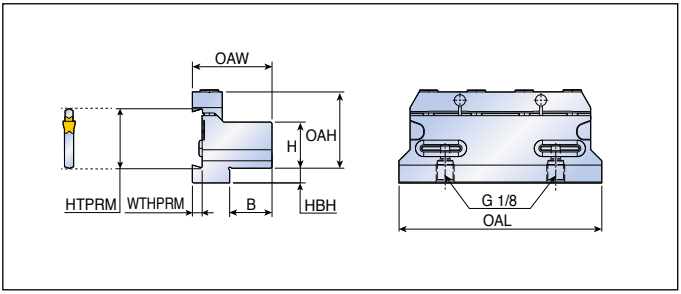
Spare parts

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

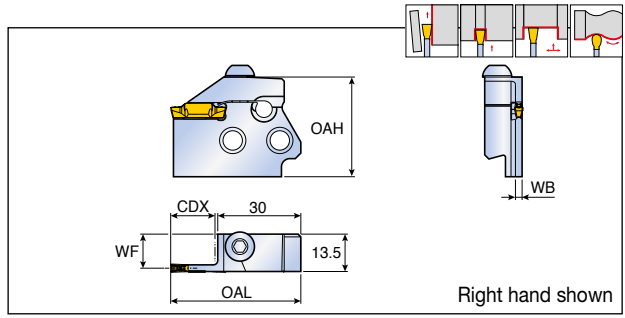
Spare parts

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 TCAHPL/R C..-TCAHN C..-TCAHPN B57-B60	TDJ 1.4 TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T 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		

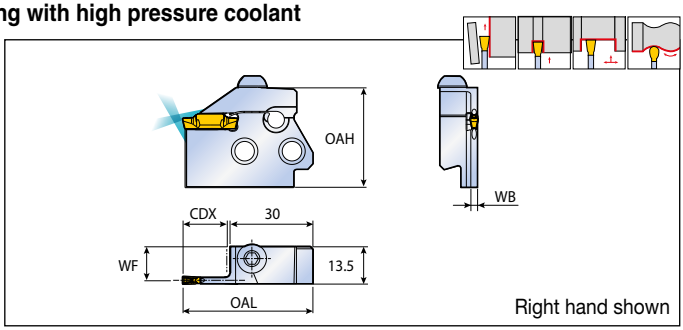
▸ *: TDJ 1.4 insert only

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

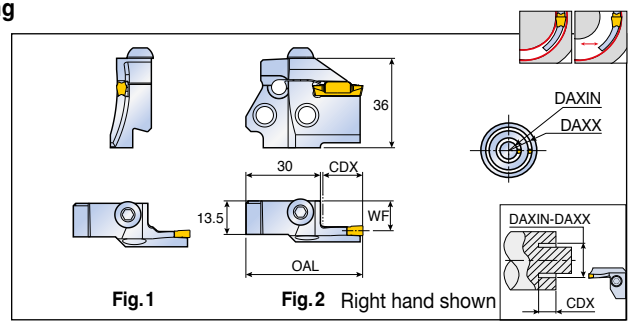


Fig.1 **Fig.2** Right hand shown

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		

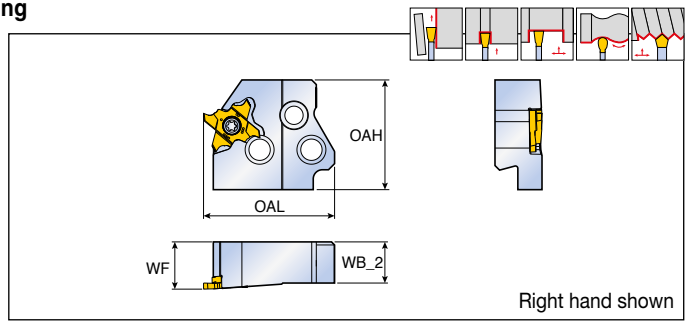
▸ Please check insert min. dia for face grooving B83 page
▸ N.L.: No limit

Spare parts

Designation	Screw	Wrench		
				
TCAFR/L	BH M6x1x16	L-W 4		

TCAQR/L 20

Cartridges for external grooving

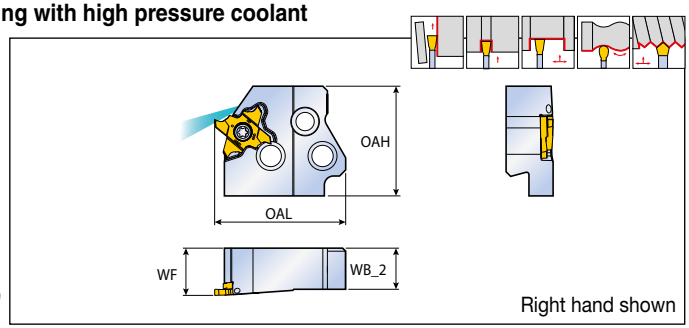


Designation		Dimension (mm)				Holder	Insert
		OAL	WF	WB_2	OAH		
TCAQR/L	**20**	43	15.5	13.5	36	TCAHR/L, TCAHPL/R C...TCAHN, C...TCAHPN B57-B60	TQ...20 B149-B150

▸ 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 C...TCAHN-TB, C...TCAHPN-TB B57-B61	TQ...20 B149-B150

▸ CDX: Refer to insert dimension

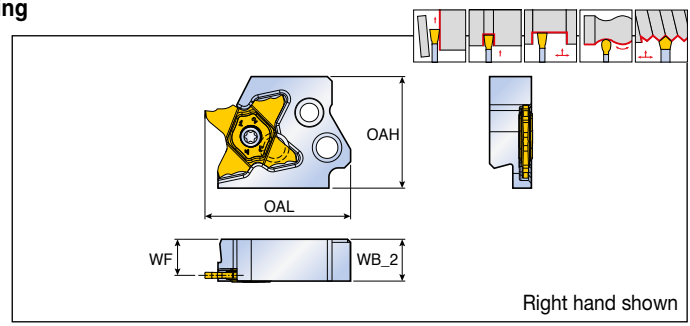
Spare parts

Designation	Screw	Wrench		
				
TCAQR 20(-TB)	TS 40A100L	T-1508/5		
TCAQL 20(-TB)	TS 40A100	T-1508/5		

TCAQR/L 27/34

QUADRUSH

Cartridges for external grooving



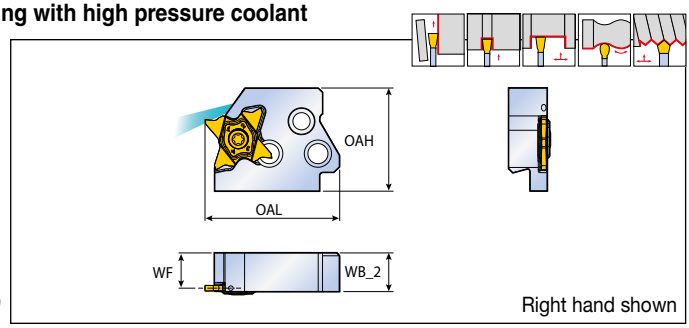
Designation		Dimension (mm)				Holder	Insert
		OAL	WF	WB_2	OAH		
TCAQR/L	**27**	47	12.3	13.5	36	TCAHR/L, TCAHPL/R C..-TCAHN, C..-TCAHPN B57-B60	TQ... 27 TQ... 34 B151-B161
	34	47	11.7	13.5	36		

▸ CDX: Refer to insert dimension

TCAQR/L 27-TB

QUADRUSH

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 C...TCAHN-TB, C...TCAHPN-TB B57-B61	TQ...27 B151-B159

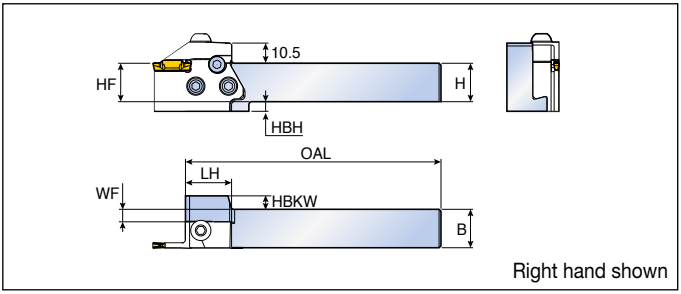
▸ CDX: Refer to insert dimension

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



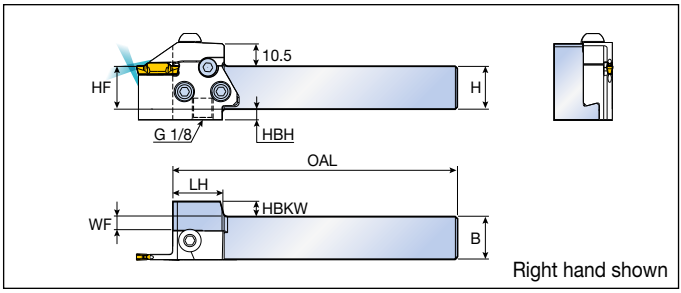
Right hand shown

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



Right hand shown

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	

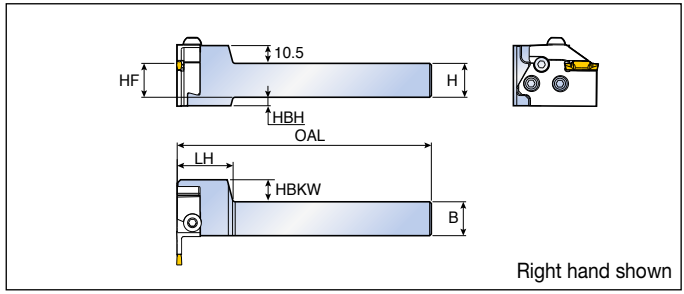
▸ Cartridge should be ordered separately
▸ Please refer to B122 page for COOL-BURST accessories

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

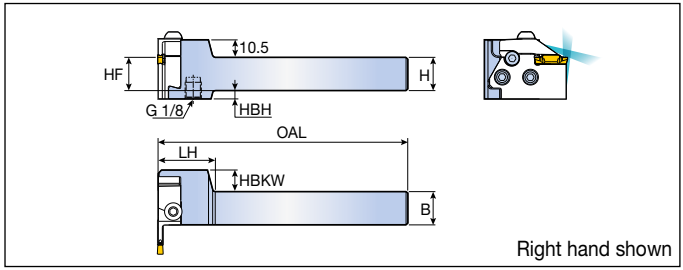


Designation		Dimension (mm)							Cartridge
		H	HF	B	OAL	HBH	HBKW	LH	
TCAHPR/L	**2020**	20	20	20	150	5	13	33	TCAEL/R, TCAFR/L TCAQL/R
	2525	25	25	25	150	-	8	33	
	3232	32	32	32	170	-	1	33	B52-B56

▸ 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 TCAQL/R-TB
	2525-TB	25	25	25	150	-	8	33	
									B53-B56

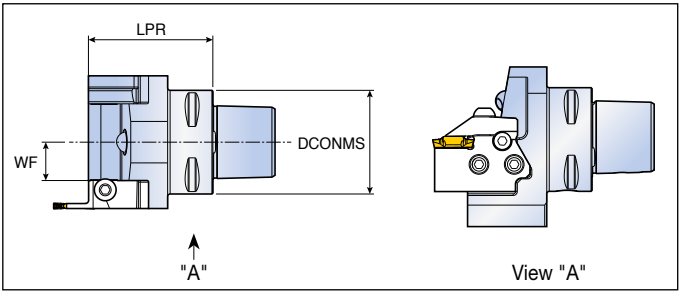
▸ Cartridge should be ordered separately
▸ Please refer to B122 page for COOL-BURST accessories

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

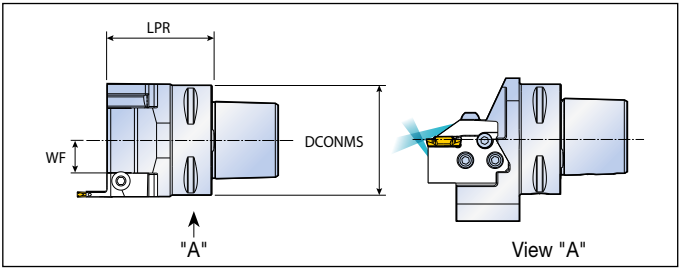


Designation	Dimension (mm)			Cartridge
	DCONMS	LPR	WF	
C4-TCAHN	40	60	18.7	TCAER/L, TCAFR/L
C5-TCAHN	50	60	18.5	TCAQR/L
C6-TCAHN	63	60	19	B52-B56

▸ 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

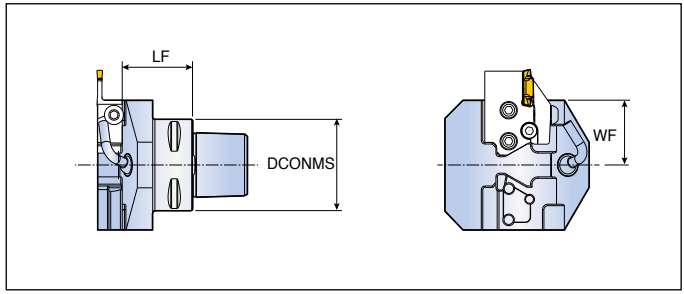
▸ Cartridge should be ordered separately

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

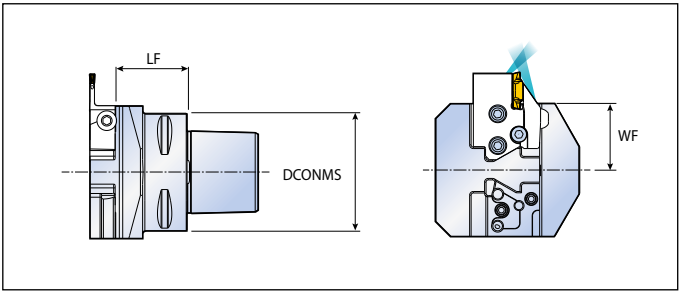
▸ Cartridge should be ordered separately

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

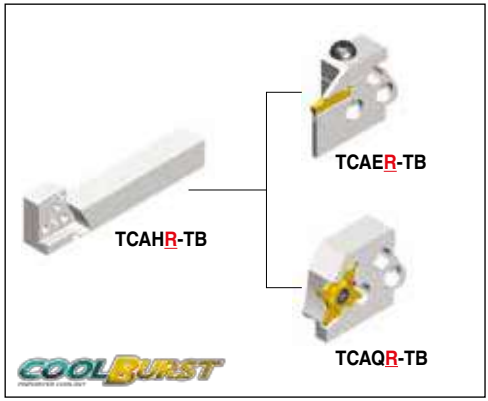
Spare parts

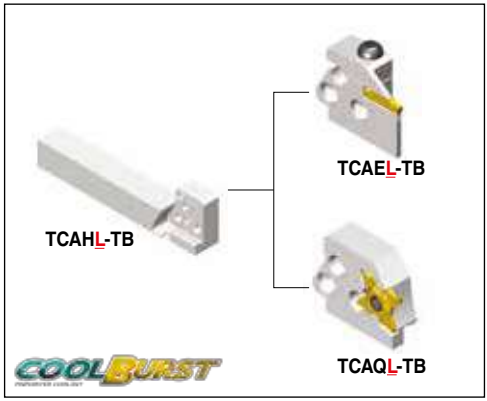
Designation	Screw	Security Screw	Sealing Screw	O-Ring	Wrench
C-TCAHPN-TB	TS 60190I	SH M5X0.8X16	SS M4X0.7X4-NL	O-RING ID5X1T	L-W 4 / L-W 2

Cartridge and Holder Selection

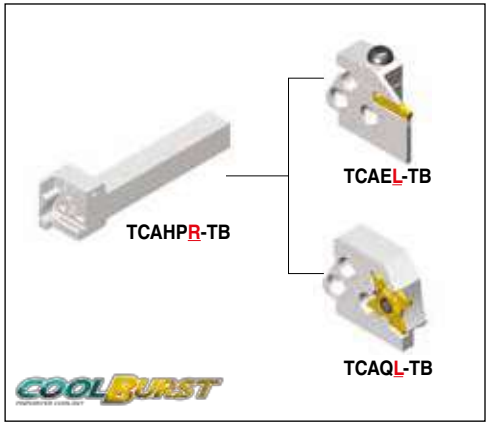
T-CLAMP

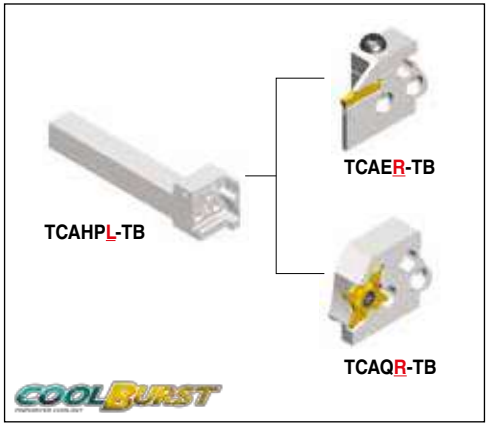
Parallel type with high pressure coolant



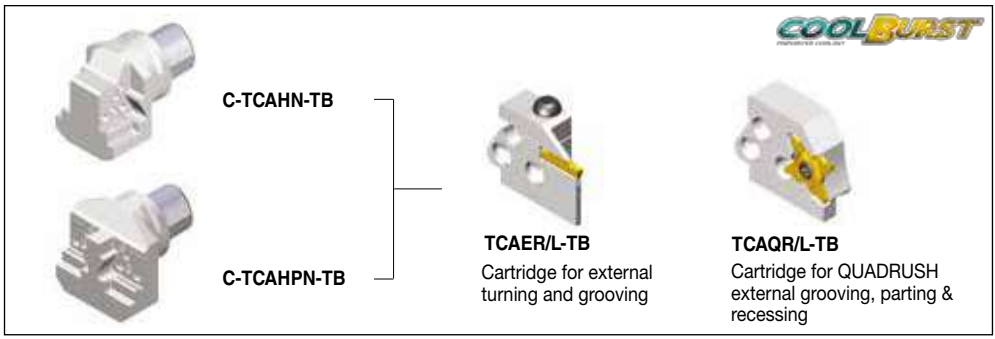


Perpendicular type with high pressure coolant





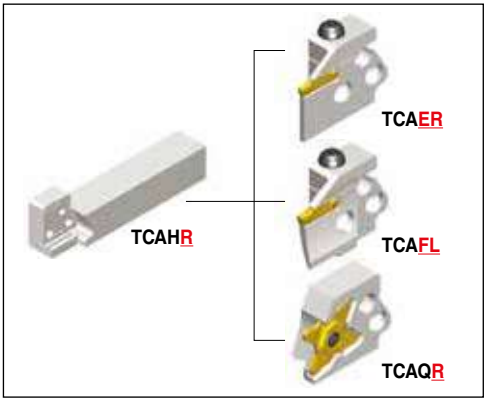
C-ADAPTER with high pressure coolant

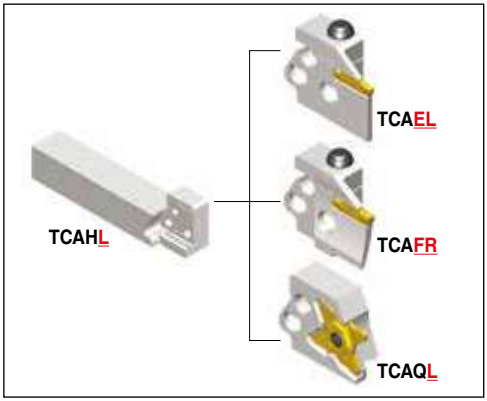


Cartridge and Holder Selection

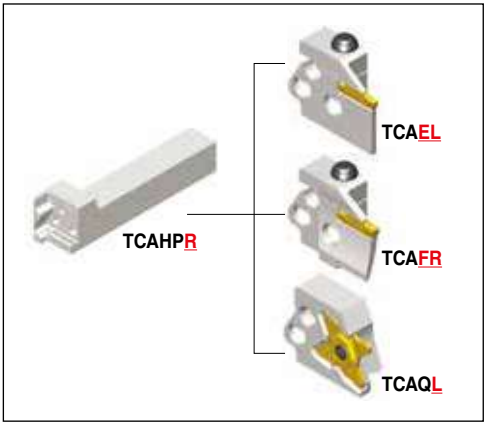
T-CLAMP

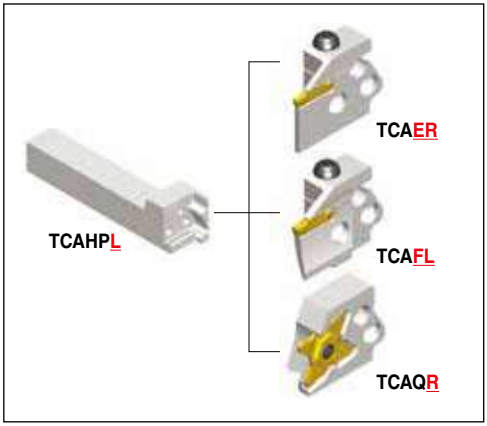
Parallel type



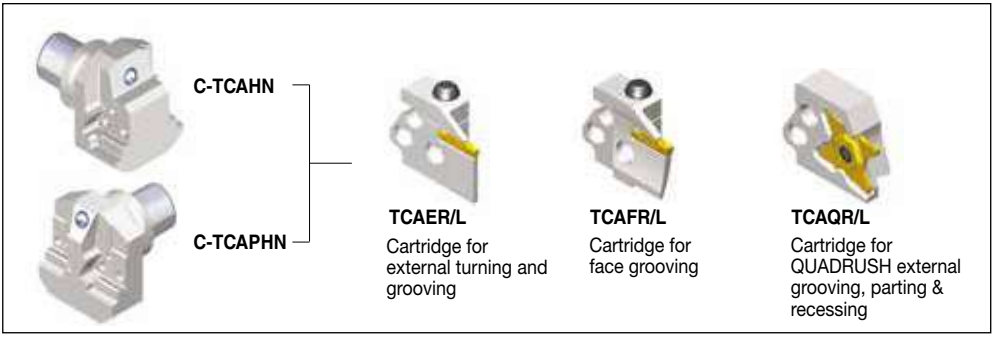


Perpendicular type



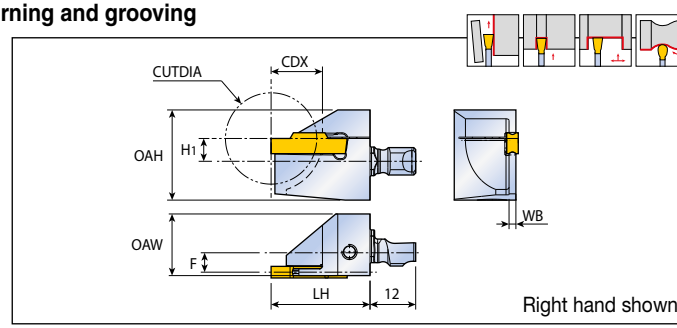


C-ADAPTER



QE1 TTER

Modular heads for external turning and grooving

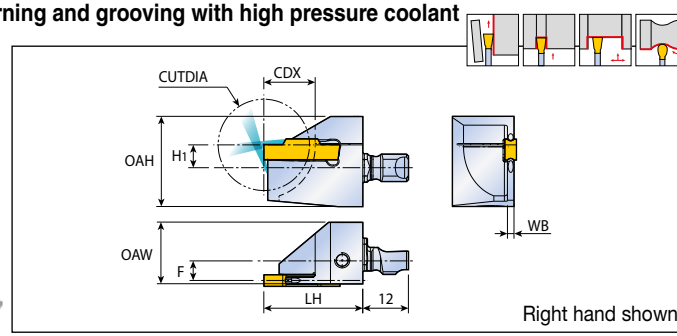


Designation	Insert seat size	Dimension (mm)								Shank	Insert
		OAH	LH	OAW	WB	CDX	CUTDIA	H1	F		
QE1 TTER 2-12-24	2	23.7	26.0	16.2	1.8	12.0	24.0	6.0	6.1	QE1 S12N-TB QE1 S16R-TB B68	TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T B129-B140
2-16-32	2	23.7	26.0	16.2	1.8	16.0	32.0	6.0	6.1		
3-12-24	3	23.7	26.0	16.2	2.4	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



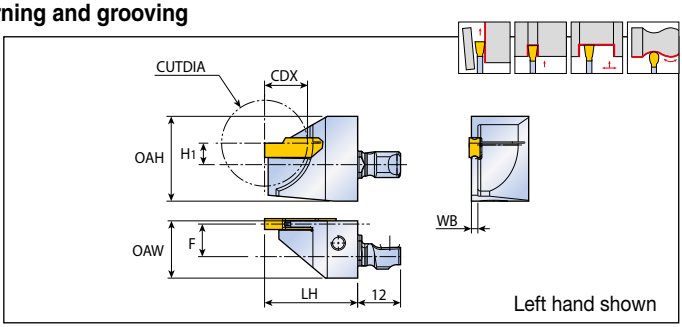
Designation	Insert seat size	Dimension (mm)								Shank	Insert
		OAH	LH	OAW	WB	CDX	CUTDIA	H1	F		
QE1 TTER 2-12-24-TB	2	23.7	26.0	16.2	1.8	12.0	24.0	6.0	6.1	QE1 S12N-TB QE1 S16R-TB B68	TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T B129-B140
2-16-32-TB	2	23.7	26.0	16.2	1.8	16.0	32.0	6.0	6.1		
3-12-24-TB	3	23.7	26.0	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

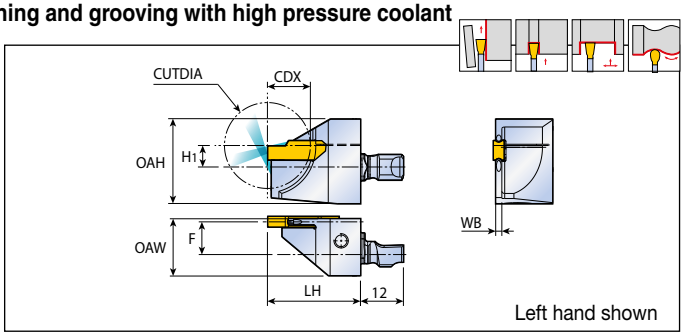


Designation		Insert seat size	Dimension (mm)								Shank	Insert
			OAH	LH	OAW	WB	CDX	CUTDIA	H_1	F		
QE1 TTEL	**2-12-24**	2	23.7	26.0	16.0	1.8	12.0	24.0	6.0	8.1	QE1 S12N-TB QE1 S16R-TB B68	TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T B129-B140
	2-16-32	2	23.7	26.0	16.0	1.8	16.0	32.0	6.0	8.1		
	3-12-24	3	23.7	26.0	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



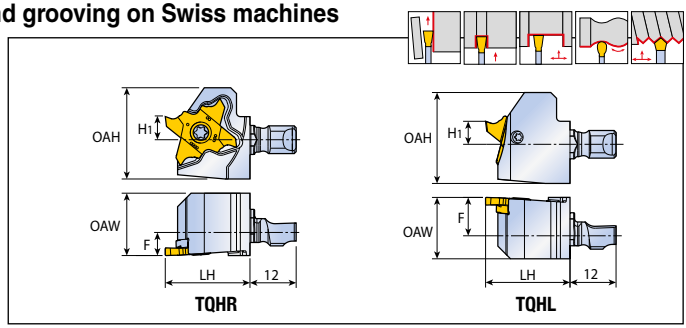
Designation		Insert seat size	Dimension (mm)								Shank	Insert
			OAH	LH	OAW	WB	CDX	CUTDIA	H_1	F		
QE1 TTEL	**2-12-24-TB**	2	23.7	26.0	16.0	1.8	12.0	24.0	6.0	8.1	QE1 S12N-TB QE1 S16R-TB B68	TDC/J/V/UF TSC/J TDCT/XU/XY/XT/T B129-B140
	2-16-32-TB	2	23.7	26.0	16.0	1.8	16.0	32.0	6.0	8.1		
	3-12-24-TB	3	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

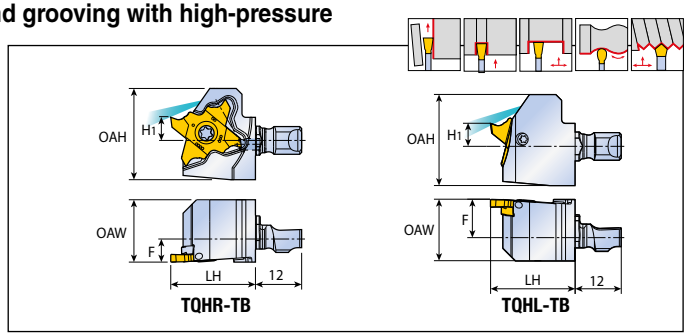


Designation		Dimension (mm)					Shank	Insert
		OAH	LH	OAW	H1	F		
QE1	**TQHR 20**	23.7	22.0	16.2	6.0	7.0	QE1 S12N-TB QE1 S16R-TB B68	TQ...20 B149-B150
	TQHL 20	23.7	22.0	16.0	6.0	9.0		

▸ 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 QE1 S16R-TB B68	TQ...20 B149-B150
	TQHL 20-TB	23.7	22.0	16.0	6.0	9.0		

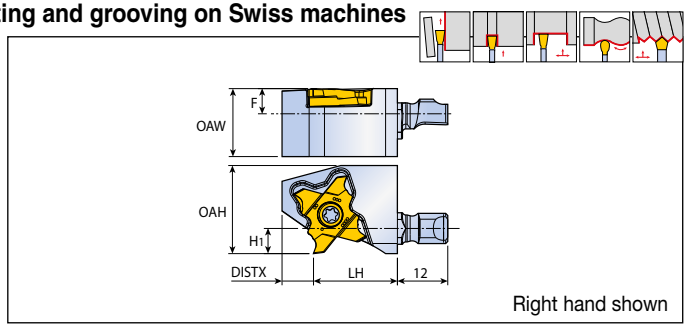
▸ CDX: Refer to insert dimension

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

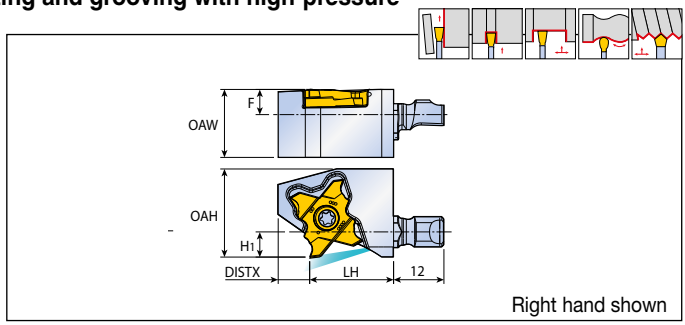
Designation	Dimensions (mm)						Shank	Insert
	OAH	LH	OAW	H1	F	DISTX		
QE1Y TQHR 20	21.0	20.0	16.2	6.0	7.0	7.5	QE1 S12N-TB QE1 S16L-TB B68	TQ... 20 B149-B150

▸ CDX: Refer to insert dimension

QE1Y TQHR-TB

Modular head for Y-axis parting and grooving with high-pressure coolant on Swiss machines

COOLBURST



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 QE1 S16L-TB B68	TQ... 20 B149-B150

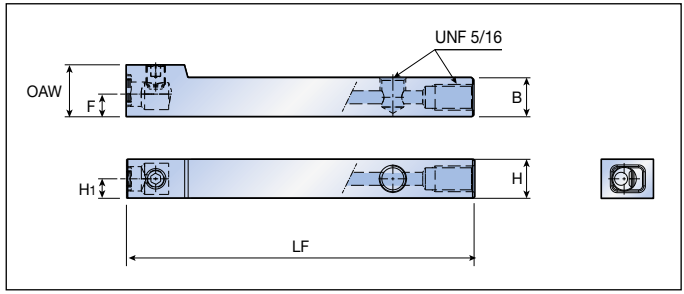
▸ CDX: Refer to insert dimension

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

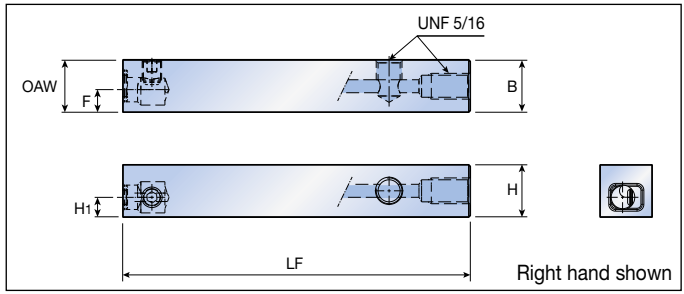


Designation	Dimension (mm)						Modular head
	H	H1	B	LF	OAW	F	
QE1 S12N-TB	12	6	12	107	16	7	QE1...R/L(-TB) B64-B67

▸ 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

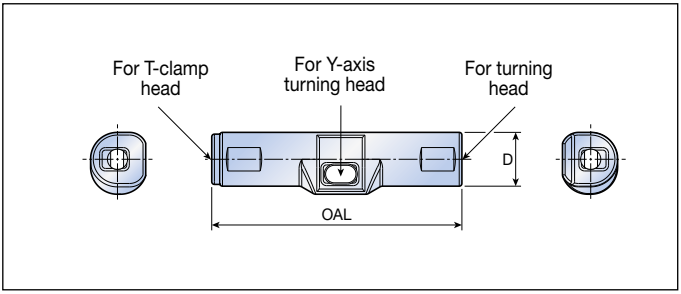
▸ Please refer to B122 page for COOL-BURST accessories

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.

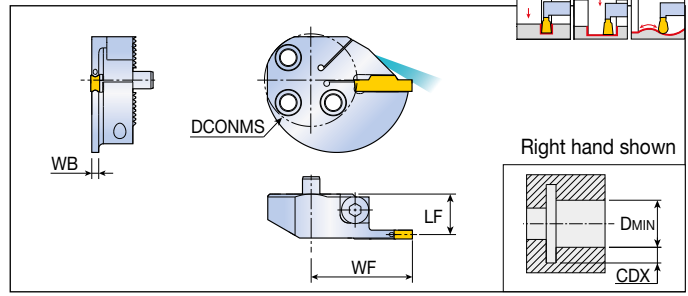
▸ Y-axis turning head

▸ 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 TSC/J TDCT/XU/XY/XT/T 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

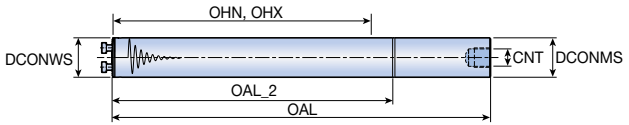
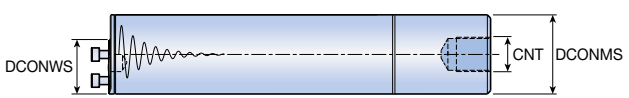


Fig.1



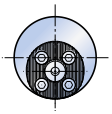


Fig.2

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

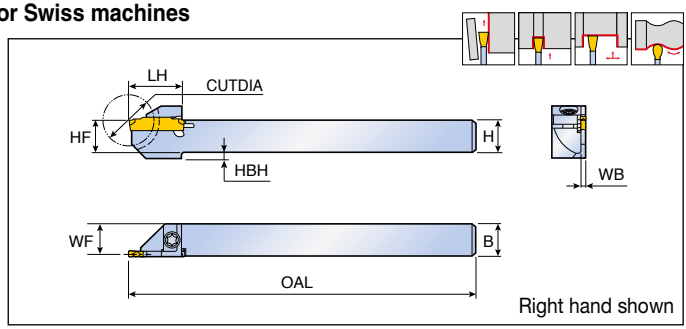
- (1) Carbide shank
- OHN: Minimum overhang
- OHX: Maximum overhang
- OAL_2: Minimum length after shortening(only steel bar can be shortened)
- Refer to A221 page for C-Adapter connection

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	

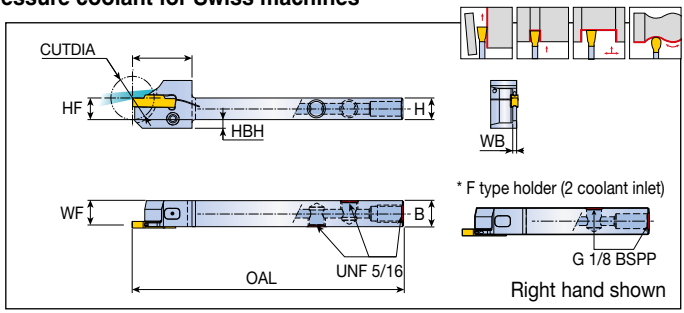
▸ *: TDJ 1.4 insert only

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	

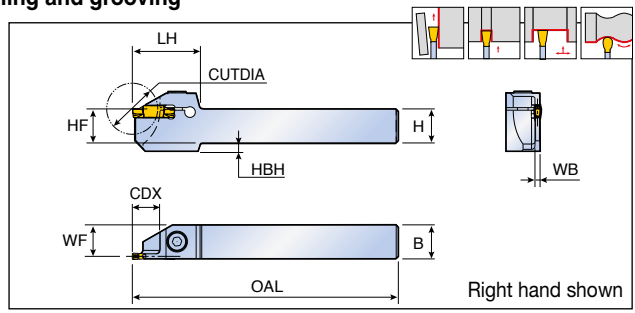
▸ Please refer to B122 page for COOL-BURST accessories

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	

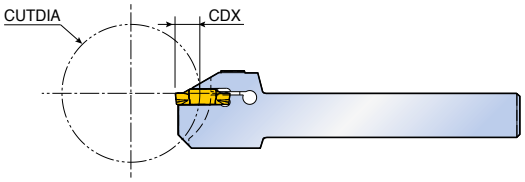
▸ *: TDJ 1.4 insert only

Spare parts

Designation	Screw	Wrench		
				
TTER/L-D	SH M5x0.8x16	L-W 4		

TTER/L-D

Machining depth for diameter of workpiece



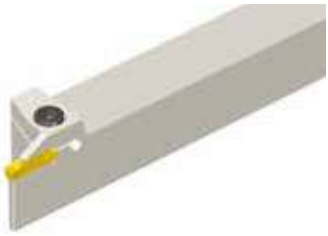
Designation		CDX												
		1	2	3	4	5	6	7	8	9	10	11	12	13
TTER/L 1010-1.4T15-D40	CUTDIA					N.L.						269	120	79
1212-1.4T15-D40						N.L.						269	120	79
1616-1.4T20-D45						N.L.								432
2020-1.4T20-D45						N.L.								432
1010-2T15-D40						N.L.						269	120	79
1212-2T15-D40						N.L.						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.								

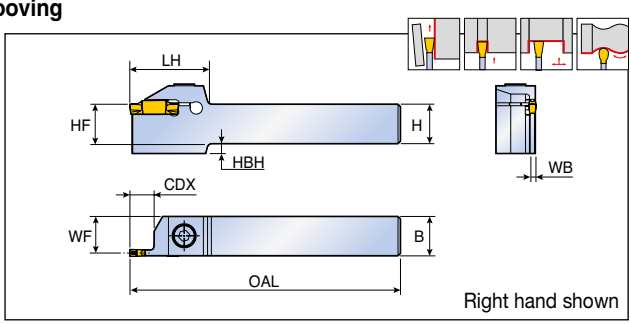
▸ N.L.: No limit

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

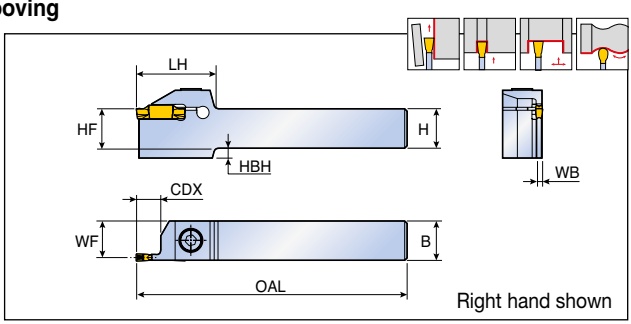




Designation		Insert seat size	Dimension (mm)								Insert
			H(HF)	B	OAL	LH	WF	WB	HBH	CDX	
TTER/L	**1616-2T08**	2	16	16	110	30.0	15.1	1.8	4	8	TDC/J/V/UF
	2020-2T08	2	20	20	125	30.0	19.1	1.8	-	8	TSC/J
	2525-2T08	2	25	25	150	30.0	24.1	1.8	-	8	TDCT/XU/XY/XT/T
	1616-2	2	16	16	110	32.0	15.1	1.8	4	12	B129-B140
	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



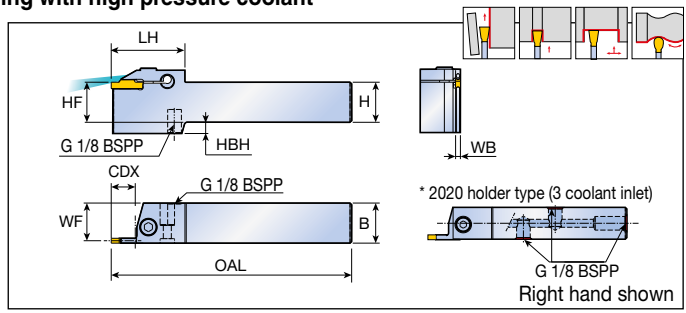
Designation	Insert seat size	Dimension (mm)								Insert
		H(HF)	B	OAL	LH	WF	WB	HBH	CDX	
TTER/L 2020-6T12	6	20	20	125	37	17.6	4.9	-	12	TDC/J/V/UF
2525-6T12	6	25	25	150	37	22.6	4.9	7	12	TSC/J
2020-6	6	20	20	125	41	17.6	4.9	-	20	TDCT/XU/XY/XT/T
2525-6	6	25	25	150	41	22.6	4.9	7	20	B129-B140
2525-6T32	6	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	

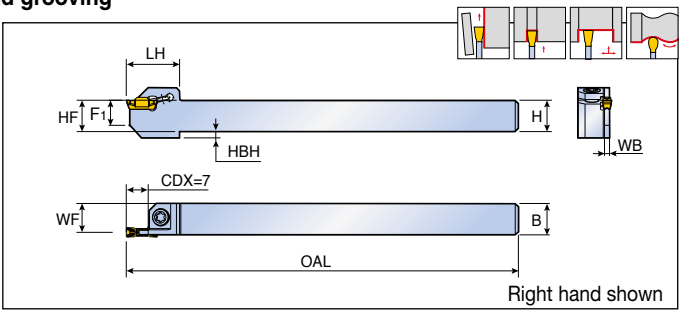
▸ Please refer to B122 page for COOL-BURST accessories

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



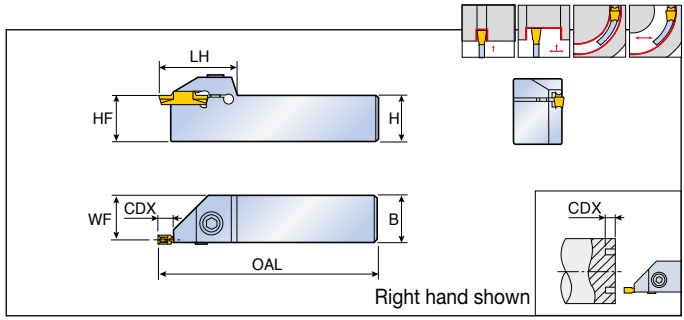
Designation	Insert seat size	Dimension (mm)								Insert
		H(HF)	B	OAL	LH	WF	WB	F1	HBH	
TTSER/L 1010-2T7	2	10	10	125	17	9.2	1.6	8	2	TDIM/TDIP
1212-2T7	2	12	12	125	17	11.2	1.6	8	-	
1616-2T7	2	16	16	125	20	15.2	1.6	11	-	B142,B143
2020-2T7	2	20	20	125	20	19.2	1.6	14	-	
2525-2T7	2	25	25	125	20	24.2	1.6	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

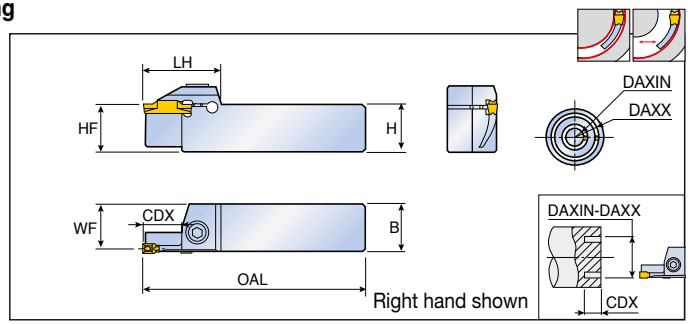
- External turning & grooving is available depending on the insert type
- Please check insert min. dia for face grooving B83 page

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.	

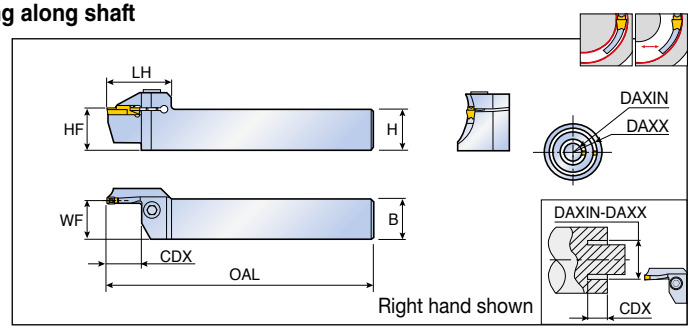
- Please check insert min. dia for face grooving B83 page
- N.L.: No limit

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

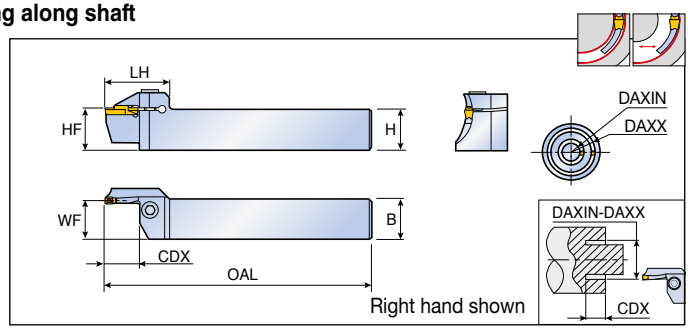


Designation		Insert seat size	Dimension (mm)								Insert
			H(HF)	B	OAL	LH	WF	CDX	DAXIN	DAXX	
TTFR/L	**20-21-30-3T10 RN**	3	20	20	140	31	19.0	10	21	30	TDC/J/V/UF
	20-24-35-3T10 RN	3	20	20	140	31	19.0	10	24	35	TSC/J
	20-29-40-3T10 RN	3	20	20	140	31	19.0	10	29	40	TDCT/XU/XY/XT/T
	20-34-50-3T10 RN	3	20	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

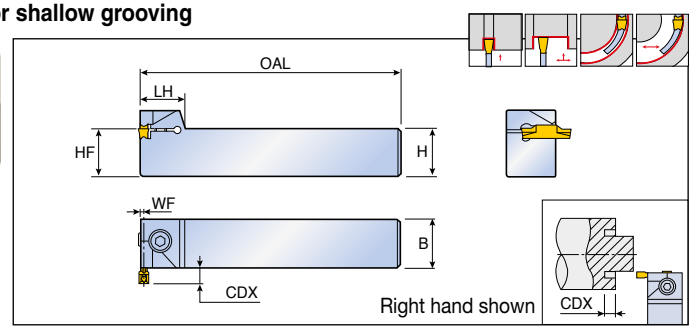
Machining	Insert	Size (mm)	Min. dia. (mm)	Insert	Size (mm)	Min. dia. (mm)
Facing Min. dia. of face machining	**TDJ/C TDUF / TDV**	3	54	**TDT RU TDT RS**	3	41
		4	34		4	36
		5	49		5	54
		6	46		6	54
	TDT	3	44	**TDCT TDXU TDXT TDXY TDFT**	3	18
		4	42		4	18
		5	50		5	20
		6	48		6	18

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

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

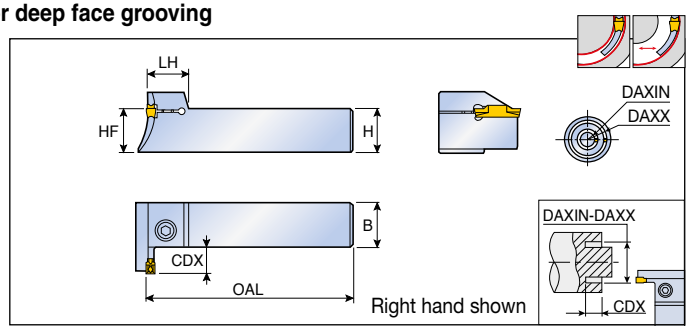
▸ External Turning & Grooving is available depending on the insert
▸ Please check insert min. dia for face grooving B83 page

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.	

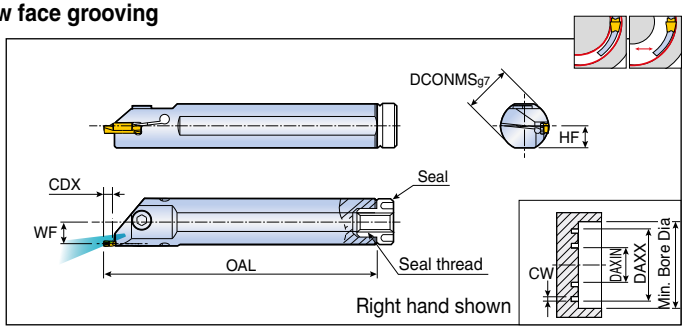
- Please check insert min. dia for face grooving B83 page
- N.L.: No limit

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

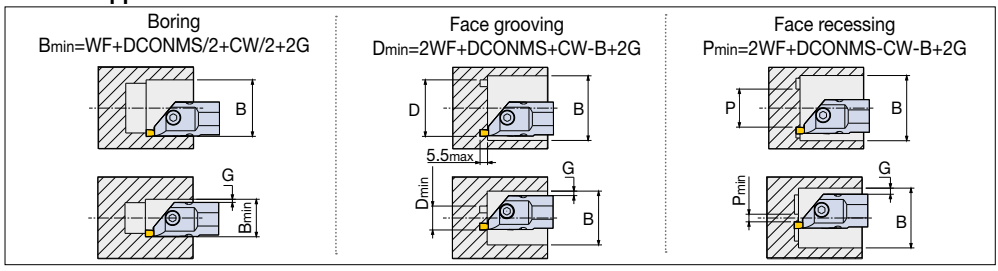


Designation	Insert seat size	Dimension (mm)					Insert
		DCONMS	OAL	WF	HF	CDX	
TGIFR/L 25-4C-T5.5	3, 4	25	200	11.3	11.5	5.5	TDC/J/V/UF
32-4C-T5.5	3, 4	32	250	14.8	15.0	5.5	TSC/J
25-6C-T5.5	5, 6	25	200	10.3	11.5	5.5	TDCT/XU/XY/XT/T
32-6C-T5.5	5, 6	32	250	13.8	15.0	5.5	TDFT
							B129-B141

▸ 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

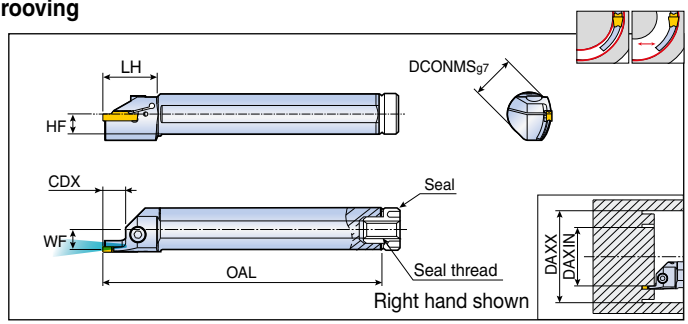


Spare parts

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	

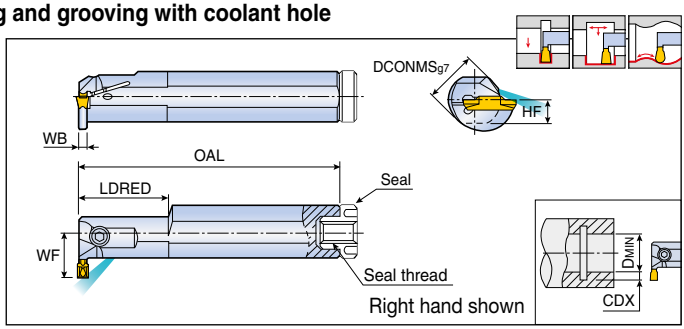
▸ Please check insert min. dia for face grooving B83 page

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

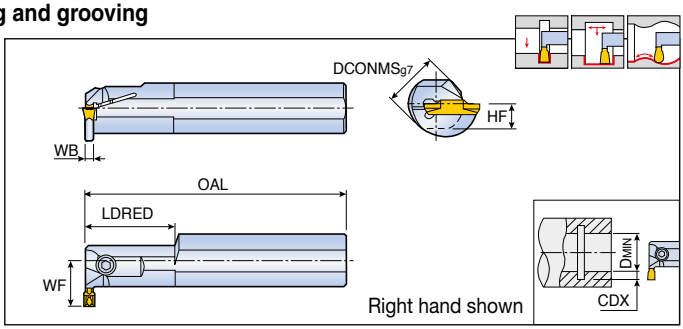


Designation		Insert seat size	Dimension (mm)								Insert
			DCONMS	OAL	LDRED	WF	HF	WB	CDX	DMIN	
TTIR/L	**16-2C**	2	16	125	-	16.5	7.5	1.8	8.5	25	TDC/J/V/UF
	20-2C	2	20	160	40	15.8	9.0	1.6	6.0	25	TSC/J
	25-2C	2	25	200	40	17.5	11.5	1.6	5.0	25	TDCT/XU/XY/XT/T
	32-2C-T8	2	32	250	40	24.8	14.0	1.8	8.0	36	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	2	40	3	40	2	41	2	24
Min. dia. of internal machining	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

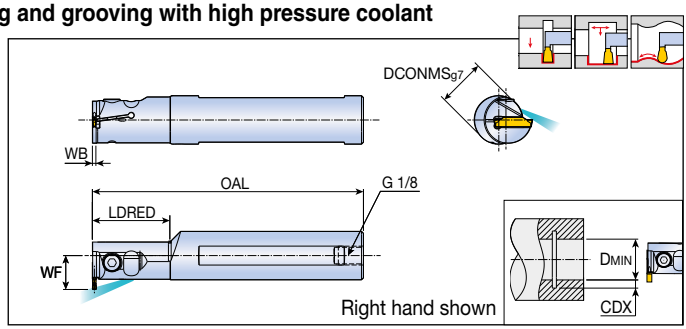
Spare parts

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 TSC/J TDCT/XU/XY/XT/T TDIT 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	

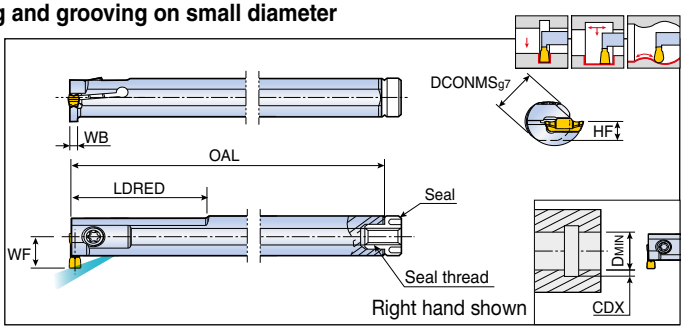
- Please refer to B122 page for COOL-BURST accessories
- Please check insert min. dia for internal grooving B89 page

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



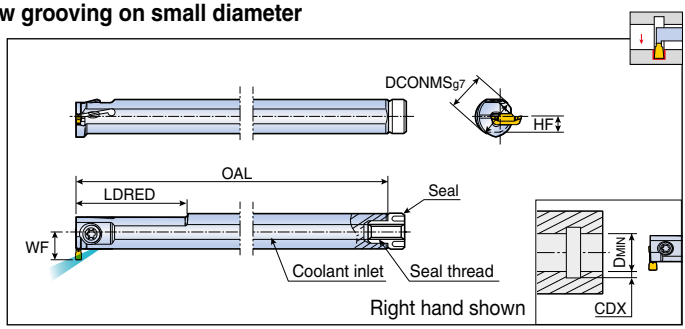
Designation		Insert seat size	Dimension (mm)								Coolant inlet	Insert
			DCONMS	OAL	LDRED	WF	HF	WB	CDX	DMIN		
TTSIR/L	**10-12.5-2**	2	10	125	25	7.5	4.5	1.6	2.4	12.5	Ø4	TDIM/TDIP
	12-14-2	2	12	125	35	9.1	5.5	1.6	2.6	14.0	Ø6	
	16-12.5-2	2	16	150	20	10.5	7.5	1.6	2.4	12.5	-	B141-B142
	16-14-2	2	16	150	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



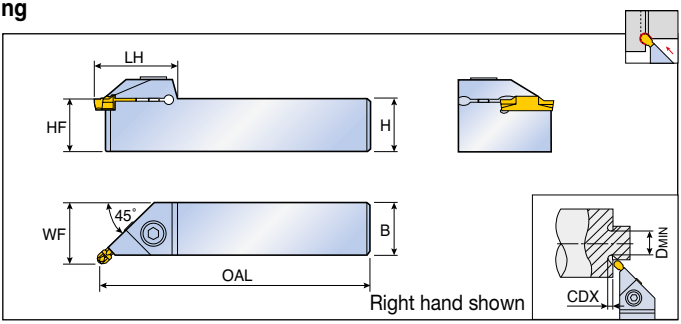
Designation		Insert seat size	Dimension (mm) DCONMS	OAL	LDRED	WF	HF	CDX	DMIN	Coolant inlet	Insert
TGSIR/L	**10-13-2**	2, 3	10	125	25	7.6	5	2.5	12.5	Ø4	TDIM/TDIP
	12-14-2	2, 3	12	125	32	9.0	6	2.5	14.0	Ø6	
	16-13-2	2, 3	16	150	20	10.6	8	2.5	13.0	-	B141-B142
	16-14-2	2, 3	16	150	25	10.9	8	2.5	14.0	-	
	16-16-2	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



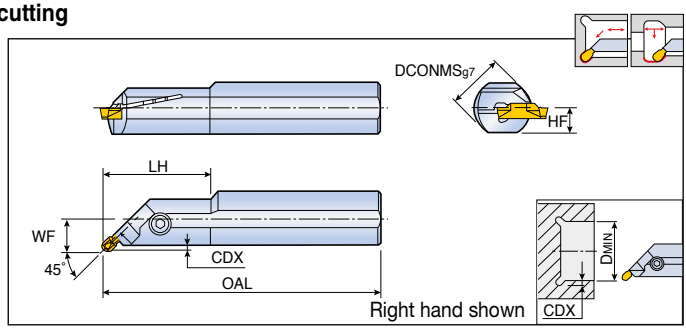
Designation	Insert seat size	Dimension (mm)								Insert
		H	HF	B	OAL	LH	WF	CDX	DMIN	
TGEUR/L 1616-3	3	16	16	16	110	30	19.3	2.8	32	TDT(Full R)
2020-3	3	20	20	20	125	30	23.3	2.8	32	TDIT(Full R)
2525-3	3	25	25	25	150	30	28.3	2.8	32	TDT-RU/RS
1616-4	4	16	16	16	110	31	19.5	2.8	32	
2020-4	4	20	20	20	125	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



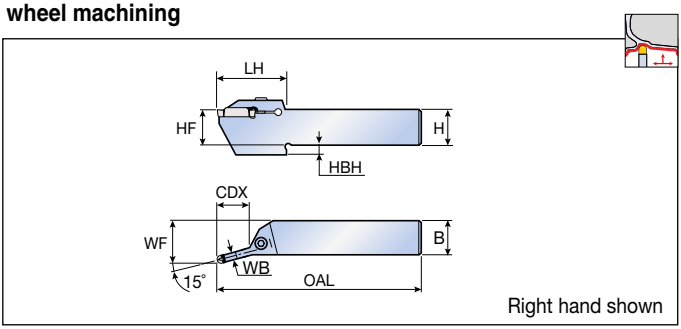
Designation		Insert seat size	Dimension (mm)							Insert
			DCONMS	OAL	LH	WF	HF	CDX	DMIN	
TGIUR/L	**20-3**	3	20	160	-	12.8	9.5	2.8	38	TDT(Full R) TDIT(Full R) TDT-RU/RS B139-B140
	25-3	3	25	200	40	14.8	11.5	2.8	38	
	20-4	4	20	160	-	12.9	9.5	2.8	38	
	25-4	4	25	200	40	14.9	11.5	2.8	38	
	25-6	5, 6	25	200	-	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

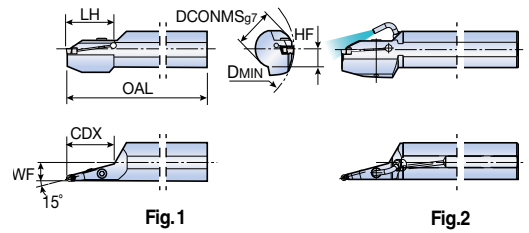


Fig.1 Fig.2

Right hand shown

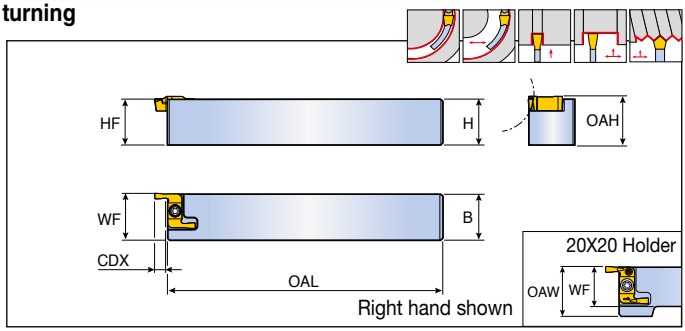
Designation		Insert seat size	Dimension (mm) DCONMS	OAL	LH	WF	HF	CDX	DMIN	Fig.	Coolant hole	Insert
TGIUR/L	**40-6-15A**	6	40	320	60	19.8	19.0	50.00	160	1	x	TDA/TSA B145
	40-6C-15A	6	40	320	60	19.8	19.0	50.00	160	2	●	
	50-6C-15A	6	50	350	85	25.2	23.5	85.00	200	2	●	
	40-8-15A	8	40	320	65	20.2	19.0	81.35	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



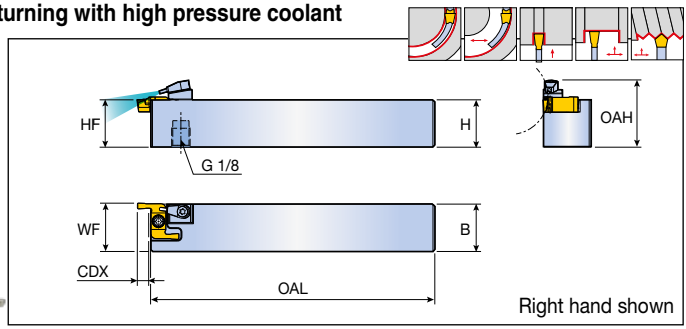
Designation		Dimension (mm)								Insert
		H	HF	B	OAL	OAH	WF	CDX	OAW	
TXFR/L	**2020**	20	20	20	125	21.5	20.5	6	25.5	TDF(G)X ...
	2525	25	25	25	150	26.5	25.5	6	25.5	B146

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

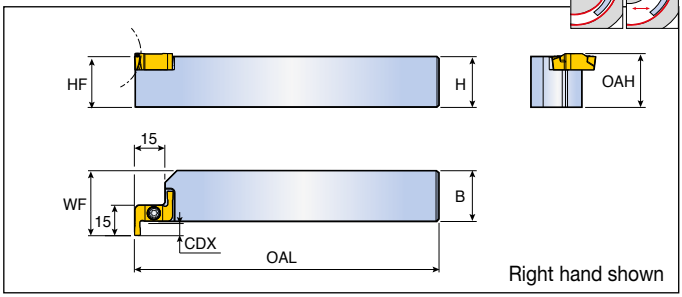
▸ Please refer to B122 page for COOL-BURST accessories

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

Perpendicular holders for shallow face grooving



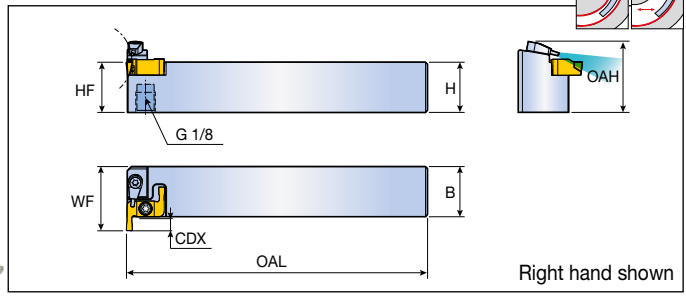
Designation	Dimension (mm)							Insert
	H	HF	B	OAL	OAH	WF	CDX	
TXFPR/L 2020	20	20	20	125	21.5	27	6	TDFX ...
2525	25	25	25	150	26.5	32	6	B146

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

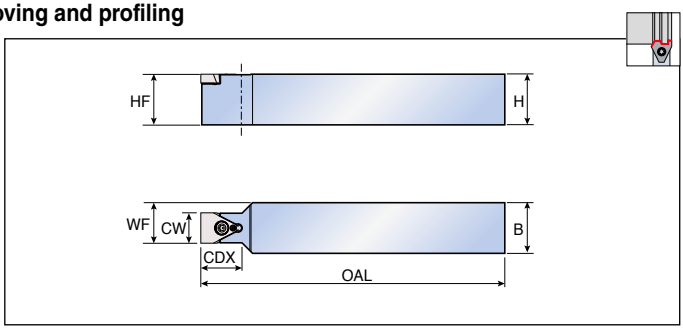
▸ Please refer to B122 page for COOL-BURST accessories

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

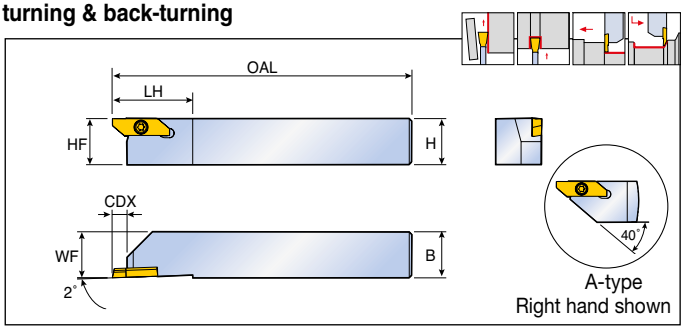
Spare parts

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	

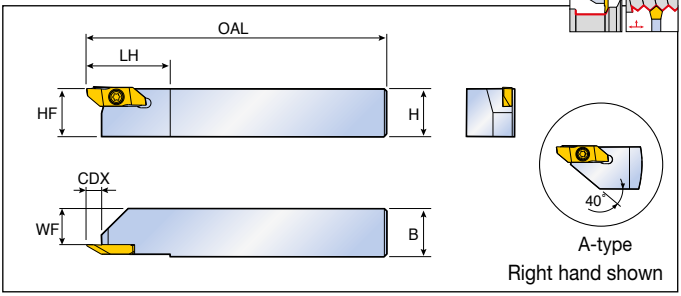
▸ Please keep in your mind selecting right insert

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	

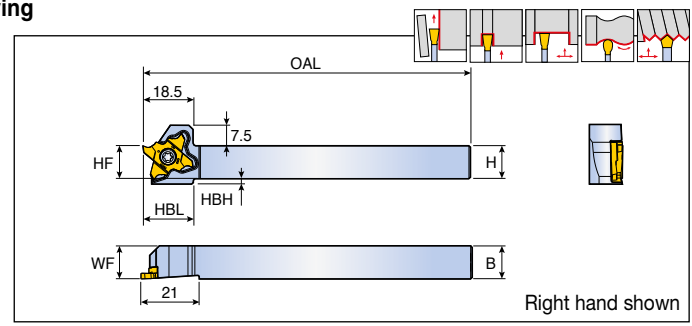
▸ Please keep in your mind selecting right insert

Spare parts

Designation	Screw	Wrench		
				
TTVBR/L	CSTB-4SD	T 8		

TQHR/L-20

Holders for parting and grooving

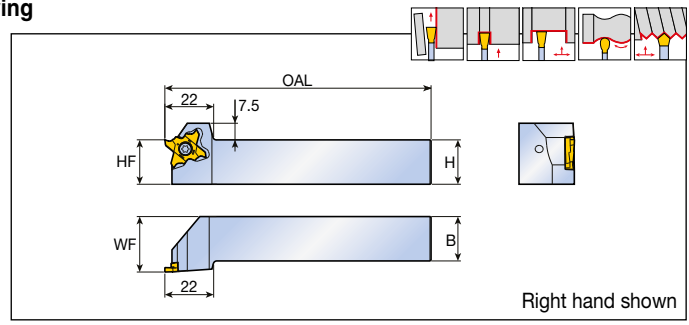


Designation		Dimension (mm)							Insert
		H	HF	B	WF	OAL	HBL	HBH	
TQHR/L	**10-20**	10	10	10	10	120	18.5	4	TQ... 20
	12-20	12	12	12	12	120	18.5	2	B149-B150
	16-20	16	16	16	16	120	-	-	
	20-20	20	20	20	20	120	-	-	
	25-20	25	25	25	25.3	135	-	-	

▸ 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

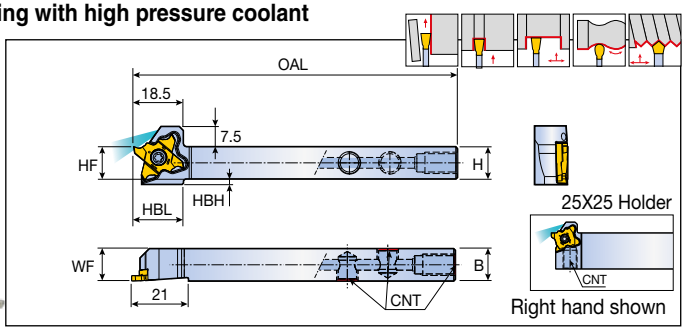
▸ CDX: Refer to insert dimension

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

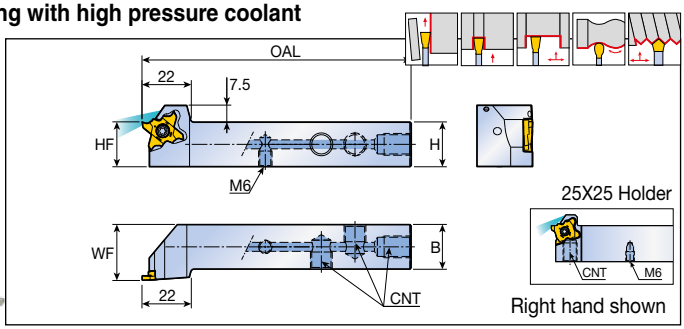


Designation		Dimension (mm)							CNT	Insert
		H	HF	B	WF	OAL	HBL	HBH		
TQHR/L	**12-20-TB**	12	12	12	12	120	18.5	2	UNF 5/16	TQ... 20
	16-20-TB	16	16	16	16	120	-	-	UNF 5/16	B149-B150
	20-20-TB	20	20	20	20	120	-	-	G 1/8	
	25-20-TB	25	25	25	25.3	135	-	-	G 1/8	

- 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

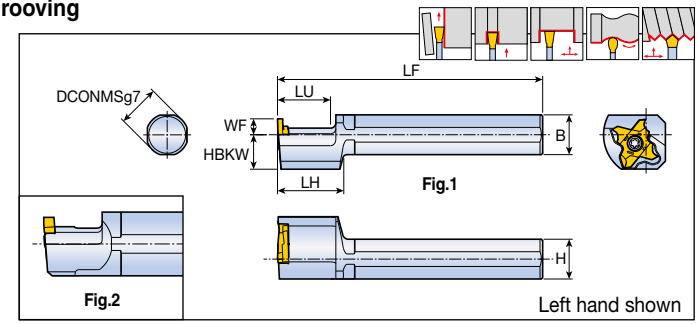
Spare parts

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	

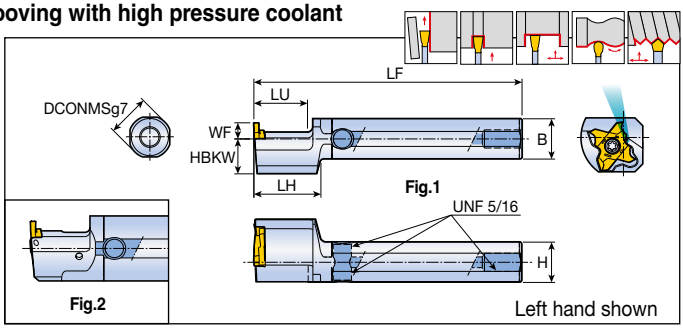
- TQ... 20-R insert for L-hand toolholder
- CDX: Refer to insert dimension

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

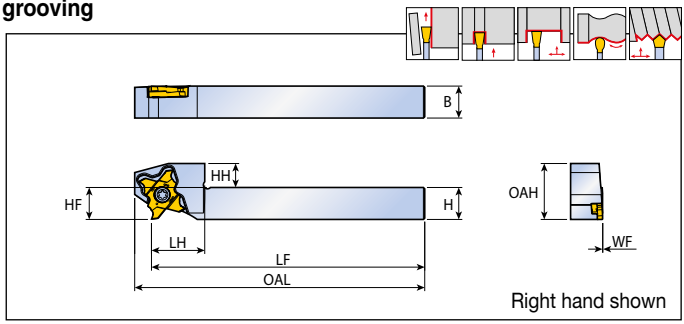
Spare parts

Designation	Screw	Wrench		Plug
TMS-TQHL-TB	TS 40A100L	T-1508/5	L-W 5/32	PLG 5/16 UNF

TMY-TQHR

QUADRUSH

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

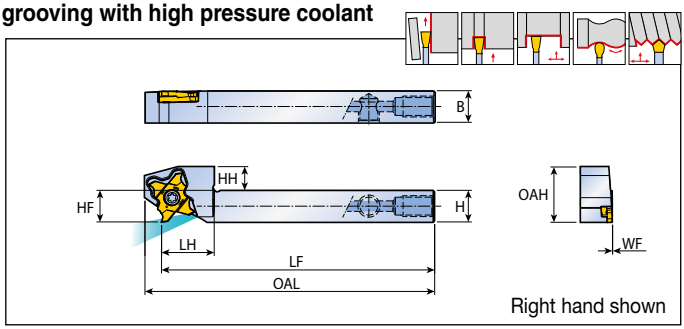
▸ CDX: Refer to insert dimension

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



Right hand shown

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

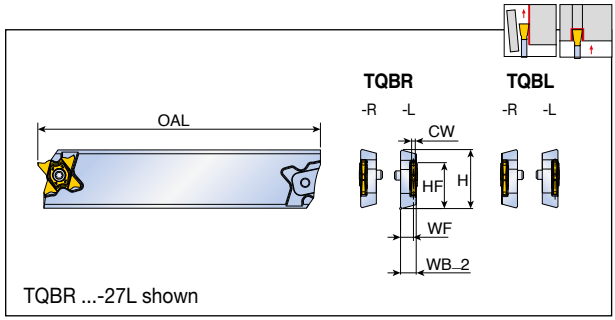
- Please refer to B122 page for COOL-BURST accessories
- CDX: Refer to insert dimension

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	

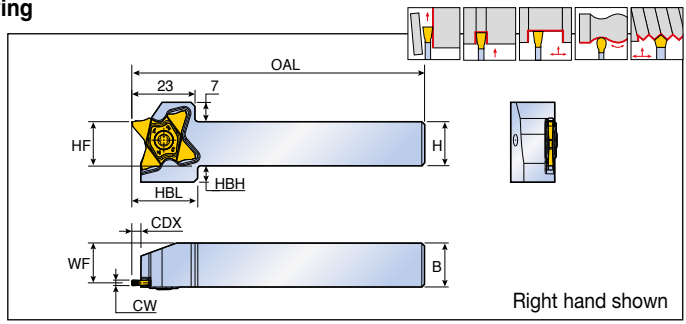
- *: To the center of inserts up to 3.2mm width
- CDX: Refer to insert dimension

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

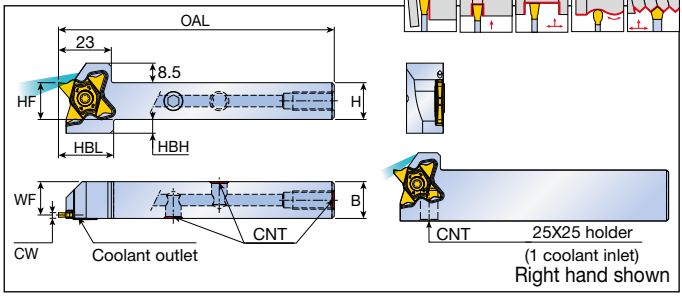
Spare parts

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

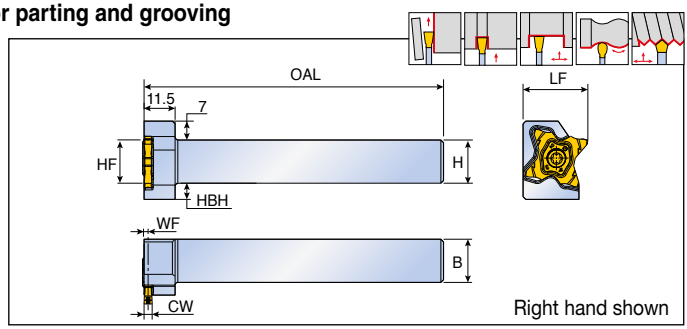
Spare parts

Designation	Screw	Plug	Wrench	
				
TQHR/L 12-27-TB	TS 50125I (1) 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

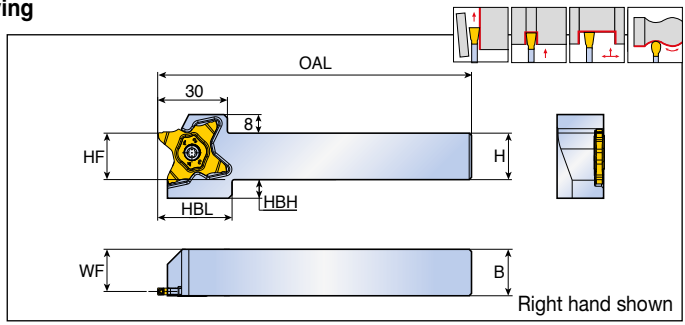
Spare parts

Designation	Screw	Wrench		
				
TQHPR/L 16/20/25	TS 50125I (1) TS 50125IL(2)	T 20 T 20		
TQHPR/L 16/20/25-8	TS 50170I-IC (1) TS 50170IL-IC (2)	T 15 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

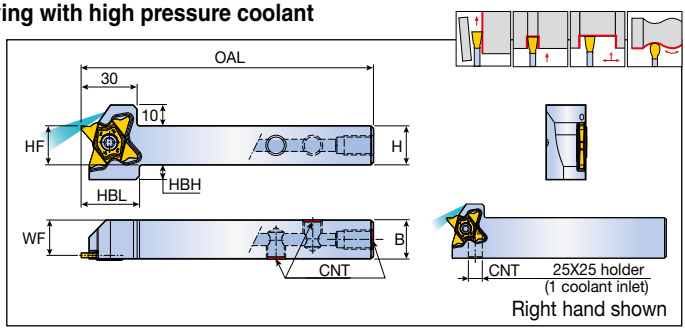
Spare parts

Designation	Screw	Wrench		
				
TQHR/L-34	TS 50125I [1] 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

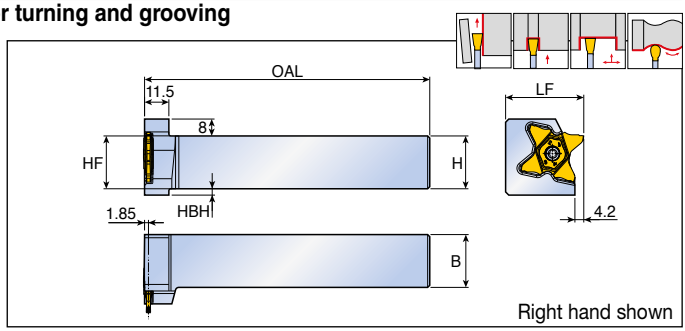
Spare parts

Designation	Screw	Plug	Wrench	
TQHR/L 16-34-TB	TS 50125I (1) 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] 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

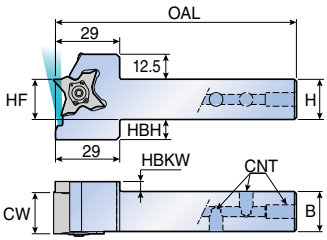


Fig.1

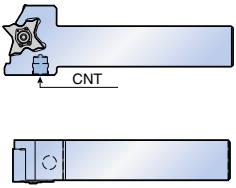


Fig.2
Right hand shown

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

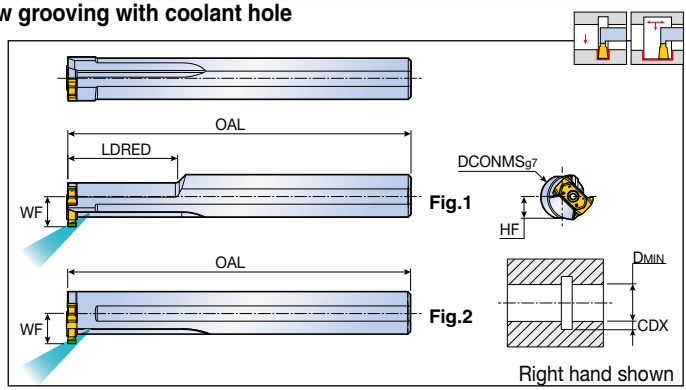
▸ Please refer to B122 page for COOL-BURST accessories

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	

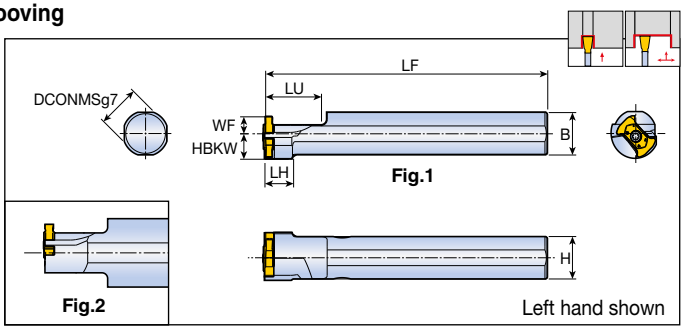
▸ CDX: Refer to insert dimension

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

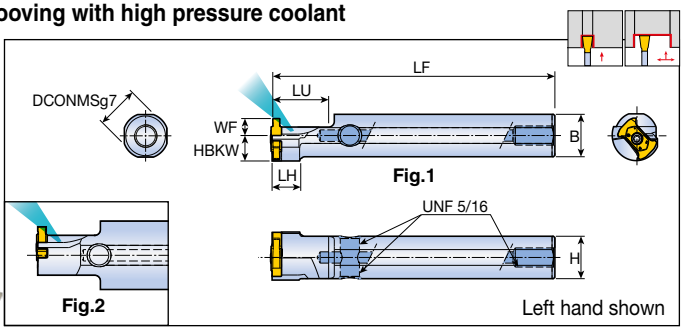


Designation		Dimension (mm)							Fig.	Insert
		DCONMS	H=B	LF	LU	LH	WF	HBKW		
TMS-TQHIL	**16-14**	16	15	100	20	10	6	9	1	TQIS 14 B162
	19.05-14	19.05	18	100	20	-	6	9	1	
	20-14	20	19	100	20	20	6	9	2	
	22-14	22	21	100	20	22	10	7	2	
	25-14	25	24	100	20	22	10	7	2	
	25.4-14	25.4	24.4	100	20	22	10	7	2	

▸ 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

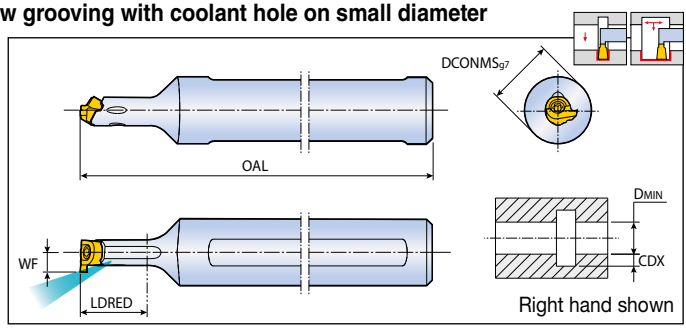
Spare parts

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

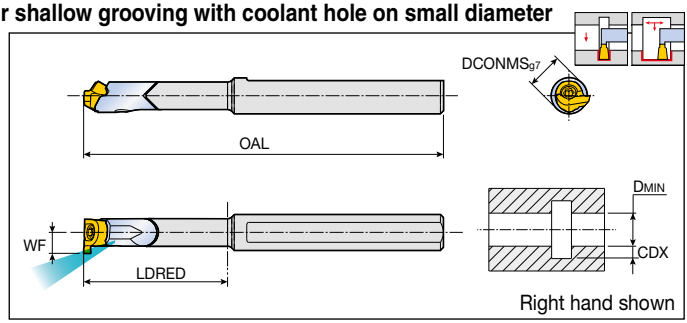
B163

▸ 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

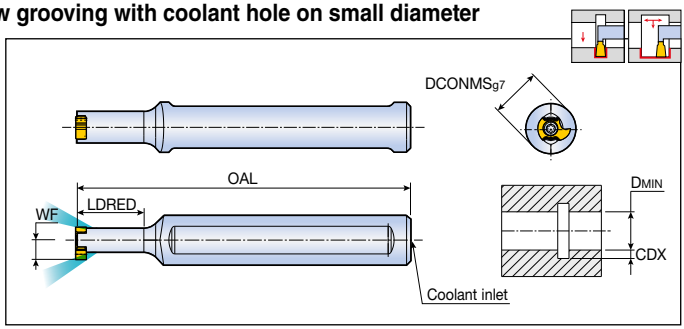
▸ CDX: Refer to insert dimension

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

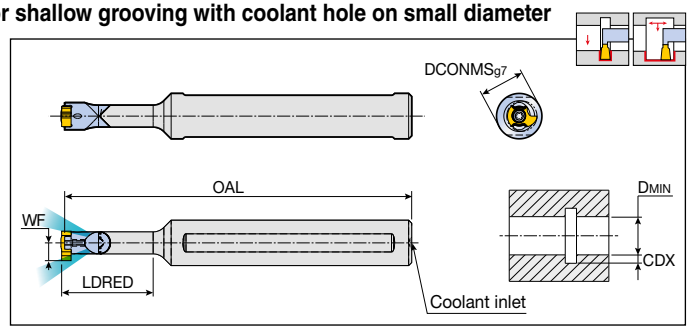


Designation	Dimension (mm)					Coolant inlet	Insert
	DCONMS	OAL	LDRED	WF	DMIN		
TMIHN 12-16-8	12	80	16	4.7	10	Ø3	TMIS 8 B163

▸ 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		

Accessories

Hose

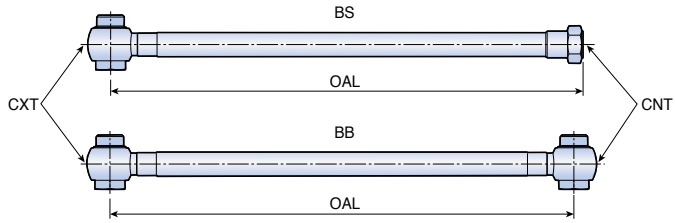


Fig.1

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

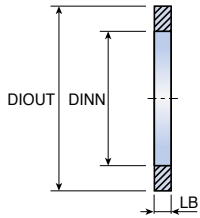
▸ Hose is ordered separately

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

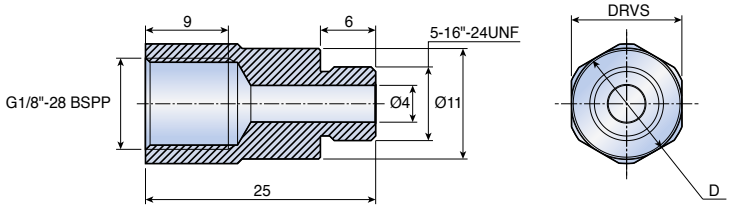
Seal washer



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

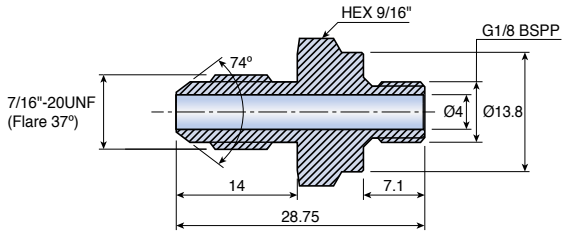
Connector



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

▸ Connector is ordered separately

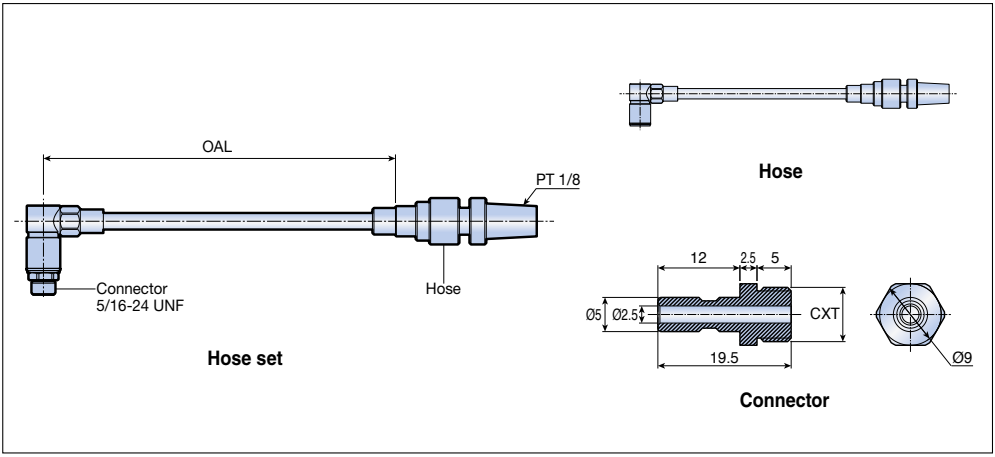
Adapter



Designation
TB NIPPLE G1/8-7/16 UNF

▸ Adapter is ordered separately

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

CW

2 = 2.0 mm
3 = 3.0 mm
4 = 4.0 mm
5 = 5.0 mm
6 = 6.0 mm

5 Lead angle

PSIRR

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

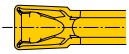
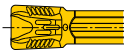
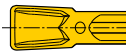
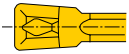
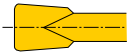
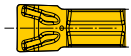
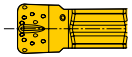
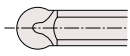
2 Cutting edge type

S	D
	
Single-ended insert	Double-ended insert

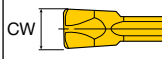
3 Application type

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)

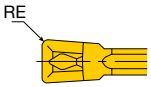


□.□□	Precision insert
□	Pressed insert

6 Application type

E	For turning and grooving
No designation	For precision grooving

7 Corner radius (mm)



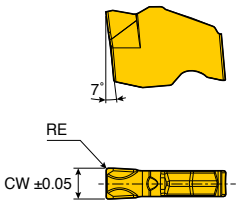
□.□□	Precision insert
□.□	Pressed insert

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			

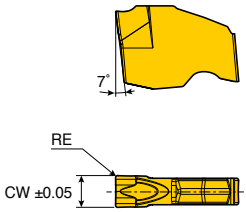
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**SFC 1.6**	1	0.05-0.15					●		●	
	2	2	0.08-0.20					●		●	●
	3	3	0.10-0.25					●		●	●

Cutting Condition
B34-B41 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			

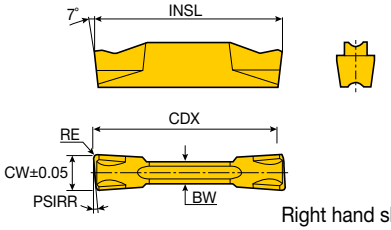
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**SFJ 2**	2	0.05-0.15					●		●	●
	3	3	0.08-0.20					●		●	●

Cutting Condition
B34-B41 B187

●: Standard items

TDC

Double-ended inserts for parting and grooving with C-Type chip breaker



Right hand shown

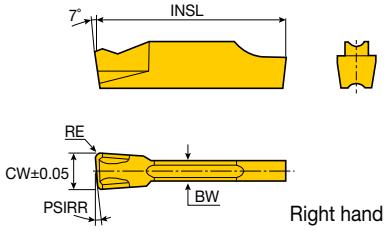
Size	Dimension (mm)					
	CW	RE	BW	INSL	PSIRR/L	CDX
2 (..R/L)	2.0	0.20	1.7	20.0	0°-15°	19
2 RS/LS	2.0	0.02	1.7	19.6	15°	19
3 (..R/L)	3.0	0.20	2.4	20.0	0°-15°	19
3 RS/LS	3.0	0.02	2.4	19.6	6°-15°	19
3.18	3.18	0.20	2.4	20.0	-	19
4 (..R/L)	4.0	0.30	3.0	20.0	0°-15°	19
5 (..R/L)	5.0	0.30	4.0	25.0	0°-4°	24
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	-

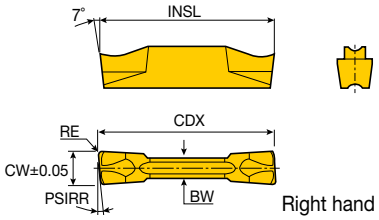
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated						Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TSC 2**	2	0.05-0.18					●	●	●	●
	2-6R/L	2	0.04-0.14					●	●	●	●
	2-8R	2	0.04-0.14							●	
	2-15R/L	2	0.04-0.12						●	●	
	2-15RS/LS	2	0.02-0.12						●	●	
	3	3	0.07-0.25					●	●	●	●
	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

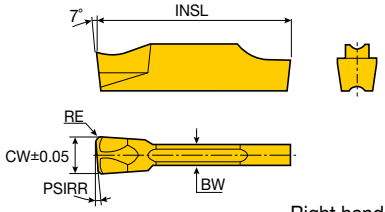
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDJ 1.4**	1	0.02-0.10					●		●	
	2	2	0.04-0.12					●	●	●	●
	2-6R/L	2	0.03-0.08					●	●	●	●
	2-6RS/LS	2	0.03-0.07					●	●	●	
	2-8R/L	2	0.03-0.08					●	●	●	
	2-15R/L	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					●	●	●	●

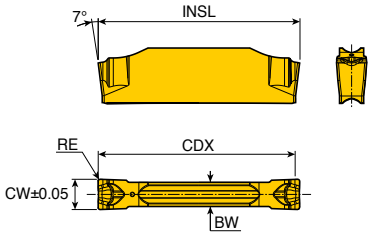
●: Standard items

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

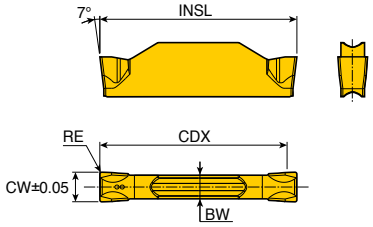
Insert	Designation	Insert seat size	Feed (mm/rev)	Cermet	Coated					Uncoated
				CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDUF 2**	2	0.03-0.11					●			
	3	3	0.04-0.13					●			

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					●		●	

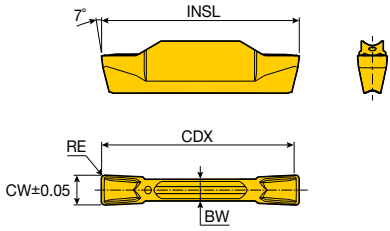
Cutting Condition B187

●: 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			●		●			●

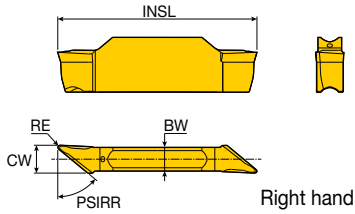
Cutting Condition B187

●: 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

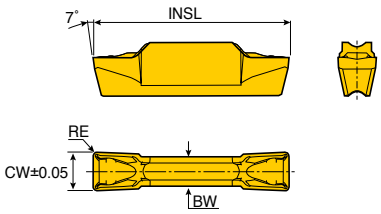
- Recommended to use with TGFR/L type holder
- Lower supporter must be modified when using external grooving holder, for example TTER/L type
- (1) BWT: Backward turning
- (2) FWT: Forward turning

●: 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

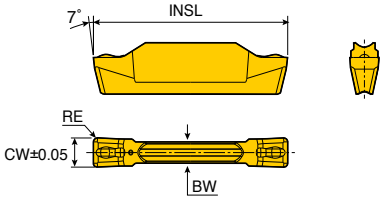
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated							Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT3010	TT5100	TT9080	TT7220	TT8020	K10
	**TDXU 2E-0.3**	2	0.4-1.2	0.12-0.18	0.03-0.20		●	●	●	●	●		●	●
	3E-0.3	3	0.4-1.8	0.15-0.19	0.07-0.22	●	●	●	●	●	●	●	●	●
	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		●	●	●	●			●

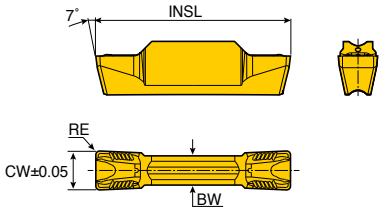
Cutting Condition B187

▸ 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	

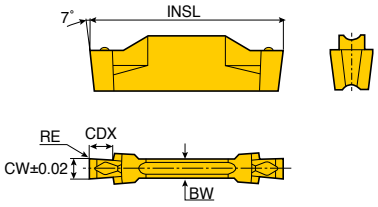
Insert	Designation		Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
				ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT3010	TT5100	TT9080	TT7220	TT8020	K10
	**TDXY**	**3E-0.4**	3	0.5-1.8	0.17-0.20	0.06-0.18	●		●	●		●			
		4E-0.4	4	0.5-2.4	0.20-0.27	0.07-0.20	●		●	●		●			
		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

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					●	●		●

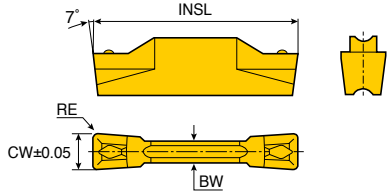
B80 Cutting Condition B187

▸ *: 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		●								

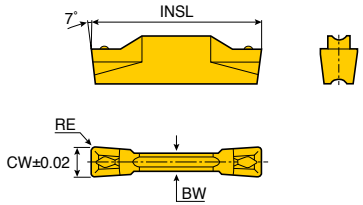
Cutting Condition B187

▸ (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			●		●			

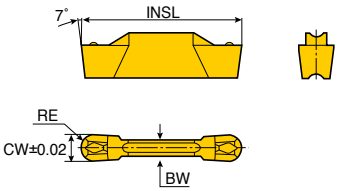
●: Standard items

Cutting Condition B187

ADVANCE CUTTING TaeguTec

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

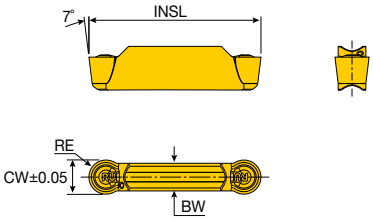
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDT 3.00E-1.50**	3	0.0-1.5	0.15-0.28	0.08-0.18				●	●	●		●
	4.00E-2.00	4	0.0-2.0	0.18-0.35	0.10-0.20				●	●	●	●	●
	4.78E-2.39	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

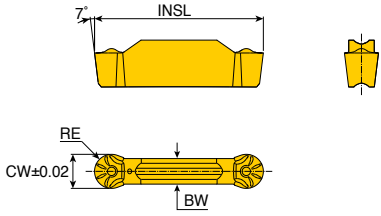
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT3010	TT9080	TT7220	TT8020	K10
	**TDT 2E-1.0-RU**	2	0.0-1.0	0.10-0.25	0.05-0.15		●	●	●	●	●	●		●
	3E-1.5-RU	3	0.0-1.5	0.15-0.28	0.08-0.18	●	●	●	●	●	●	●		●
	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

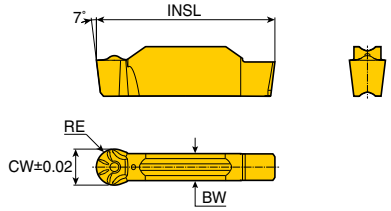
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT3010	TT9080	TT7220	TT8020	K10
	**TDT 2.00E-1.00-RS**	2	0.0-1.0	0.10-0.22	0.08-0.15					●	●			●
	3.00E-1.50-RS	3	0.0-1.5	0.15-0.28	0.09-0.18					●	●			●
	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					●	●			●

Cutting Condition B187

●: Standard items

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

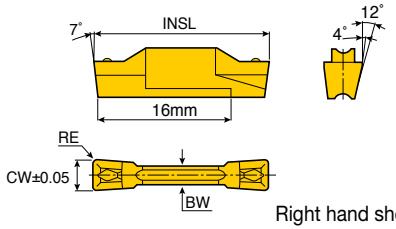
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated						Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT3010	TT9080	TT7220	TT8020	K10
	**TST 3.00E-1.50-RS**	3	0.0-1.5	0.15-0.28	0.09-0.18					●	●			
	4.00E-2.00-RS	4	0.0-2.0	0.18-0.35	0.10-0.20					●	●			
	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					●	●			

Cutting Condition B187

●: Standard items

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				●		●		●

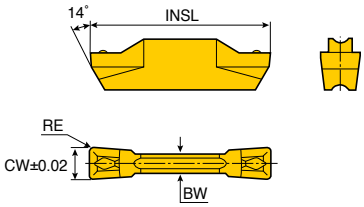
Cutting Condition B187

▸ 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

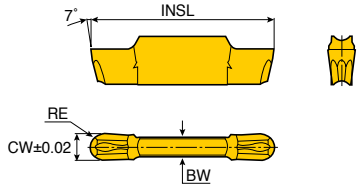
Insert	Designation		Insert seat size	Turning		Grooving	Cermet	Coated					Uncoated
				ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDIT**	**3.00E-0.40**	3	0.5-1.8	0.15-0.22	0.07-0.15				●		●		●
		4.00E-0.40	4	0.5-2.4	0.18-0.30	0.09-0.18				●		●		●
		4.00E-0.80	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

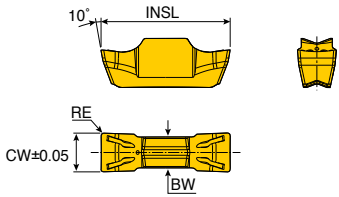
Insert	Designation	Insert seat size	Turning		Grooving	Cermet	Coated					Uncoated
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	CT3000	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
	**TDIT 3.00E-1.50**	3	0.0-1.5	0.15-0.28	0.08-0.18				●		●		●
	4.00E-2.00	4	0.0-2.0	0.18-0.35	0.10-0.20				●		●		●
	5.00E-2.50	5	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					●			

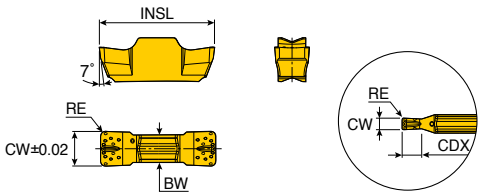
B79 B91-B92 Cutting Condition B187

▸ 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					●			

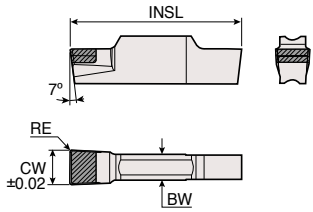
B79 B91-B92
Cutting Condition B187

▸ *: 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	

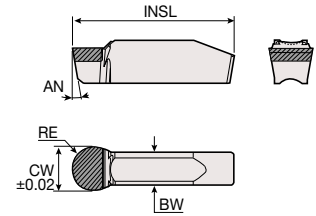
Insert	Designation	Insert seat size	Turning		Grooving	CBN						PCD		
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TB610	TB650	TB670	TB2015	TB7015	TB7020	TD1010	TD1020	TD1030
	**TSG 3.00H-0.20**	3	0.0-0.3	0.02-0.07	0.02-0.05				●					
	4.00H-0.20	4	0.0-0.4	0.03-0.09	0.02-0.07				●					
	5.00H-0.40	5	0.0-0.5	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

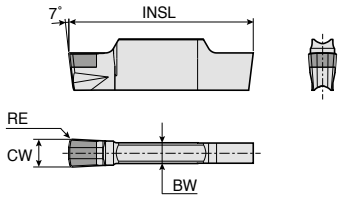
Insert	Designation	Insert seat size	Turning		Grooving	CBN						PCD		
			ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TB610	TB650	TB670	TB2015	TB7015	TB7020	TD1010	TD1020	TD1030
	**TSG 3.00H-1.50**	3	0.0-0.3	0.03-0.10	0.02-0.06				●					
	4.00H-2.00	4	0.0-0.4	0.04-0.14	0.02-0.09				●					
	5.00H-2.50	5	0.0-0.5	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				●					

Cutting Condition B187

●: Standard items

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		

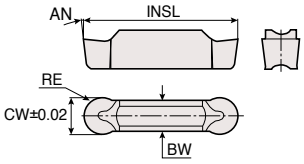
Insert	Designation		Insert seat size	Turning		CBN						PCD		
				ap (mm)	Feed (mm/rev)	TB610	TB650	TB670	TB2015	TB7015	TB7020	TD1010	TD1020	TD1030
	**TSG**	**3.0-0.3-HF**	3	0.08-0.12	0.40-0.80				●					
		5.0-0.3-HF	5	0.08-0.12	0.40-1.20				●					

Cutting Condition B187

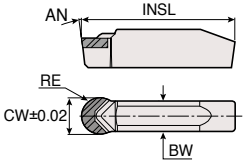
●: Standard items

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

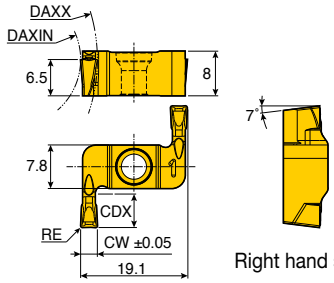
Insert	Designation		Insert seat size	Turning		Grooving	PCD	Coated						Uncoated
				ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TD1020	TT7505	TT6080	TT5100	TT9080	TT7220	TT8020	K10
K10  TDA	**TDA**	**3.00-1.50**	3	0.0-1.5	0.15-0.30	0.08-0.16								●
		4.00-2.00	4	0.0-2.0	0.20-0.43	0.10-0.22								●
		5.00-2.50	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					●			

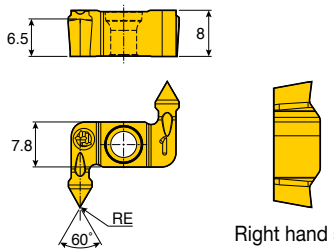
B97-B100 Cutting Condition B187

▸ 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**					●			

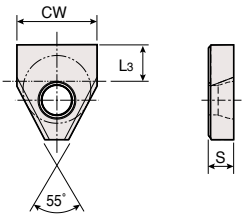
B97-B98

▸ 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

B101

Designation System

T	Q	J	-	27	-	3	-	0.2	-	6	-	R
1	2	3		4		5		6		7		8

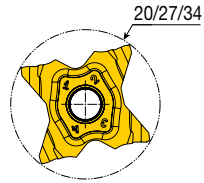
1 TaeguTec

2 QUAD-RUSH

3 Chip breaker type

 C	 J	 S
For medium	For light	For light & tailor made

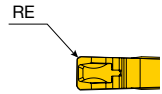
4 Circular circumference of the insert



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

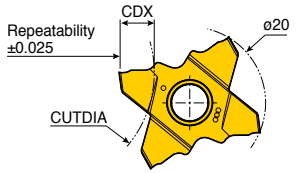
Right hand shown

8 Hand of insert

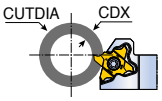
 L	 R
Left-hand	Right-hand

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	●

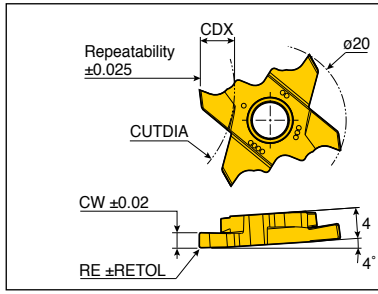
B104-B109 Cutting Condition B187

▸ N.L.: No limit

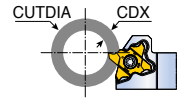
●: Standard items

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	●

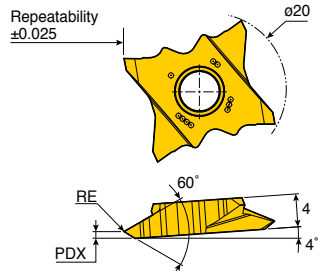
B104-B109 Cutting Condition B187

- 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

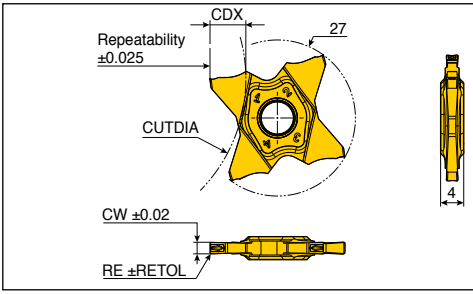
- TPN: Thread pitch minimum (mm)
- TPX: Thread pitch maximum (mm)
- TPIN: Thread per inch minimum
- TPIX: Thread per inch maximum

●: 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	-	●

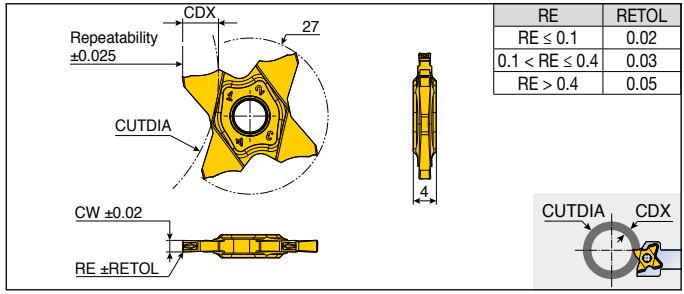
B110-B113 Cutting Condition B187

▸ 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	●

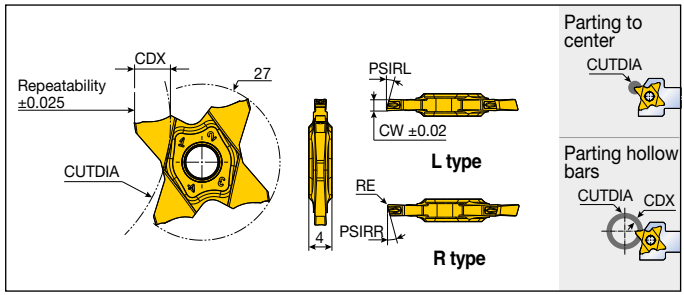
B110-B113 Cutting Condition B187

▸ N.L.: No limit

●: Standard items

TQJ 27

Parting inserts



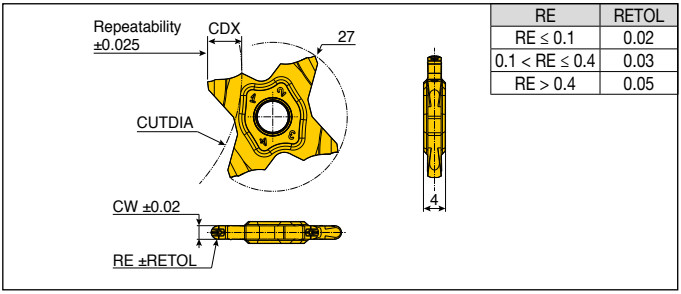
Designation		Feed (mm/rev)	CW	RE	PSIRR/L	Parting to center	Parting hollow bars		Grade
						CUTDIA	CDX	CUTDIA	TT9080
TQJ	27-1.00-15R/L	0.02-0.06	1.00	0.06	15°	7.0	3.5	600	●
	27-1.50-6R/L	0.02-0.06	1.50	0.06	6°	12.0	5.7	35	●
	27-1.50-15R/L	0.02-0.06	1.50	0.06	15°	12.0	5.7	35	●
	27-2.00-6R/L	0.03-0.08	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	●

B110-B113 Cutting Condition B187

●: Standard items

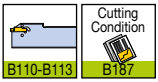
TQJ 27

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	●

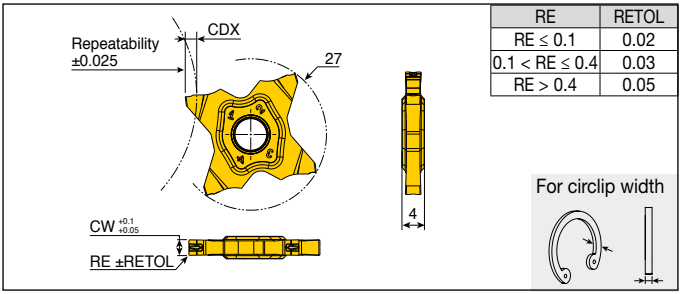


▸ N.L.: No limit

●: Standard items

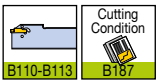
TQJ 27

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	●

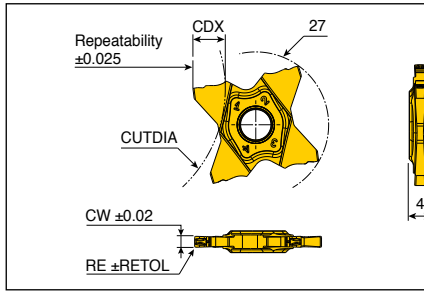


▸ When selecting insert, please keep in your mind insert tolerance

●: 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	●

Cutting Condition

B110-B113 B187

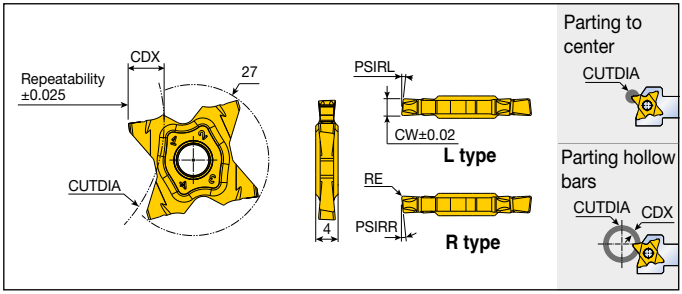
▸ N.L.: No limit

●: Standard items

ADVANCE CUTTING TaeguTec

TQC 27

Parting inserts



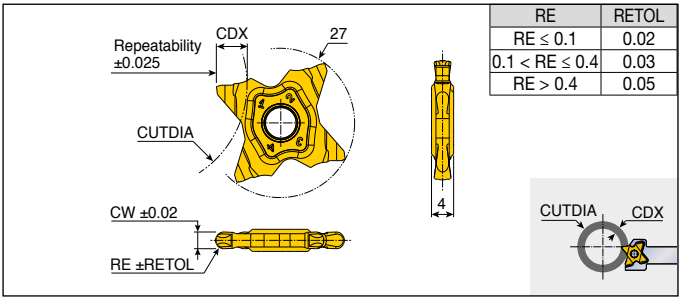
Designation	Feed (mm/rev)	CW	RE	PSIRR/L	Parting to center	Parting hollow bars		Grade
					CUTDIA	CDX	CUTDIA	TT9080
TQC 27-1.50-6R/L	0.03-0.07	1.50	0.06	6°	12.0	5.7	35	●
27-1.50-15R/L	0.03-0.07	1.50	0.06	15°	12.0	5.7	35	●
27-2.00-6R/L	0.04-0.14	2.00	0.10	6°	13.0	6.4	30	●
27-2.00-15R/L	0.04-0.14	2.00	0.10	15°	13.0	6.4	30	●

Cutting Condition B110-B113 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	●

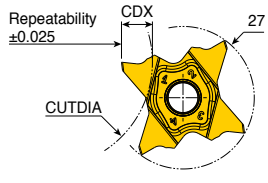
Cutting Condition B110-B113 B187

▸ 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

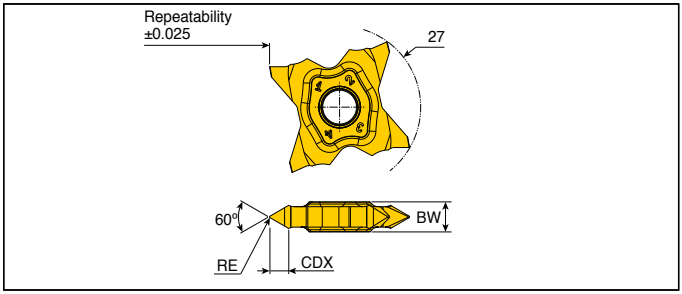
Designation	Feed (mm/rev)	CW(1)	RE	CDX	CUTDIA										Grade
					CDX ≤ 3.0	≤ 3.5	≤ 4.0	≤ 4.5	≤ 5.0	≤ 5.5	≤ 5.7	≤ 6.0	≤ 6.2	≤ 6.4	TT9080
TQS 27-1.00-0.10	0.03-0.07	1.00	0.10	3.5	N.L.	600	-	-	-	-	-	-	-	-	●
27-1.50-0.20	0.03-0.10	1.50	0.20	5.7	N.L.	600	280	180	130	50	35	-	-	-	●
27-2.00-0.20	0.04-0.10	2.00	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	●

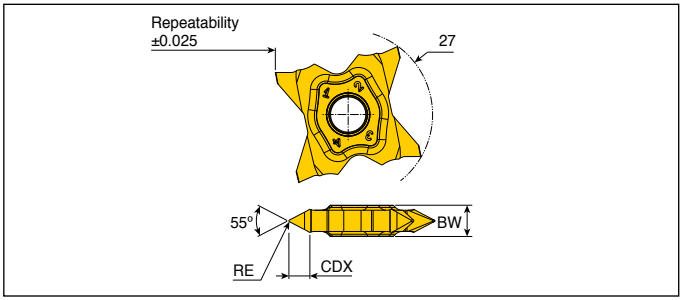
B110-B113 Cutting Condition B187

- TPN: Thread pitch minimum (mm)
- TPX: Thread pitch maximum (mm)
- TPIX: Thread per inch maximum
- TPIN: Thread per inch minimum

●: Standard items

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	●

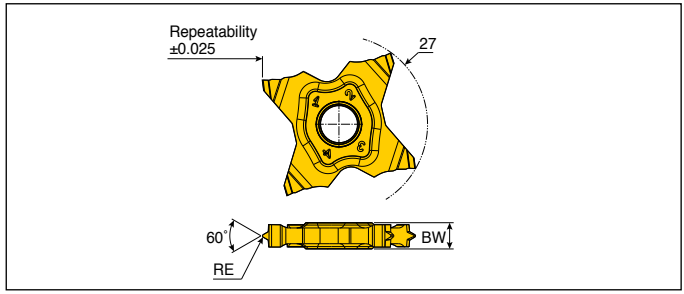
B110-B113 Cutting Condition B187

- TPIX: Thread per inch maximum
- TPIN: Thread per inch minimum

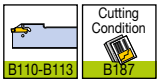
●: Standard items

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	●

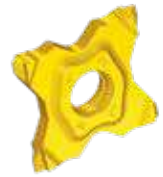


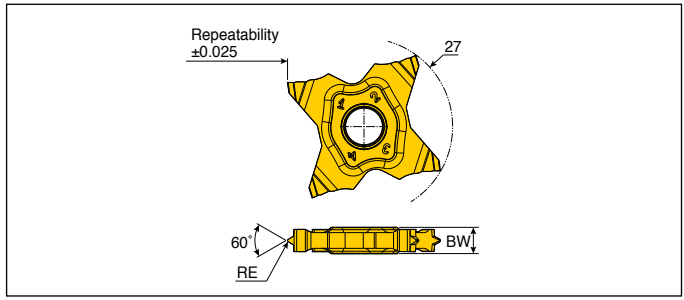
▸ TP: Thread pitch (mm)

●: Standard items

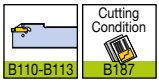
TQS 27-UN

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	●

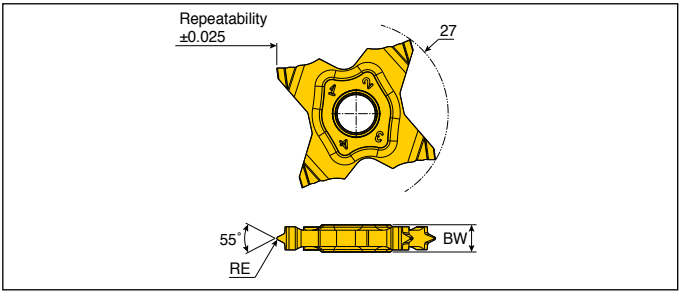


▸ TPI: Thread per inch

●: 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	●

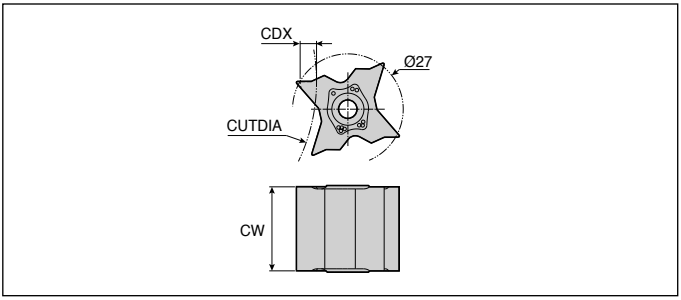
B110-B113 Cutting Condition B187

▸ 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	●

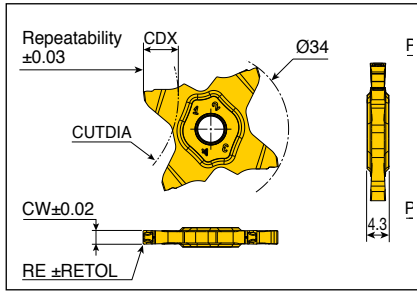
B117 Cutting Condition B187

▸ N.L.: No limit

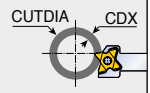
●: Standard items

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	●

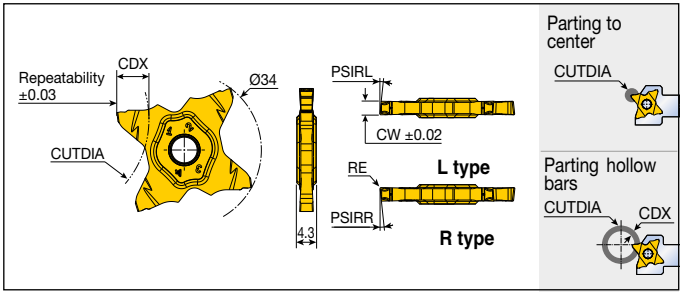
B114-B116 Cutting Condition B187

▸ N.L.: No limit

●: Standard items

TQC 34

Parting inserts



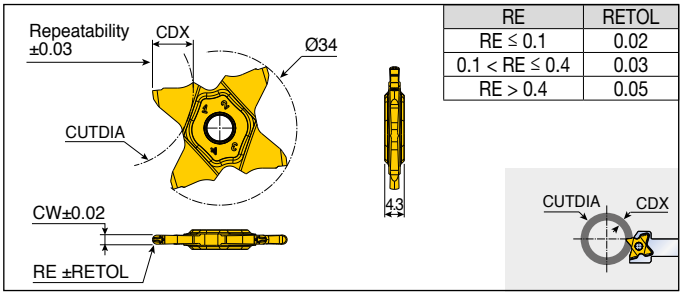
Designation		Feed (mm/rev)	CW	RE	PSIRR/L	Parting to center	Parting hollow bars		Grade
						CUTDIA	CDX	CUTDIA	TT9080
TQC	34-1.50-8R/L	0.03-0.10	1.50	0.07	8°	18.5	9	40	●
	34-2.00-6R/L	0.03-0.15	2.00	0.10	6°	18.5	9	40	●
	34-2.00-15R/L	0.03-0.15	2.00	0.10	15°	18.5	9	40	●
	34-3.00-6R/L	0.03-0.18	3.00	0.20	6°	20.0	10	20	●

B114-B116 Cutting Condition 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	●

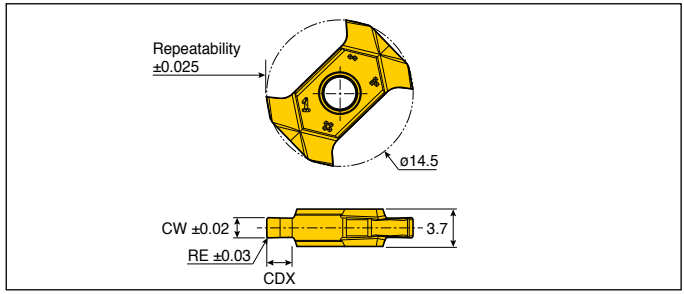
B114-B116 Cutting Condition B187

▸ 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	●

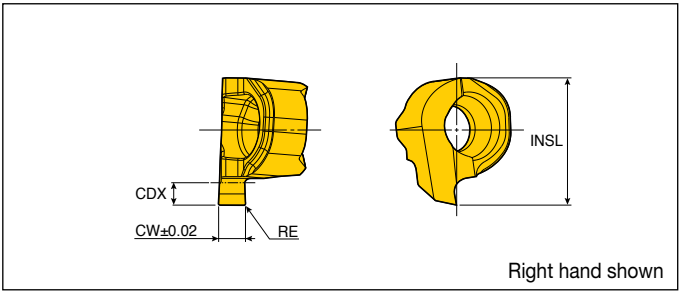
●: Standard items

Cutting Condition
B118-B119 B187

TMIR/L

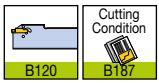
WINIGROOVE

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	●	●

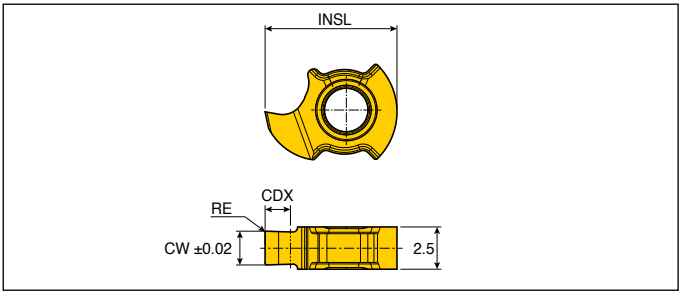


●: Standard items

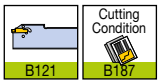
TMIS 8

MINIRUSH

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	●	●



●: Standard items

TaeguTec

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

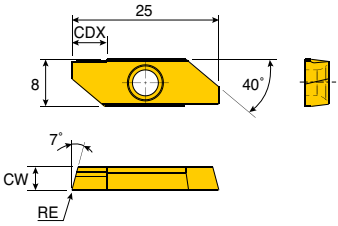
7 CDX (TVPR/L only)

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	●	

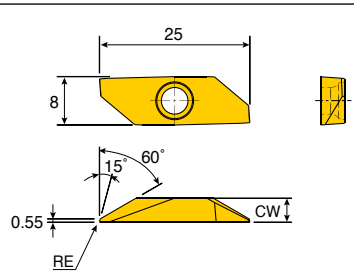
●: Standard items

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	●	

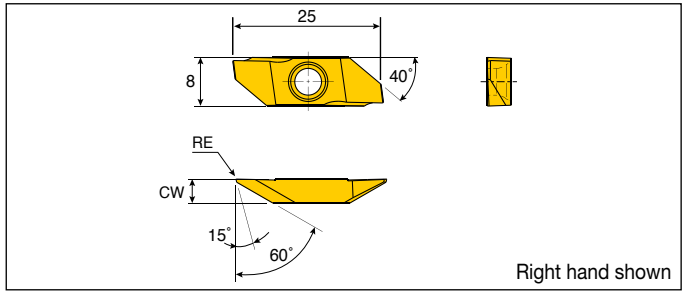
●: Standard items

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	●	●

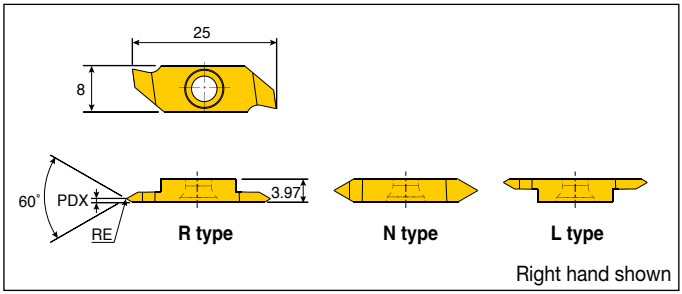
▸ (1) With honed egdes

●: 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		●

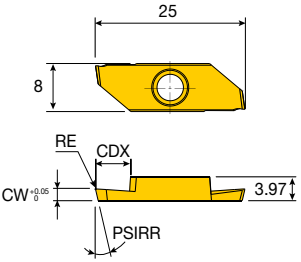
▸ TVTR 41203-R/L ➡ pitch range: 0.5 - 1.0mm
▸ TVTR 40003-N ➡ pitch range: 0.5 - 2.0mm
▸ TPN: Thread pitch minimum (mm), TPX: Thread pitch maximum (mm)

●: 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.

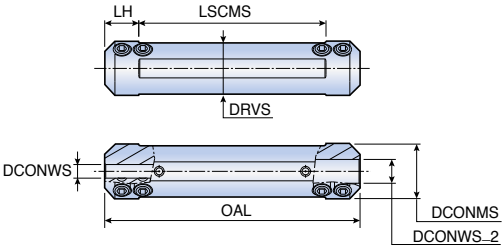
D010 1.0mm

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



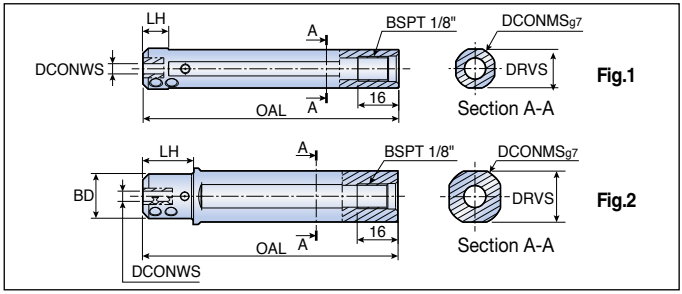
Designation	Dimension (mm)						
	DCONMS	DCONWS	DCONWS_2	OAL	LH	LSCMS	DRVS
MINSL 12-4-4	12	4	4	75	13	49	10.3
14-4-4	14	4	4	75	13	49	12
16-4-7	16	4	7	75	10	55	15
19-4-7	19.05	4	7	89	10	69	17.2
20-4-7	20	4	7	90	10	70	18
22-4-7	22	4	7	90	10	70	20
25-4-7	25	4	7	90	10	70	23.4

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

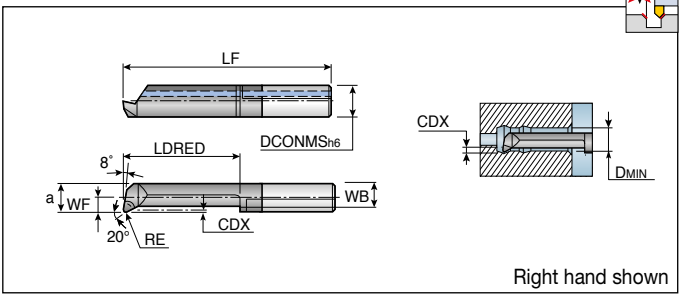
▸ All sleeves applicable for Citizen Swiss type machine

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



Right hand shown

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

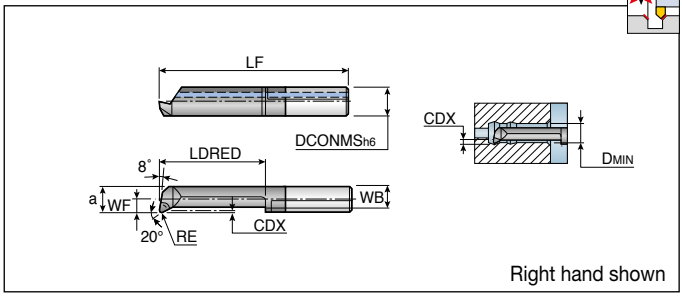
▸ *: Max D.O.C: 0.01 - 0.03, max feed 0.01mm/rev

●: Standard items

MINT R/L 07

TOPMICRO

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	●

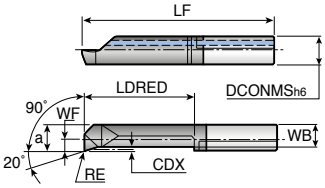
●: Standard items

B169-B170 | Cutting Condition B192

ADVANCE CUTTING TaeguTec

MINP R 04/07

Mini carbide bars for internal turning and profiling



Right hand shown

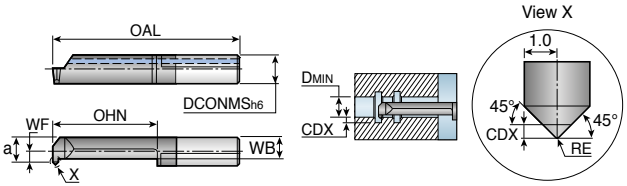
Designation	Dimension (mm)									R/L	Grade
	DCONMS	WF	a	WB	LF	LDRED	RE	CDX	DMIN		TT9030
MINPR04-090010D028	4.00	0.90	2.60	2.20	25.50	10.50	0.10	0.20	2.80	R	●
150010D028	4.00	0.90	2.60	2.20	31.50	16.50	0.10	0.20	2.80	R	●
090010D040	4.00	1.50	3.50	2.90	25.50	10.50	0.10	0.30	4.00	R	●
150010D040	4.00	1.50	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



Right hand shown

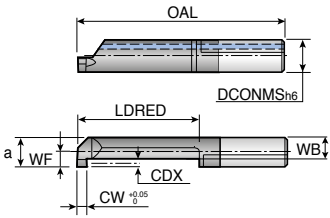
Designation	Dimension (mm)									R/L	Grade
	DCONMS	WF	a	WB	OAL	OHN	RE	CDX	DMIN		TT9030
MINCR07-140020D050	7.00	0.90	4.40	3.20	30.00	15.00	0.20	0.70	5.00	R	●
190020D050	7.00	0.90	4.40	3.20	35.00	20.00	0.20	0.70	5.00	R	●
190020D068	7.00	2.80	6.30	3.80	35.00	20.00	0.20	0.70	6.80	R	●

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	●

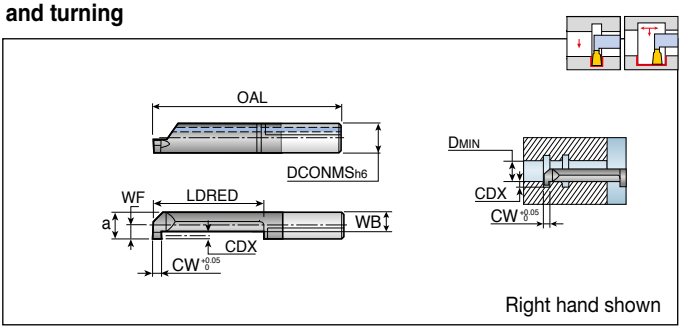
B169-B170 Cutting Condition B192

▸ 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

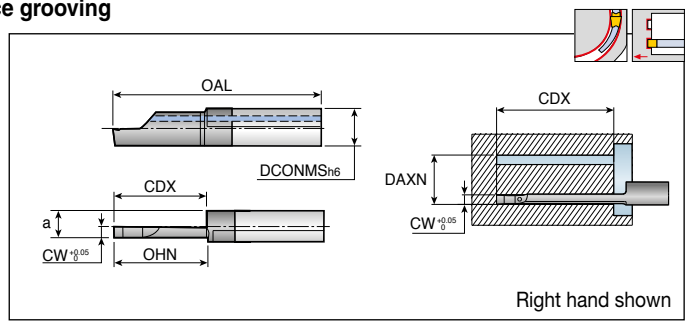
Cutting Condition B192

▸ 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

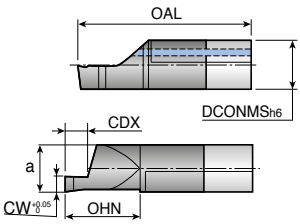
▸ The corner radius is less than 0.1mm

●: Standard items

ADVANCE CUTTING TaeguTec

MINF R/L 07

Mini carbide bars for deep face grooving



Right hand shown

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

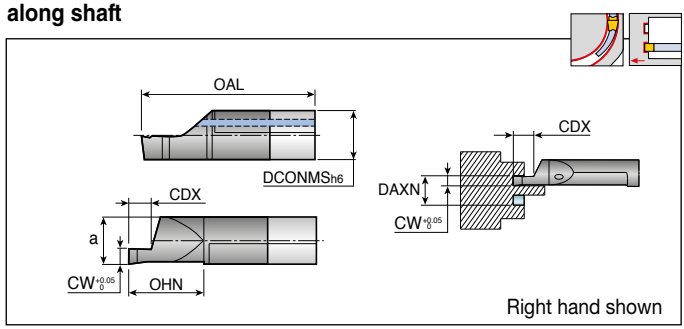
Cutting Condition B192

▸ 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	●

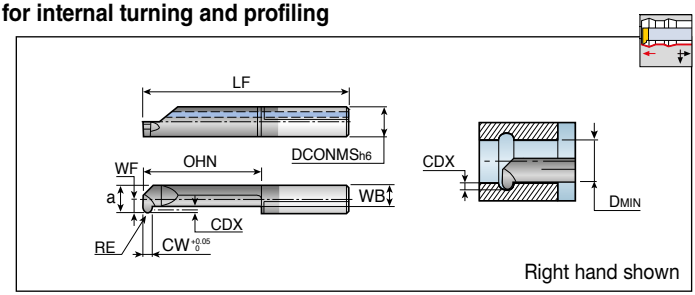
B169-B170 Cutting Condition B192

▸ 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	●

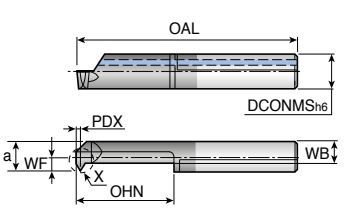
B169-B170 Cutting Condition B192

●: Standard items

ADVANCE CUTTING TaeguTec

MINI R 04/07

Mini carbide bars for ISO internal thread turning



Right hand shown

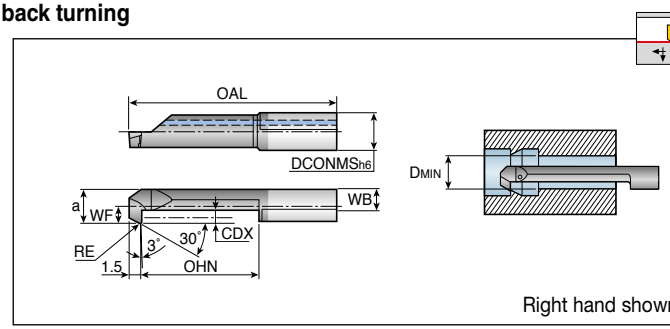
Designation	Dimension (mm)											Grade
	DCONMS	Pitch	HC	CF	PDX	WF	a	WB	OAL	OHN	DMIN	TT9030
MINIR04- 140050D040	4.00	0.50	0.30	0.06	0.35	1.50	3.50	2.40	30.00	15.00	4.00	●
MINIR07- 140050D050	7.00	0.50	0.30	0.06	0.35	0.90	4.40	3.30	30.00	15.00	5.00	●
140075D050	7.00	0.75	0.40	0.09	0.45	0.90	4.40	3.30	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



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

Cutting Condition
B169-B170 B192

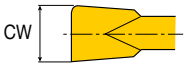
Tailor-made Designation System

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

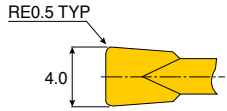
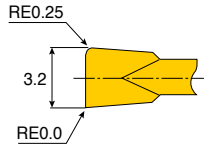
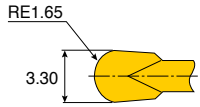
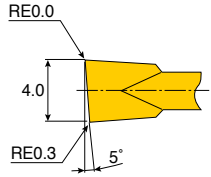
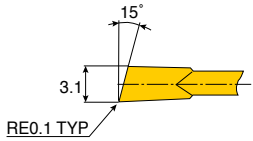
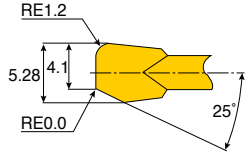
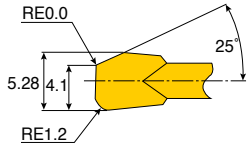
5 Additional codes

6 Grades

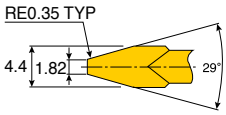
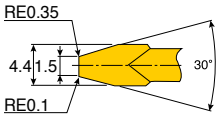
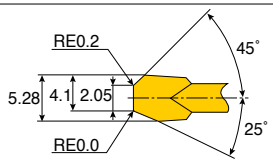
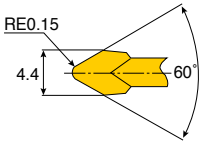
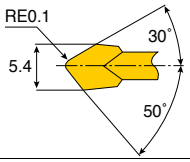
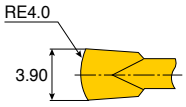
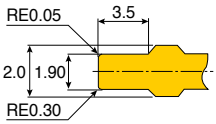
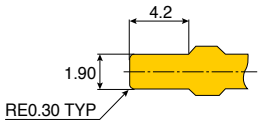
Special profile inserts

Tailor-made inserts are available upon request

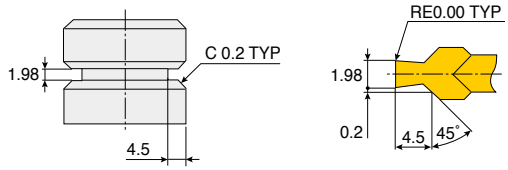
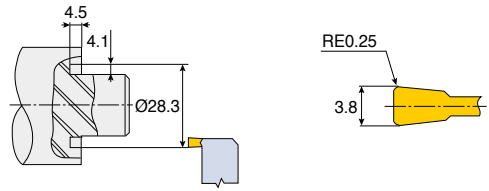
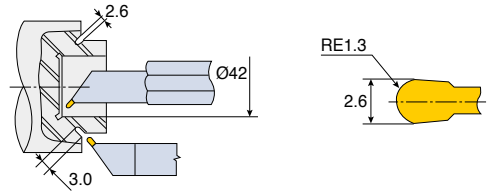
Examples

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 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

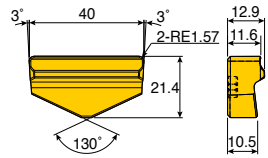
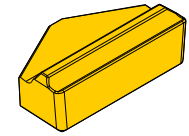
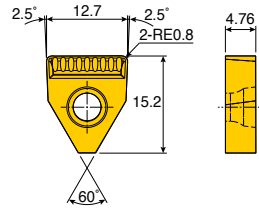
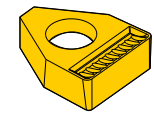
Shape	Designation	Remarks
	TDG 4.40-1.82-29A	L: Chamfer on left hand side R: Chamfer on right hand side
	TDT 4.40-1.50-30A	
	TDT 5.28-2.05-45R25L	
	TDG 4.40-0.15-60A	
	TDG 5.40-0.10-30R50L	
	TDT 3.90-4.00	
	TDT 1.90-T3.5C	
	TDT 1.90-0.30-4.20T	

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

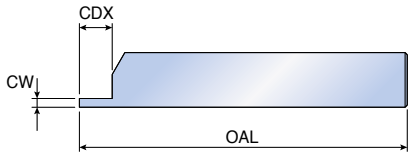
Tailor-made

Designation	Dimension (mm)	Remarks
XNMR 401416-HD		
XNGT 332-GV		

Tailor-made Order Form

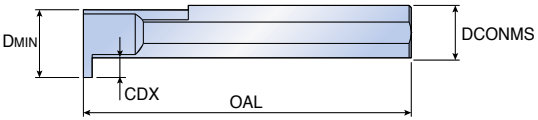
Specific dimensions

External holder



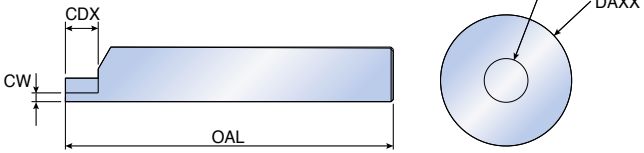
Right handed shown

Internal holder



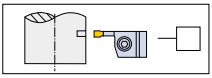
Right handed shown

Facing holder

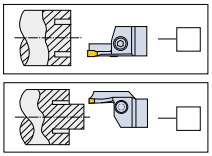


Right handed shown

External holder

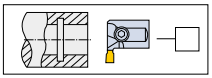


Facing holder



RN type

Internal holder



Holder handed

- Right handed
- Light handed

Insert

- Grade:
- Chip breaker type:

Quantity

- pcs

Comment

Workpieces

- Part:
- Material:
- Hardness:

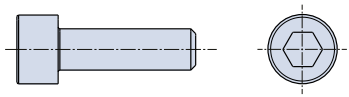
- Customer: _____
- Contact: _____
- Address : _____
- Telephone : _____
- Fax : _____
- E-mail : _____

Technical Data

▶ Screw torque

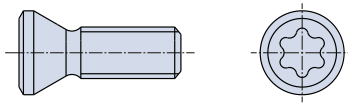
SH type

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



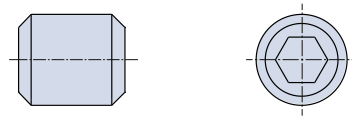
TS type

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



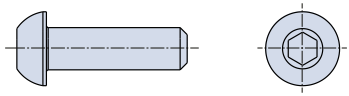
SS type

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

contents

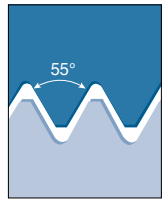
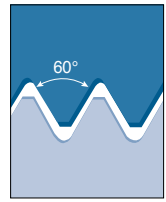
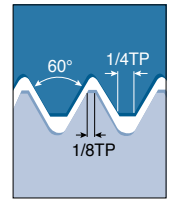
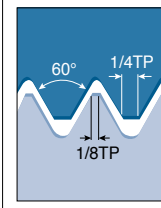
Guide to Icons

➤ T-THREAD Holder Page

➤ Cutting Condition Page

Tool Selection Guide

Threading inserts

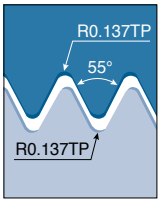
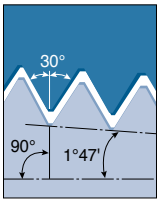
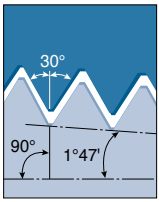
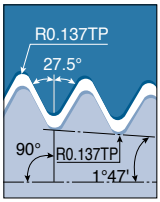
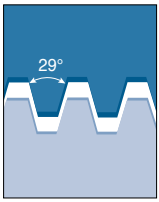
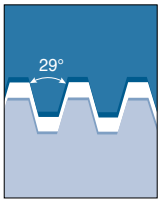
Thread		T-THREAD			
		55° thread	**60° thread**	**Metric ISO**	**American UN**
					
Pages		C19	C20	C21 - C25	C26 - C30
Pitch		thread / inch	mm (thread / inch)	mm	thread / inch
Application		General use for 55° thread forms for wide range of pitches	General use for 60° thread forms for wide range of pitches	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

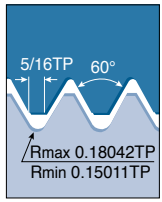
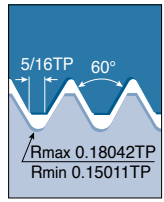
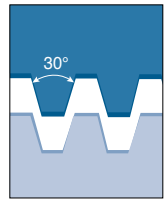
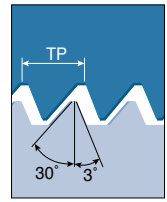
Threading inserts

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

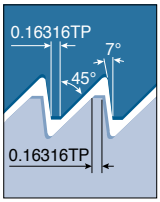
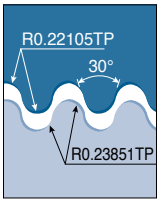
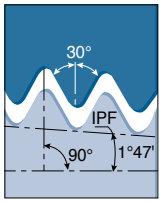
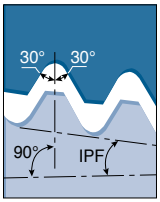
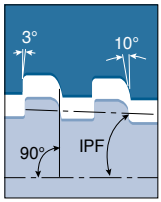
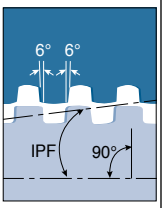
Thread		T-THREAD			
		UNJ	**MJ**	**Trapez DIN 103**	**Sagengenwinde DIN 513**
					
Pages		C41 - C42	C43	C44	C46
Pitch		thread / inch	mm	mm	mm
Application		Aviation and aerospace industry	Aviation and aerospace industry	Motion transmission. Feed screws	For high force in one direction
 M - type	ER				
	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 PVD coated	P05 – P25 K05 – K25	• General machining of steel and cast iron
TT8010 PVD coated	P30 – P50 M30 – M50 S30 – S50	• Toughest grade in threading product line • For a wide range of threading on low carbon steel & low carbon alloy steel • Medium to low speed threading of stainless steel and exotic materials
TT9030 PVD coated	P20 – P40 M20 – M40 S20 – S40	• General machining of steel • General machining of stainless steel • General machining of heat-resistant alloy
P30 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

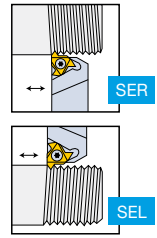
S - Screw clamping

2 Application

E - External
I - Internal

3 Hand of tool

R - Right-hand
L - Left-hand



4 Shank size

External toolholders
Shank: H×B

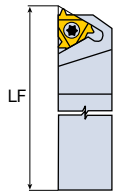
2020: 20×20 mm

Internal toolholders
Neck diameter

0025: Neck diameter 25 mm

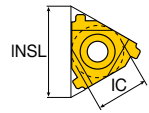
5 Tool length

		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"



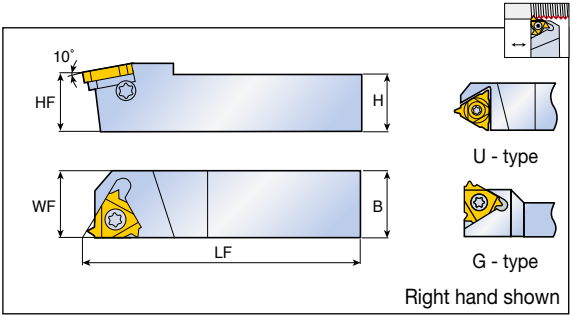
7 Optional specifications

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

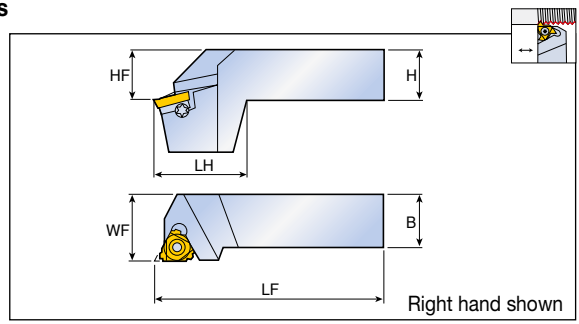
Spare parts

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

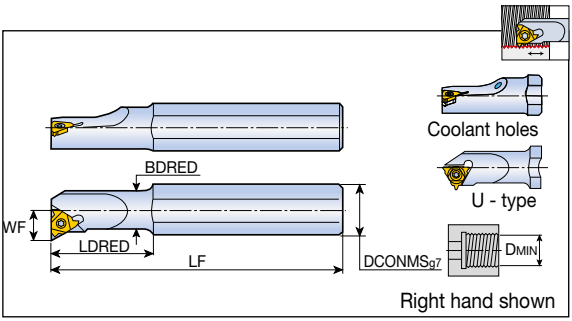
Spare parts

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



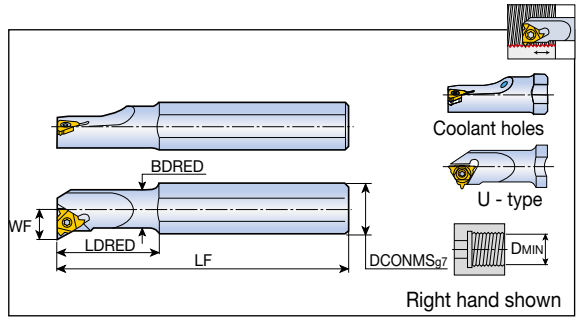
Designation	Dimension (mm)						Coolant hole	Insert [2]
	DCONMS	BDRED	LF	LDRED	DMIN	WF		
SIR/L 0005 H06 [1]	12	5.1	100	12	6.4	4.3	X	06 IR/L...
0007 K08 [1]	16	6.6	125	18	9.0	5.3	X	08 IR/L...
0008 K08U [1]	16	7.4	125	21	9.0	6.4	X	08 UIRL...
0010 H11 [1]	10	10	100	-	12	7.4	X	11 IR/L...
SIR 0010 H11B [1]	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

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

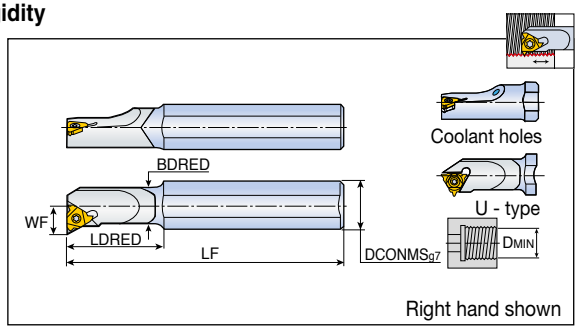
Spare parts

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

T-THREAD

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

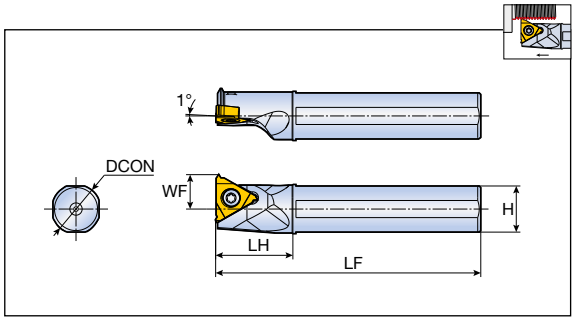
Designation	Insert screw	Anvil screw	Anvil int. left	Anvil int. right	Torx wrench	
						
SIR/L...06	TS 20038I				T-6/5	
SIR/L...08	TS 20054I				T-6/5	
SIR/L...11	S11				T-8/5	
SIR/L 0016...16	S16S				T-10/5	
SIR...16	S16	A16		AI16	T-10/5	
SIL...16	S16	A16	AE16		T-10/5	

TaeguTec

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)

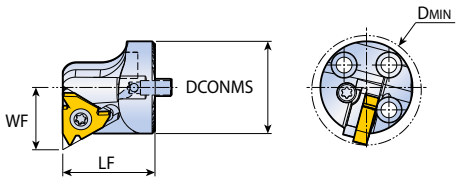
Spare parts

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

Anti-vibration shanks for boring

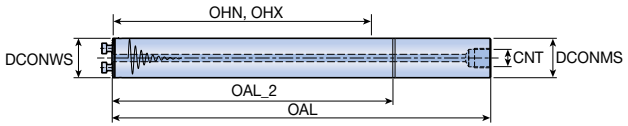
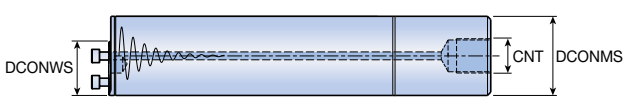


Fig.1



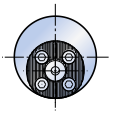


Fig.2

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 Anvil ext. right	Anvil int. right 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

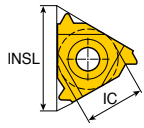
Insert Designation System

T-THREAD

16	E	R	M	1.50	ISO	2M	TT9030
1	2	3	4	5	6	7	8

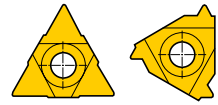
1 Insert size

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

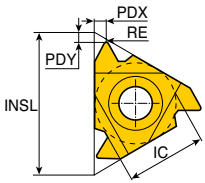
Coated
TT7010
TT8010
TT9030

Uncoated
P30

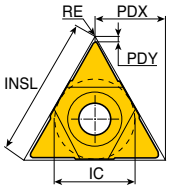
Partial Profile 55°

T-THREAD

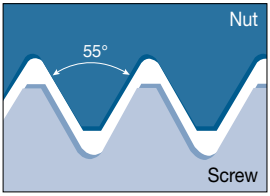
External & internal



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	●			

▸ ERB / ERM / IRB / IRM with pressed chip breaker

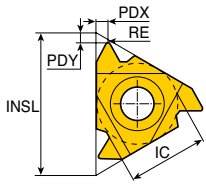
●: Standard items

TaeguTec

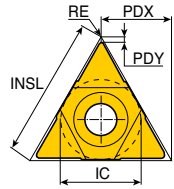
Partial Profile 60°

T-THREAD

External & internal



External right hand shown
(Internal left hand)



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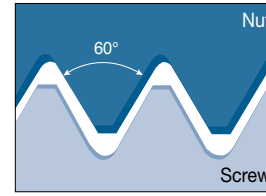


• Application: General industry

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	●	●	●	
	16ERB G 60	1.75-3.0	14-8	9.52	16	0.17	1.2	1.7		●		
B/M	**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

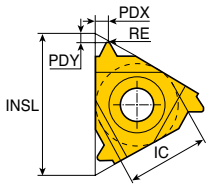
●: Standard items

ADVANCE CUTTING
TaeguTec

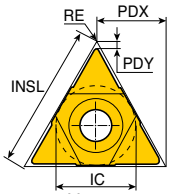
External ISO Metric

T-THREAD

Full profile (DIN13 12-1986 class: 6G)



External right hand shown
(Internal left hand)



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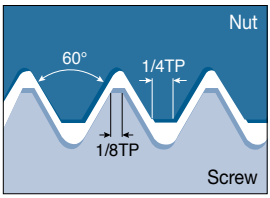


- Application: General industry

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	●			
 B/M	**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

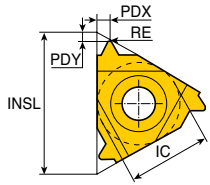
▸ ERB / ERM with pressed chip breaker

●: Standard items

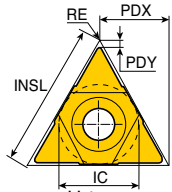
External ISO Metric

T-THREAD

Full profile (DIN13 12-1986 class: 6G)



External right hand shown
(Internal left hand)



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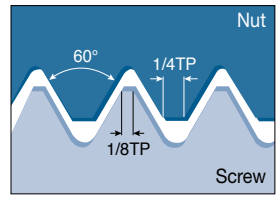


• Application: General industry

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		●		

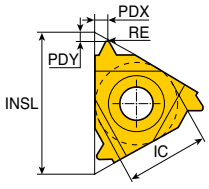
▸ ERB / ERM with pressed chip breaker

●: Standard items

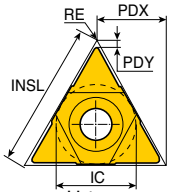
Internal ISO Metric

T-THREAD

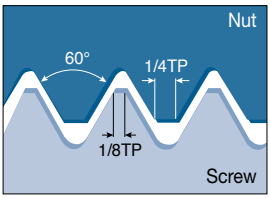
Full profile (DIN13 12-1986 class: 6H)



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 Regular	**06IR/L 0.50 ISO**	0.50	3.97	6	0.04	0.6	0.4			●	
	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

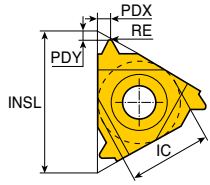
▸ IRB / IRM with pressed chip breaker

●: Standard items

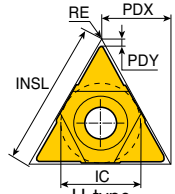
Internal ISO Metric

T-THREAD

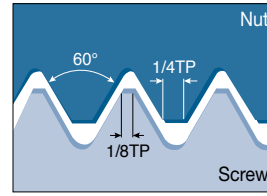
Full profile (DIN13 12-1986 class: 6H)



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

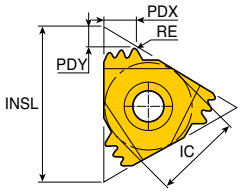
●: Standard items

ADVANCE CUTTING
TaeguTec

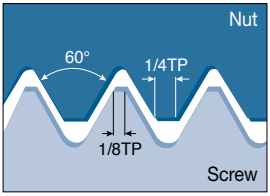
External & Internal ISO Metric

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

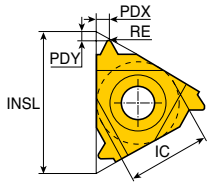
●: Standard items

TaeguTec

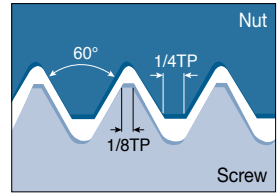
External American UN

T-THREAD

Full profile, UN, UNC, UNF, UNEF



External right hand shown
(Internal left hand)



- Application: General industry

External

Regular

B/M

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
	11ER 32 UN	32	6.35	11	0.09	0.6	0.6		●		
	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		●		
	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 Cutting Condition C52-C60

- ERB / ERM with pressed chip breaker
- Tolerance: Class 2A

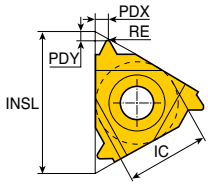
●: Standard items

ADVANCE CUTTING TaeguTec

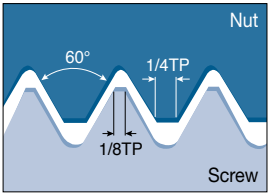
External American UN

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

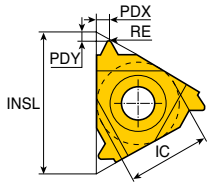
●: Standard items

TaeguTec

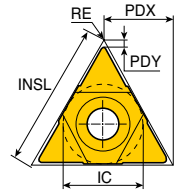
Internal American UN

T-THREAD

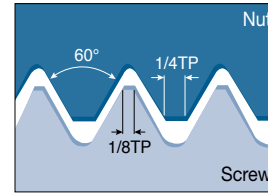
Full profile, UN, UNC, UNF, UNEF



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  Regular  B/M	**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	●	●		


C11-C17

C52-C60

- IRB / IRM with pressed chip breaker
- Tolerance: Class 2B, ANSI B1, 3M-1986

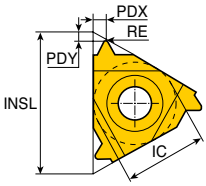
●: Standard items

ADVANCE CUTTING
TaeguTec

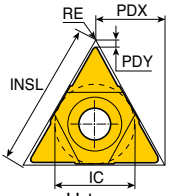
Internal American UN

T-THREAD

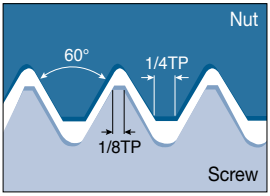
Full profile, UN, UNC, UNF, UNEF



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

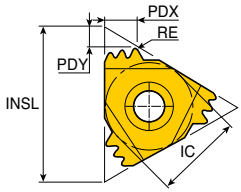
- IRB / IRM with pressed chip breaker
- Tolerance: Class 2B, ANSI B1, 3M-1986

●: Standard items

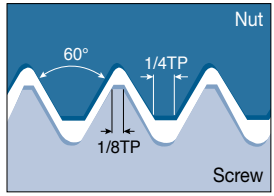
TaeguTec

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

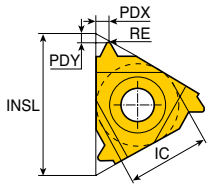
●: Standard items

ADVANC e CUTTING
TaeguTec

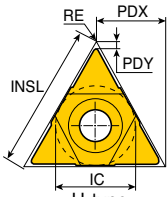
External Whitworth

T-THREAD

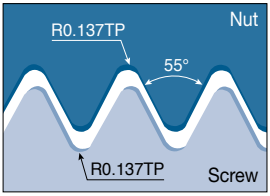
Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)



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	●	●		
	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		●		
 B/M	**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

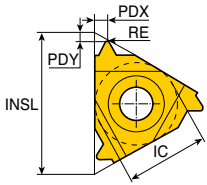
●: Standard items

TaeguTec

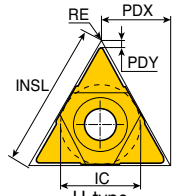
Internal Whitworth

T-THREAD

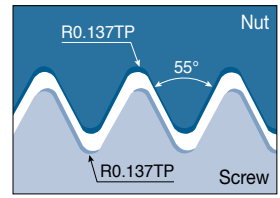
Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)



External right hand shown
(Internal left hand)

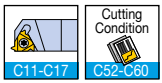


U-type



- Application: General industry, fittings and pipe coupings

Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
Internal	**06IR 26 W**	26	3.97	6	0.10	0.7	0.6			●	
Regular	**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			●	
B/M	**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	●	●	●	



▸ Tolerance: Medium class

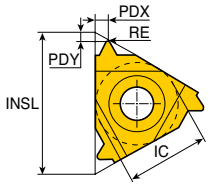
●: Standard items

ADVANCE CUTTING TaeguTec

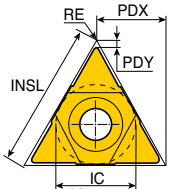
Internal Whitworth

T-THREAD

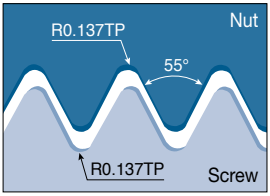
Full profile, BSW, BSF, BSP (B.S. 84-1956 DIN 259)



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

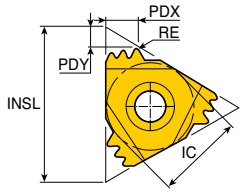
●: Standard items

TaeguTec

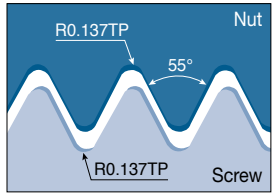
External & Internal Whitworth

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

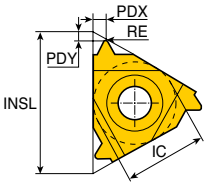
●: Standard items

ADVANCE CUTTING TaeguTec

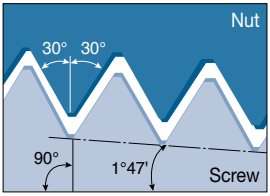
External & Internal NPT

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

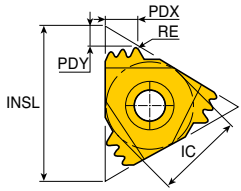
●: Standard items

TaeguTec

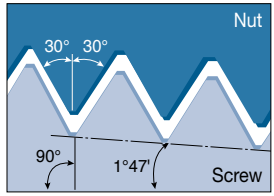
External & Internal NPT

T-THREAD

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

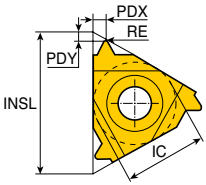
▸ (1) Number of teeth per corner

●: Standard items

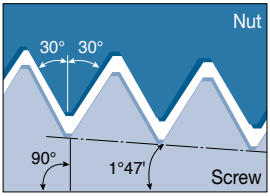
External & Internal NPTF

T-THREAD

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

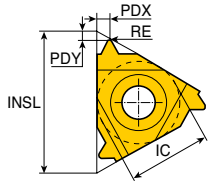
Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External  Regular	**11ER 14 NPTF**	14	6.35	11	0.07	0.8	1.0		●		
	16ER 27 NPTF	27	9.52	16	0.04	0.7	0.7		●		
	16ER 18 NPTF	18	9.52	16	0.06	0.8	1.0		●		
	16ER 14 NPTF	14	9.52	16	0.07	0.9	1.2	●	●		
	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

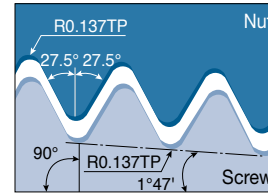
External & Internal BSPT

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			●	
Regular	**08IR 19 BSPT**	19	4.76	8	0.16	0.6	0.6			●	
	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		●		

Cutting Condition
C11-C17 C52-C60

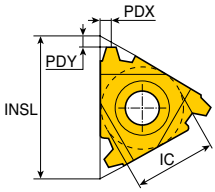
▸ ERB / ERM / IRB / IRM with pressed chip breaker

●: Standard items

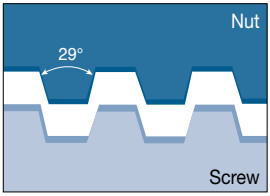
External & Internal STUB ACME

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

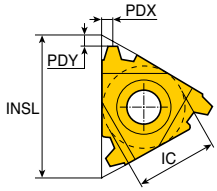
●: Standard items

TaeguTec

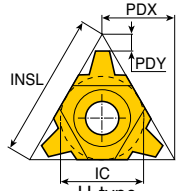
External & Internal ACME

T-THREAD

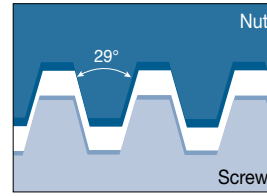
ASME / ANSI B.1.8-1988 class: 3G



External right hand shown
(Internal left hand)



U-type



• Application: Feed screws

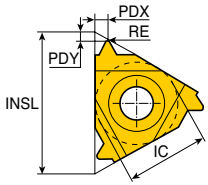
Insert	Designation	TPI	Dimension (mm)				Coated			Uncoated
			IC	INSL	PDY	PDX	TT7010	TT9030	TT8010	P30
External  Regular	**16ER 16 ACME**	16	9.52	16	0.9	1.0		●		
	16ER 12 ACME	12	9.52	16	1.1	1.2		●		
	16ER 10 ACME	10	9.52	16	1.3	1.3		●		
	16ER/L 8 ACME	8	9.52	16	1.5	1.5		●		
	22ER/L 6 ACME	6	12.70	22	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

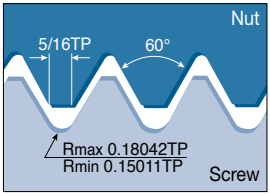
External UNJ

T-THREAD

Full profile (MIL-S-8879C 9-1992 class: 3A)



External right hand shown
(Internal left hand)



- Application: Aircraft and aerospace industry

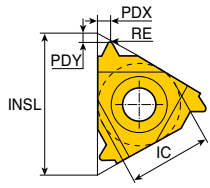
Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	RE	PDY	PDX	TT7010	TT9030	TT8010	P30
External	**16ER 40 UNJ**	40	9.52	16	0.10	0.6	0.6		●		
	**16ER 32 UNJ**	32	9.52	16	0.12	0.6	0.6		●		
	16ER/L 28 UNJ	28	9.52	16	0.14	0.6	0.6		●		
	16ER/L 24 UNJ	24	9.52	16	0.16	0.7	0.8		●		
Regular	**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		●		

●: Standard items

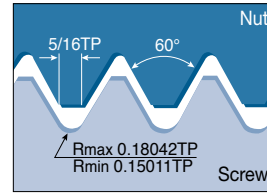
Internal UNJ

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		●		

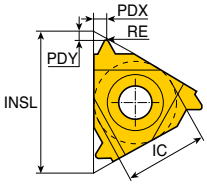
●: Standard items

C11-C17 Cutting Condition C52-C60

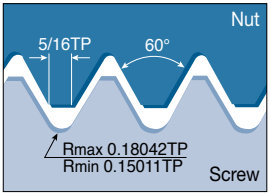
External & Internal MJ

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		●		

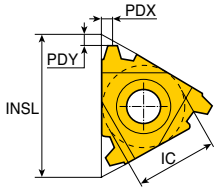
●: Standard items

TaeguTec

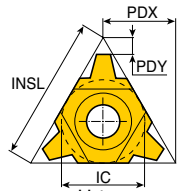
External & Internal Trapez

T-THREAD

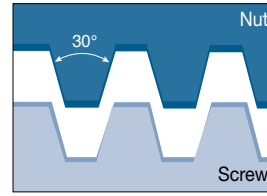
DIN 103



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  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  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  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		●		

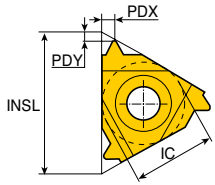
Cutting Condition
C11-C17 C52-C60

▸ (1) One cutting edge only
▸ DIN 103 04 / 1977, 150 2901 / 1977 Class 7H (7E)

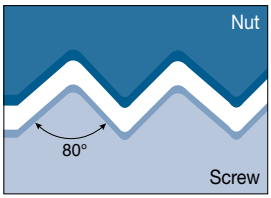
●: Standard items

External & Internal PG

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		●		

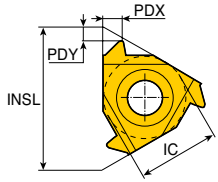
●: Standard items

C11-C17 Cutting Condition C52-C60

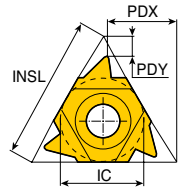
External & Internal Sagengenwinde

T-THREAD

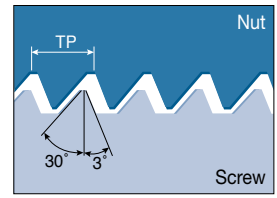
DIN 513



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		●		

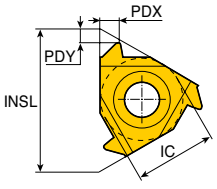
C11-C17 Cutting Condition C52-C60

▸ (1) Requires special anvil

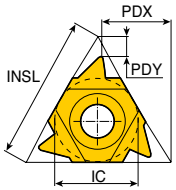
●: Standard items

ADVANCE CUTTING TaeguTec

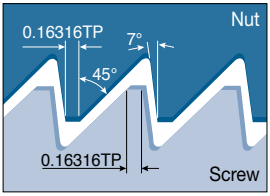
External & Internal American Buttress



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  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  U	**22UER 4 ABUT**	4	12.70	22	2.3	9.5		●		
	27UER 3 ABUT	3	15.88	27	3.1	11.7		●		
Internal  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  U	**22UIR 4 ABUT**	4	12.70	22	2.3	9.5	●			

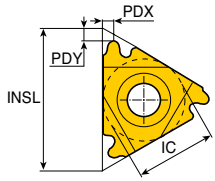
▸ ANSI B1.9-1973 class 2

●: Standard items

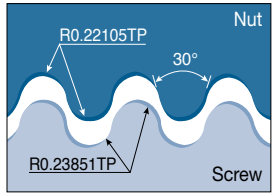
External & Internal Round

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

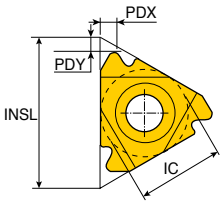
●: Standard items

ADVANCE CUTTING TaeguTec

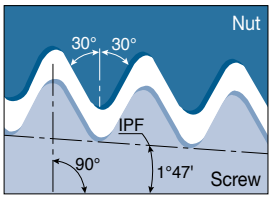
API - Oil Threads

T-THREAD

Round profile



External right hand shown
(Internal left hand)



- Application: Oil & gas industry

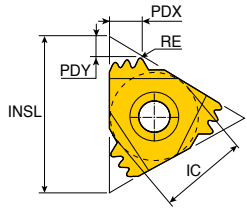
Insert	Designation	TPI	Dimension (mm)					Coated			Uncoated
			IC	INSL	IPF	PDY	PDX	TT7010	TT9030	TT8010	P30
External Regular	**16ER 10 API RD**	10	9.52	16	0.75	1.5	1.4	●	●		
	16ER/L 8 API RD	8	9.52	16	0.75	1.3	1.6	●	●		
Internal Regular	**16IR 10 API RD**	10	9.52	16	0.75	1.5	1.4	●	●		
	16IR/L 8 API RD	8	9.52	16	0.75	1.3	1.6	●	●		

●: Standard items

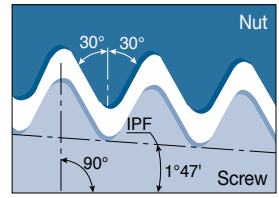
C11-C17
Cutting Condition C52-C60

API - Oil Threads

Round profile, multi-tooth



External right hand shown
(Internal left hand)



- Application: Oil & gas industry

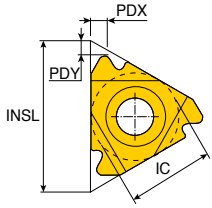
Insert	Designation	TPI	Dimension (mm)						CICT(1)	Coated			Uncoated
			IC	INSL	RE	IPF	PDY	PDX		TT7010	TT9030	TT8010	P30
Internal / External 	**22ER/IR 10 API RD 2M**	10	12.70	22	0.36	0.75	2.4	3.7	2		●		
	27ER/IR 8 API RD 2M	8	15.88	27	0.43	0.75	3.0	4.5	2		●		

C11-C17 | Cutting Condition C52-C60

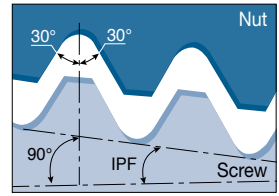
- API Spec 5B8-1996
- (1) Number of teeth per corner

●: 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	●			

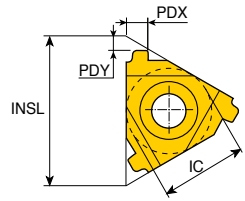
C11-C17 | Cutting Condition C52-C60

- (1) V-0.040 (2) V-0.038R (3) V-0.050
- 0.050, API spec 74-1994

●: Standard items

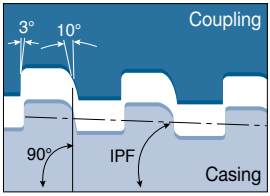
ADVANCE CUTTING TaeguTec

Buttress Casing / Extreme Line Casing

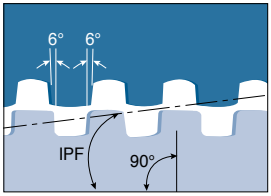


External right hand shown
(Internal left hand)

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"		●		

▸ 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

Recommended Cutting Conditions

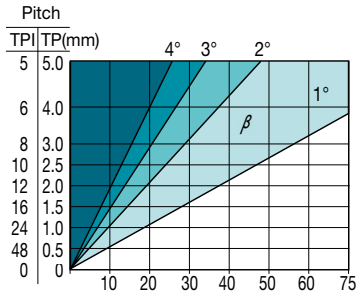
T-THREAD

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

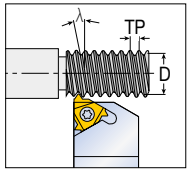
■ Helix angle λ evaluation



(1)β =4.5°
(1)β =3.5°
(1)β =2.5°
(1)β =1.5°
(1)β =0.5°

$$tg\ \lambda = \frac{1 \times TP}{3.14 \cdot D}$$

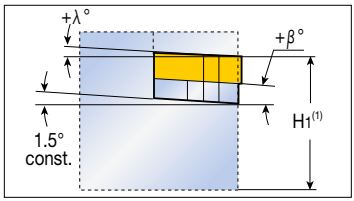
$$\lambda^\circ = \frac{20 \times TP}{D}$$



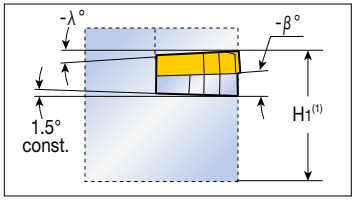
TP - Thread pitch (mm)
D - Effective diameter of thread (mm)
λ - Angle of inclination

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

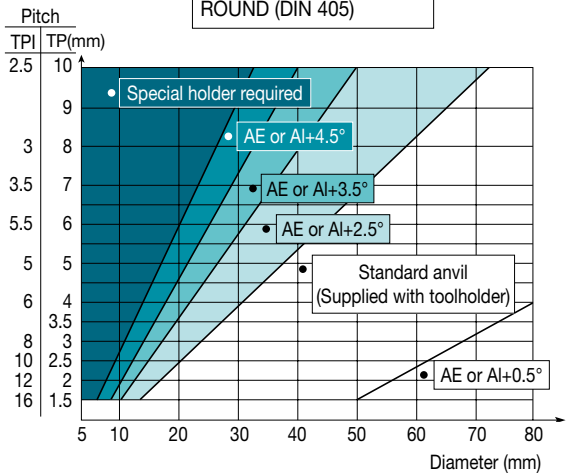


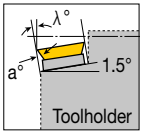
■ Anvils for negative inclination β used when turning
- RH thread with LH holder or LH thread with RH holder

▸ (1) H1 remains constant for every anvil combination.

Anvil selection according to thread helix angle λ

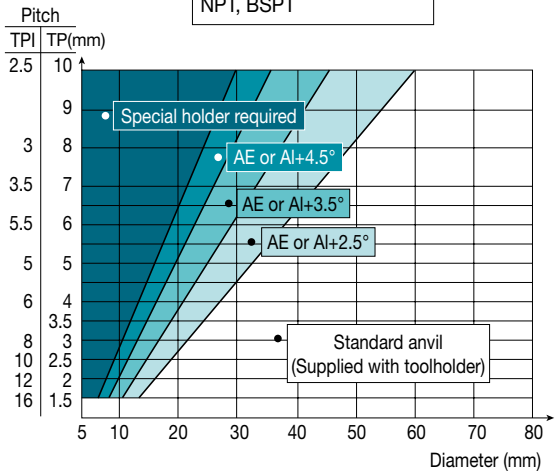
ACME
STUB ACME
TRAPEZE (DIN 103)
ROUND (DIN 405)





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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Internal Coolant


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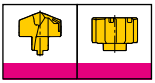
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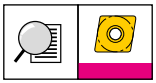
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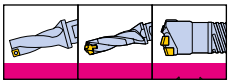
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Tool Selection Guide

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

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

ADVANCE CUTTING TaeguTec

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

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 09/11/13/15	05/06/07/09 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 TT8020, TT6080, K10	TT9030, TT8020 TT7400, TT6030, K10	TT5130	TT5130
Application	General drilling		●	●	●	●
	Cross hole drilling		●	●	●	●
	Irregular surface drilling		○	○	○	○
	Interrupted drilling		○	○		
	Chamfering					

Tool Selection Guide

Drill inserts

WINDRILL	DRILLREX				
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 UF10	TT9080	TT9080	TT9080	TT9080
●	●	●	●		
●	●	●	●		
○	○	○	○		
				●	●

● Recommended, ○ Suitable

TaeguTec

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 RUSH	T CHAMFER	TOP CAP	T DEEP	
LCD-F	**XCGT-C**	**XCGT-TA XCMT**	**NPHT NPMT**	**NPMX TPMX**
				
D208-D209	D210	D211-D212	D213 -D215	D216
Ø20.0-Ø41.0	06/09	04/05/06/07/08 10/13/17	06/07/08/09 /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, TT9030, K10	TT9030, TT9130, TT8125, TT6130, TT5030	TT9030, TT9130, TT8125, TT7200, TT6130, TT6020, TT5100, TT5030
●		●	●	●
●			○	○
○				
	●			

● Recommended, ○ Suitable

TaeguTec

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

Series				XM-REAM **XR** 	TM-REAM **TM** 	TB REAM **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

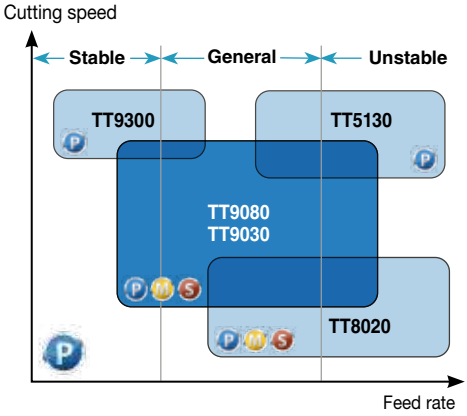
Grades

Holemaking grades

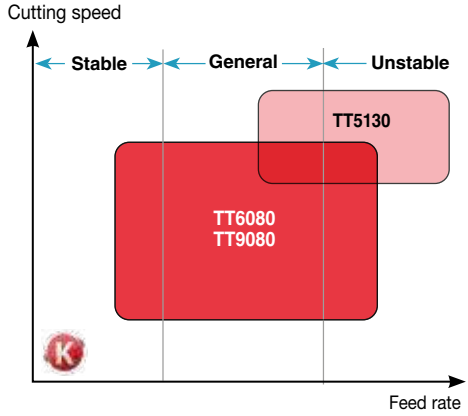
Grades	ISO	Characteristics & applications
TT6080 PVD carbide	K05 – K25 H05 – H25	• General machining for gray and ductile cast iron • Finish and medium machining of hardened steel
TT9300 CVD carbide	P10 – P25	• High speed drilling of carbon & alloy steel
TT5130 PVD carbide	P20 – P40 K20 – K40	• High speed drilling of carbon & alloy steel
TT9080 PVD carbide	P20 – P40 M20 – M40 S20 – S40	• General machining of steel • General machining of stainless steel • General machining of heat-resistant alloy
TT9030 PVD carbide	P20 – P40 M20 – M40 S20 – S40	• General machining of steel • General machining of stainless steel • General machining of heat-resistant alloy
TT8020 PVD carbide	P30 – P50 M30 – M50 S30 – S50	• Interrupted and rough machining of steel • Interrupted and rough machining of stainless steel • Low speed and interrupted machining of heat-resistant alloy
K10 Uncoated	K05 – K15 N05 – N15 S05 – S15	• General machining of cast iron • General machining of aluminum alloys and non-ferrous materials • General machining of heat-resistant alloy
UF1A/UF10 Uncoated	N10 – N25 S10 – S30	• General machining of aluminum alloys and non-ferrous materials • General machining of heat-resistant alloy

Selection guide for holemaking grades

For steel



For cast iron

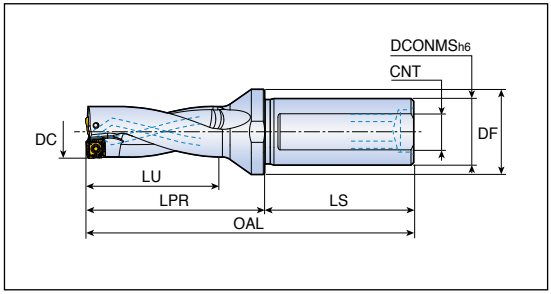


Drilling Tools

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

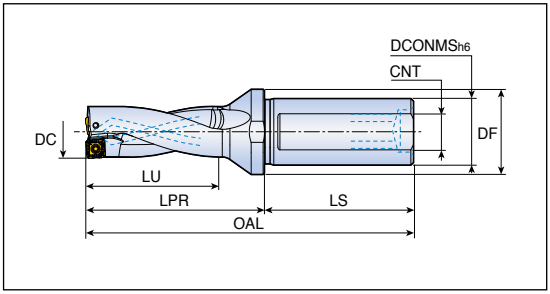
▸ OAL: LPR+LS

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	

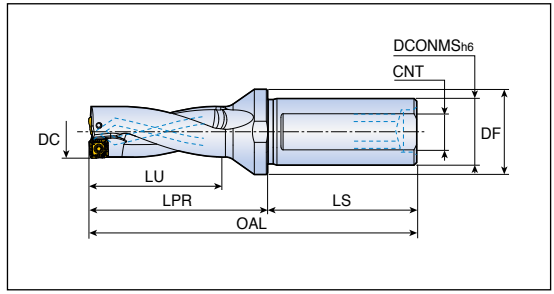
Cutting Condition D226

▸ 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	

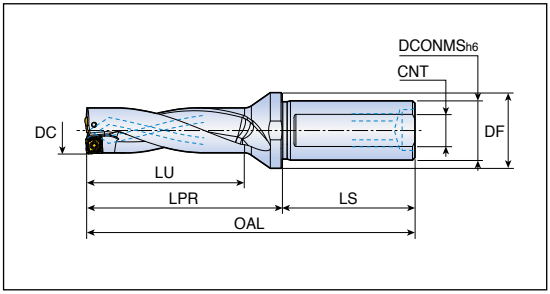
Cutting Condition D226

▸ *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 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 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 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 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 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

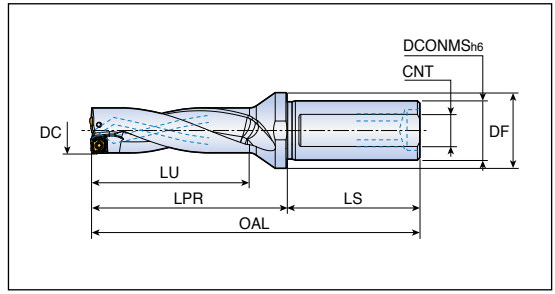
- *: Inch sized hole
- OAL: LPR+LS

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

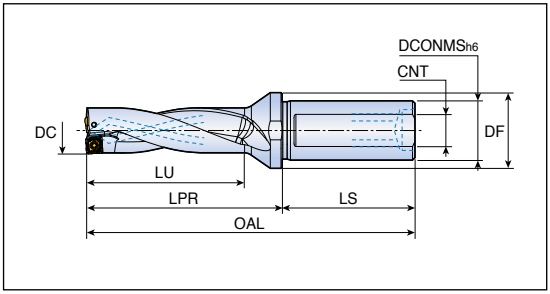
▸ OAL: LPR+LS

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	

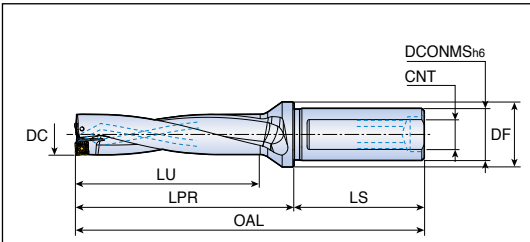
Cutting Condition D226

▸ * 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

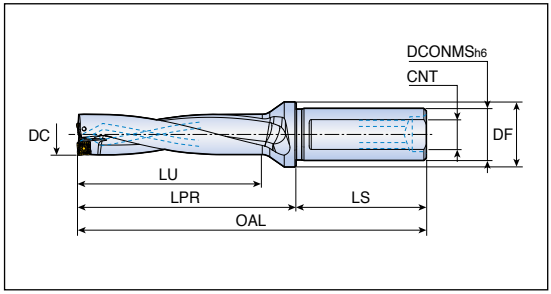
- *: Inch sized hole
- OAL: LPR+LS

TOP 4...-T2

TOPDRILL

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	

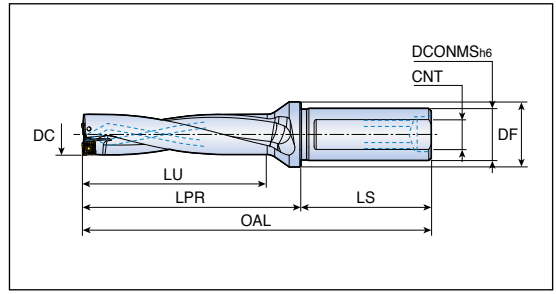
Cutting Condition D226

- *: 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

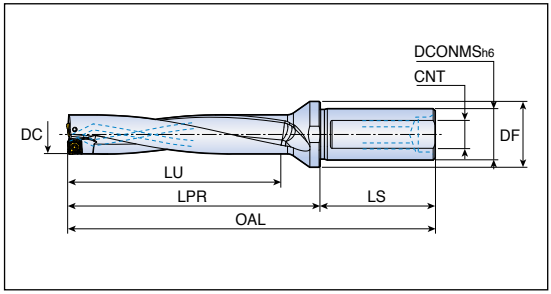
▸ *Notice: Cooling hole plug for lathe should be ordered separately
Order example) Plug for shank diameter 25.0mm: SL 25M

TOP 5...-T2

TOPDRILL

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

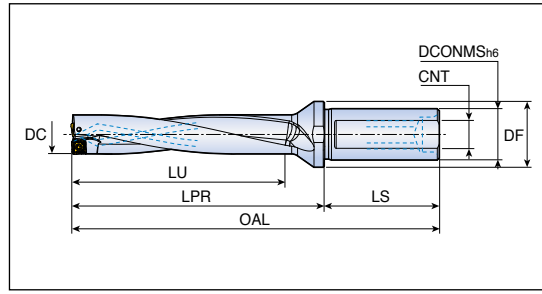
- *: Inch sized hole
- OAL: LPR+LS

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

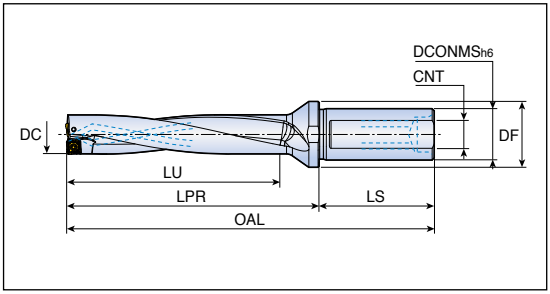
- *: Inch sized hole
- OAL: LPR+LS

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	

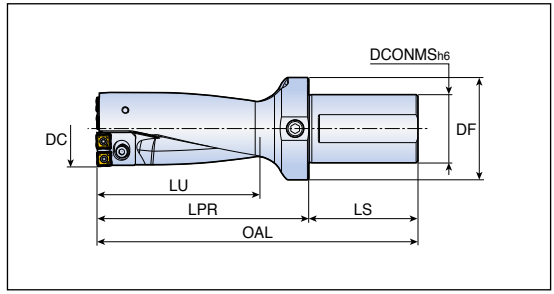
Cutting Condition D228

▸ * 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

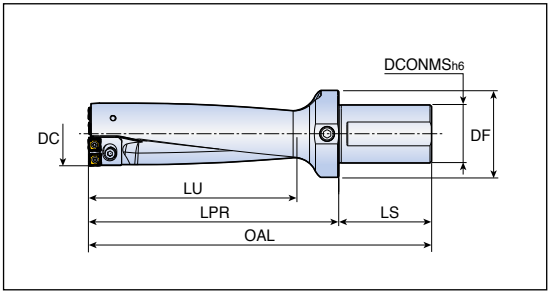
▸ OAL: LPR+LS

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	

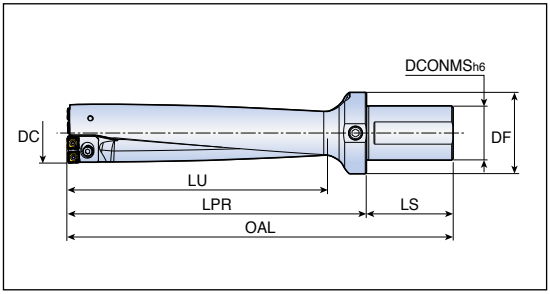
Cutting Condition D230

▸ 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

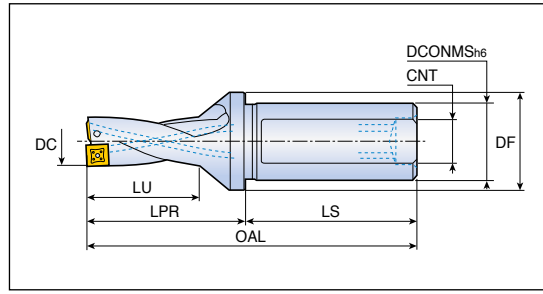
Spare parts for cartridge

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	

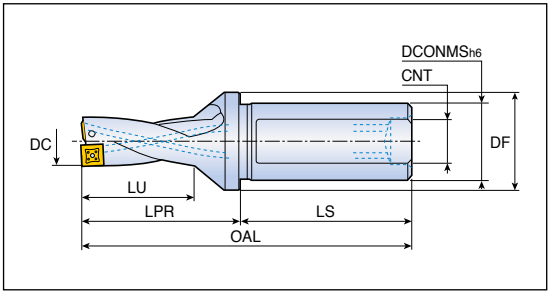
Cutting Condition D232

▸ 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	

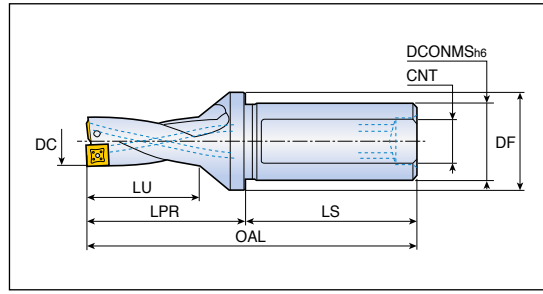
Cutting Condition D232

▸ 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	-	

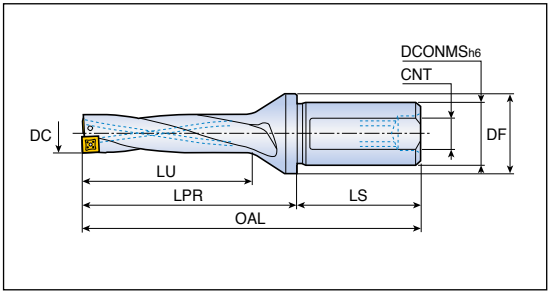
Cutting Condition D232

▸ *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	

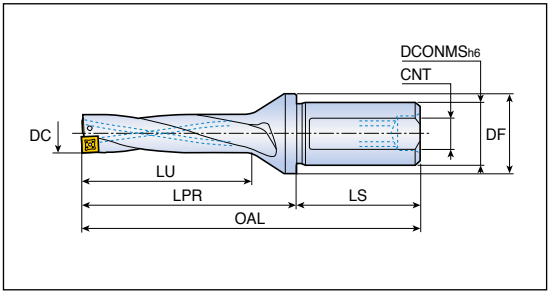
Cutting Condition D232

- *: 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	

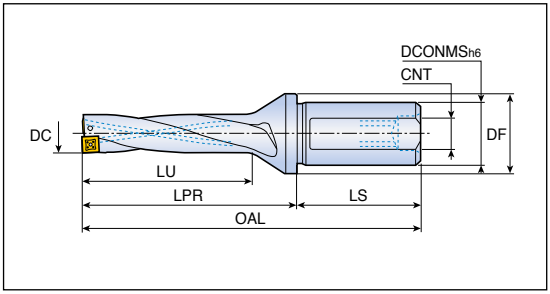
Cutting Condition D232

- *: 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	

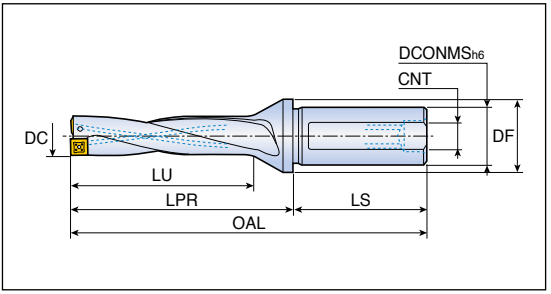
Cutting Condition D232

- *: 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	-	

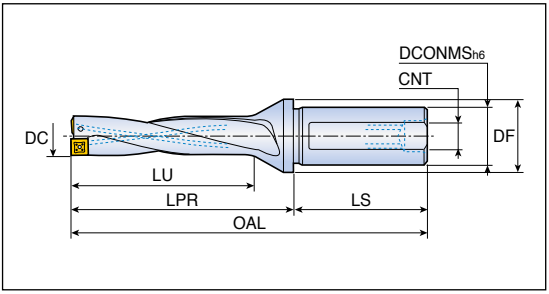
Cutting Condition D232

▸ *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	

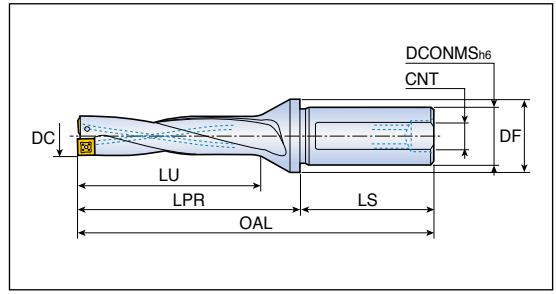
Cutting Condition D232

▸ 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

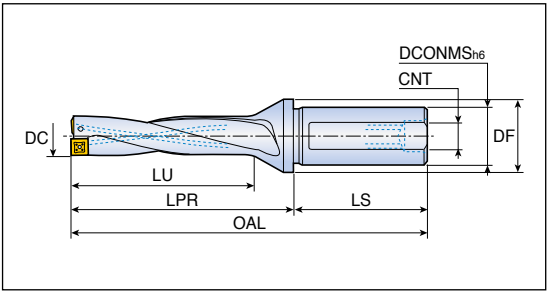
▸ OAL: LPR+LS

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	-	

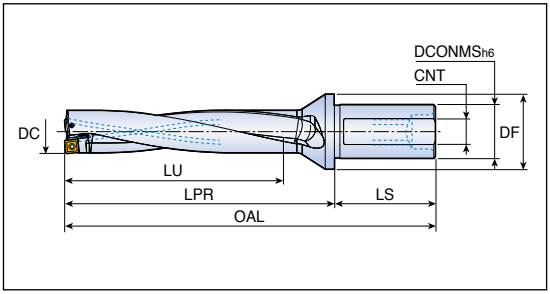
Cutting Condition D232

▸ *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

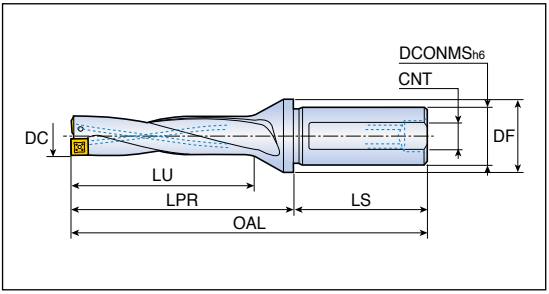
▸ OAL: LPR+LS

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	

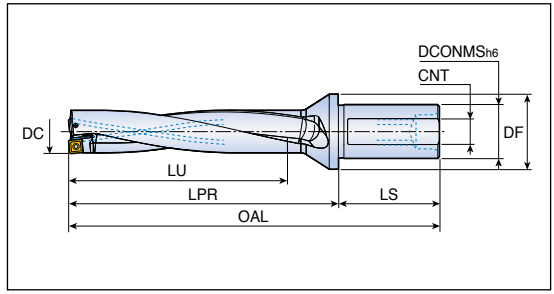
Cutting Condition D234

▸ 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	-	

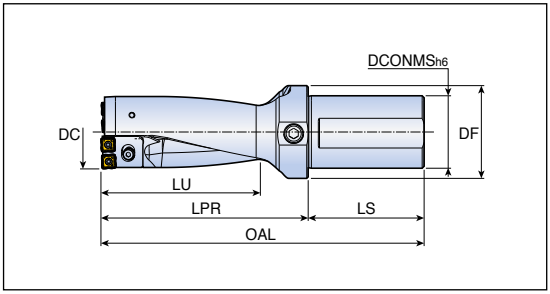
Cutting Condition D234

▸ *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	

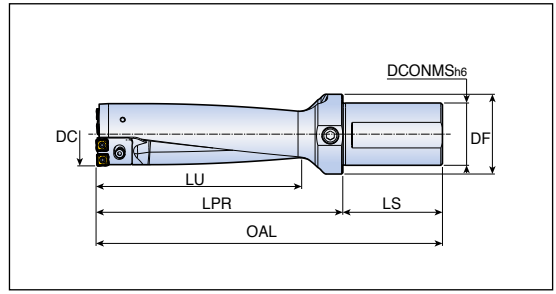
Cutting Condition D236

▸ 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	

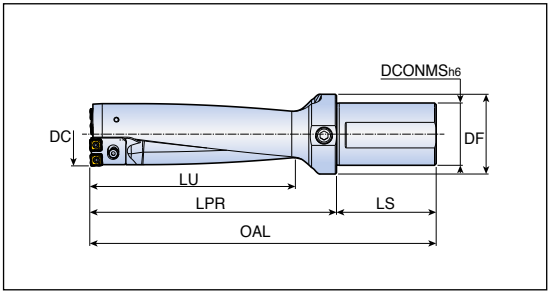
Cutting Condition D236

▸ 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

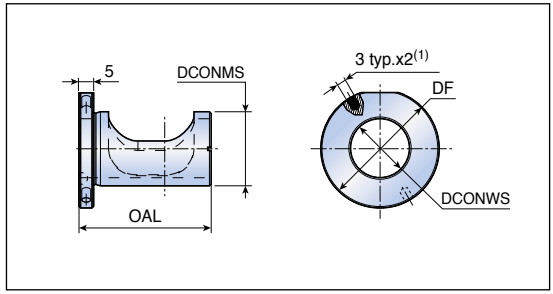
Spare parts for cartridges

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



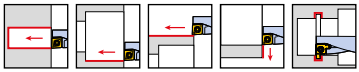
Designation	Dimension (mm)			
	DCONWS	DCONMS	DF	OAL
ECCENTER SLEEVE 20x25	20	25	40	44
25x32	25	32	50	46
32x40	32	40	65	55
40x50	40	50	75	62

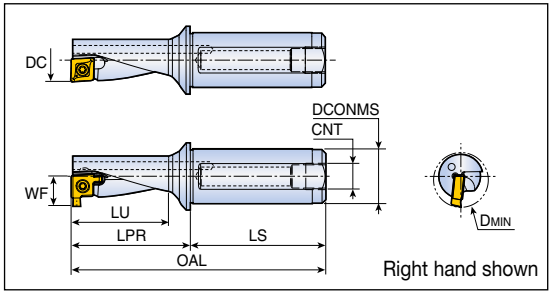
▸ (1) Holes for inserting a pin are used to facilitate radial adjustment of the sleeve (Pin is not supplied)

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	

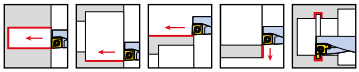
Cutting Condition D238

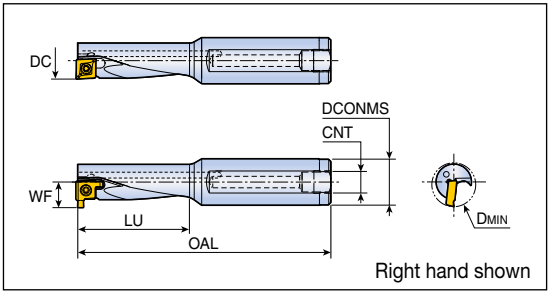
TCAP...-3.0DN

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

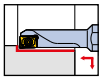
ADVANCE CUTTING TaeguTec

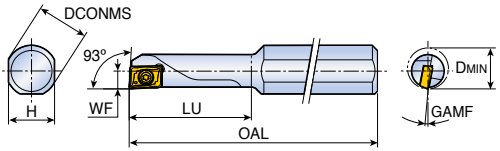
S...SXUCR/L

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

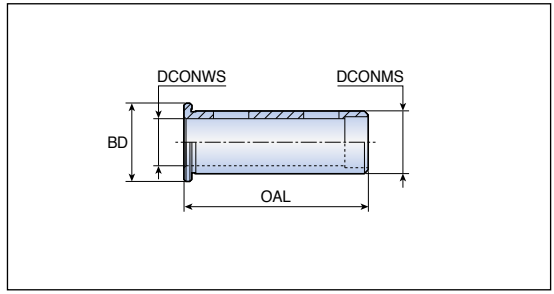
Spare parts

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

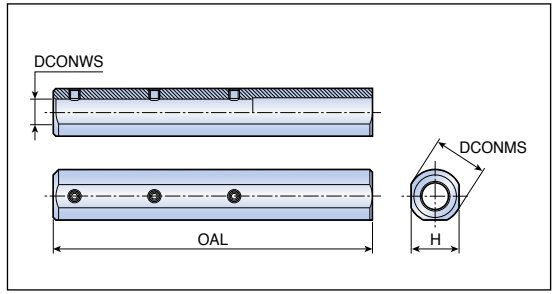
Sleeves for clamping unit



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

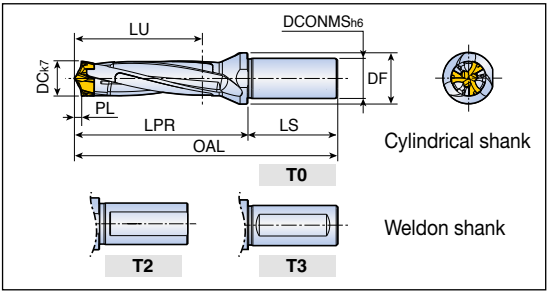
Designation	Screw	Wrench		
				
TBSL 20-10-120	SS M4x0.7x4	L-W 2		

3ED...T...-3D

DRILLSPEED

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

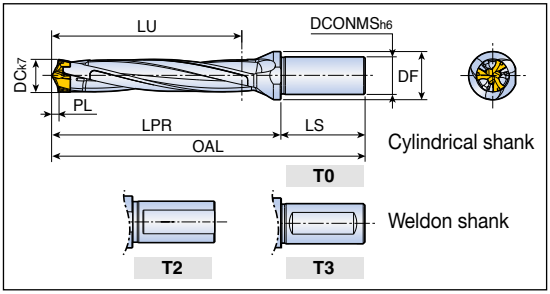
Cutting Condition D240

- 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

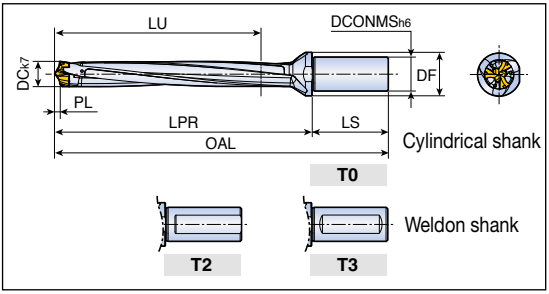
- OAL: LPR+LS
- SSC: Seat size code

ADVANCE CUTTING TaeguTec

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	

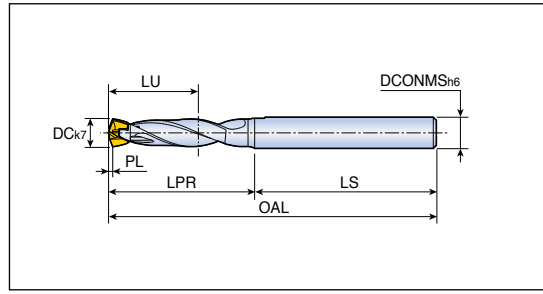
D184-D187
Cutting Condition D240

- OAL: LPR+LS
- SSC: Seat size code

TCD...-3D

Head changeable drill holders - Cylindrical type shank

• Drilling depth: 3xdiameter



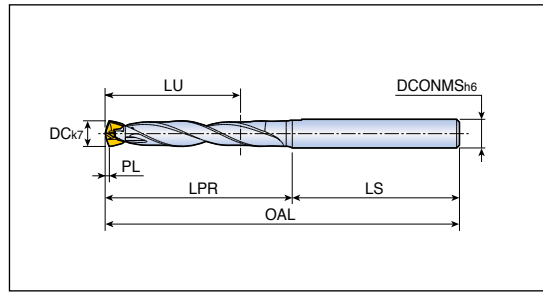
Designation	Dimension (mm)							Clamping key
	DC	DCONMS	LU	LPR	LS	PL	SSC	
TCD 040-044-06A0-3D	4.0-4.4	6	13	22.7	35	0.62	4	K TCD D040-D049
045-049-06A0-3D	4.5-4.9	6	14	24.7	35	0.66	4.5	
050-054-06A0-3D	5.0-5.4	6	16	26.3	35	0.73	5	K TCD D050-D059
055-059-06A0-3D	5.5-5.9	6	17	28.2	35	0.81	5.5	

- 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	

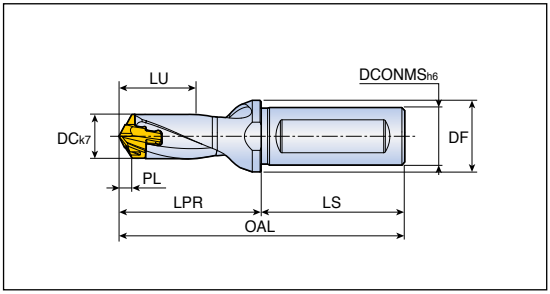
- OAL: LPR+LS
- SSC: Seat size code

TCD...T...-1.5D

DRILLRUSH

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

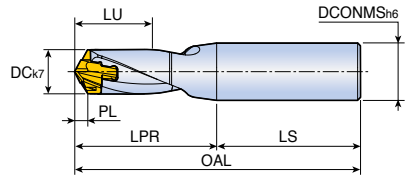
- OAL: LPR+LS
- SSC: Seat size code

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

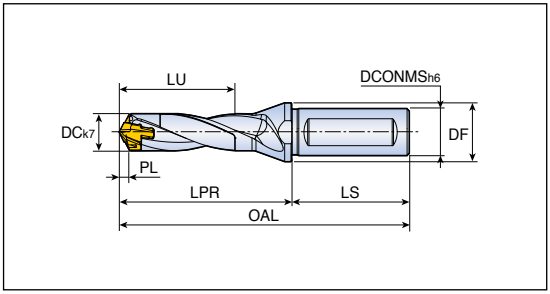
ADVANCE CUTTING
TaeguTec

TCD...T...-3D

DRILLRUSH

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	

D189-D202 | Sleeve D109 | Cutting Condition D242

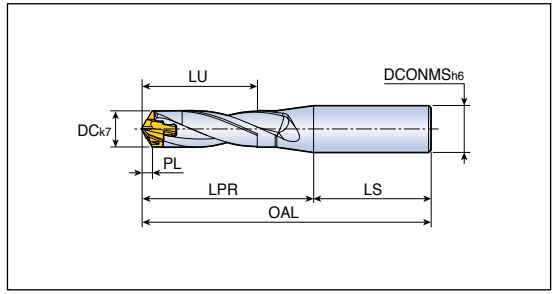
- OAL: LPR+LS
- SSC: Seat size code

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

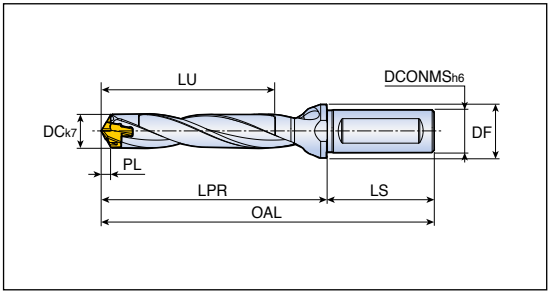
- OAL: LPR+LS
- SSC: Seat size code

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

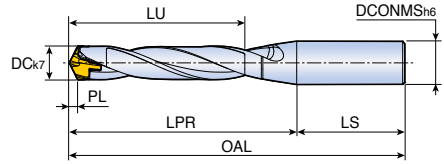
- OAL: LPR+LS
- SSC: Seat size code

TCD...S0-5D

DRILLRUSH

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

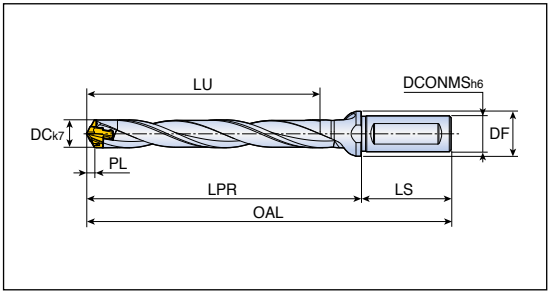
- OAL: LPR+LS
- SSC: Seat size code

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	

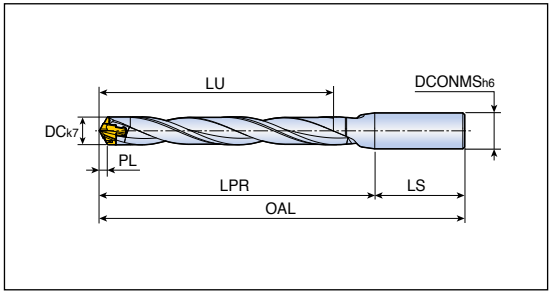
- It is recommended to make the pilot hole with a 1.5D holder
- OAL: LPR+LS
- SSC: Seat size code

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

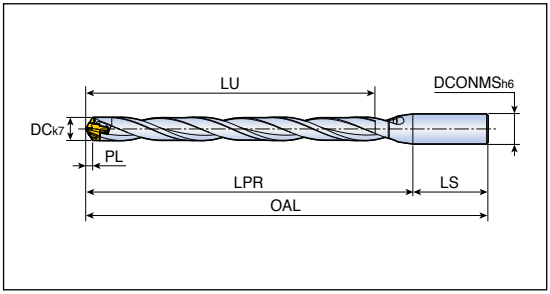
- It is recommended to make the pilot hole with a 1.5D holder
- OAL: LPR+LS
- SSC: Seat size code

ADVANCE CUTTING TaeguTec

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

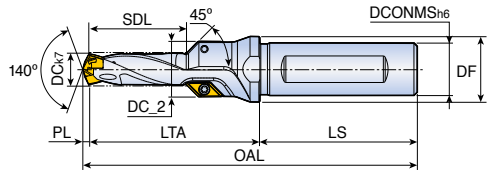
Cutting Condition D242

- 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	

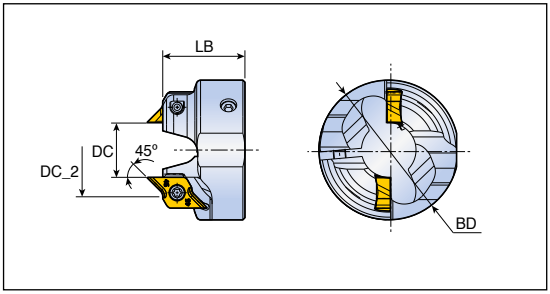
Plug for coolant supply in a stationary machines

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

▸ (1) Clamping torque: 2-3 [N•m] (2) Clamping torque: 3.5-4.5 [N•m] (3) Clamping torque: 5-6 [N•m]

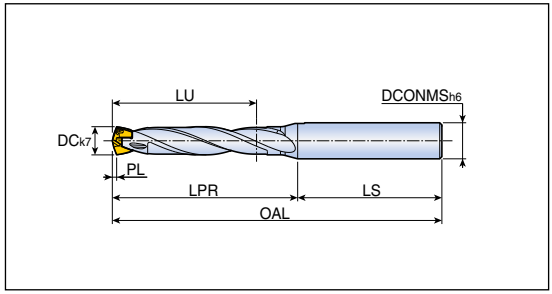
Technical Data D272-275

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	

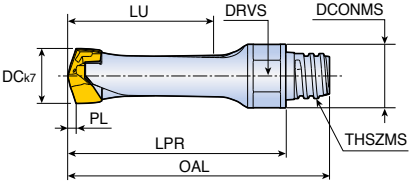
D189-202 Cutting Condition D242

▸ 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

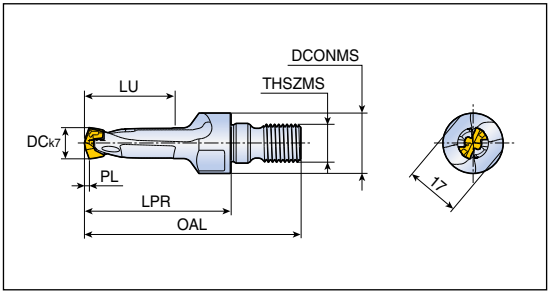
Cutting Condition D242

- SSC: Seat size code
- Matched with MAXI-RUSH holder

TCDM...-M12-2D

Head changeable drill holder with T-FLEXTEC type shank

• Drilling depth: 2xdiameter



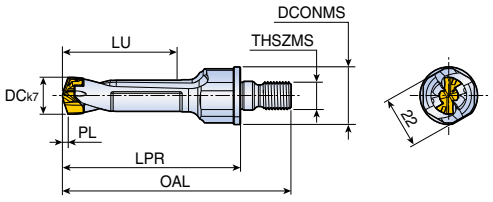
Designation		Dimension (mm)								Clamping key
		DC	DCONMS	LU	LPR	PL	OAL	THSZMS	SSC	
TCDM	**100-104-M12-2D**	10.0-10.4	19	28.7	46.2	1.5	68.2	M12	10	K TCD D100-D199
	105-109-M12-2D	10.5-10.9	19	29.7	47.2	1.6	69.2	M12	10	
	110-114-M12-2D	11.0-11.4	19	31.1	48.6	1.7	70.6	M12	11	
	115-119-M12-2D	11.5-11.9	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

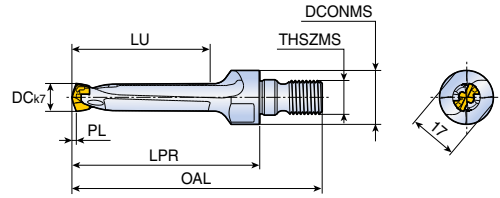
D189-D202

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

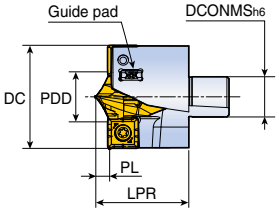
Designation		Dimension (mm)								Clamping key
		DC	DCONMS	LU	LPR	PL	OAL	THSZMS	SSC	
TCDM	**100-104-M12-4D**	10.0-10.4	19	48.7	66.2	1.5	88.2	M12	10	K TCD D100-D199
	105-109-M12-4D	10.5-10.9	19	50.7	68.2	1.6	90.2	M12	10	
	110-114-M12-4D	11.0-11.4	19	53.1	70.6	1.7	92.6	M12	11	
	115-119-M12-4D	11.5-11.9	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	

D189-D202
Cutting Condition D242

- SSC: Seat size code
- Matched with T-FLEXTEC holder

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+	

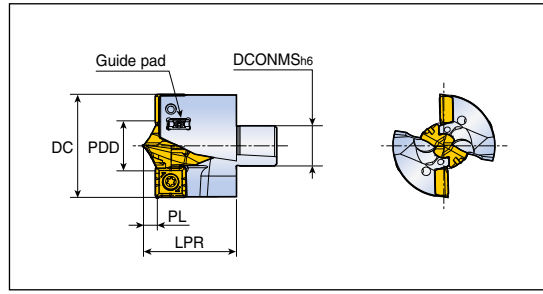
- DCONMS: Holder connection size
- Guide pad is sold separately from drill head

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

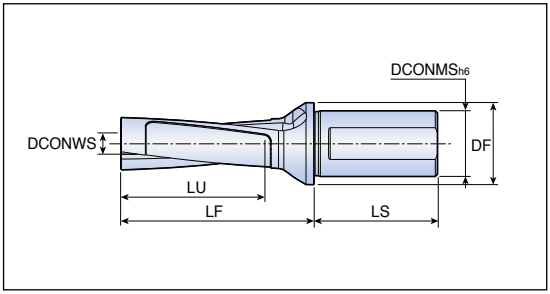
Cutting Condition
D244

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		

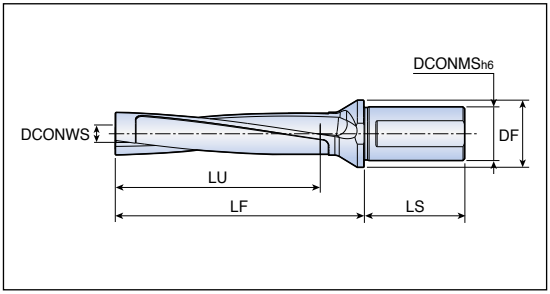
▸ Wrench: Disassemble the modular head from the modular body (Insert from the rear shank)

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

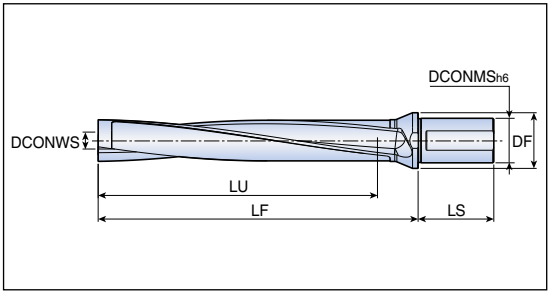
Designation	Wrench	Wrench handle		
				
MDB D26/27-D34/35-5	BLD H-W2.5x280	SW6-T-SH		
MDB D36/37-D42/43-5	BLD H-W3.0x310	SW6-T-SH		
MDB D44/45-D48/50-5	BLD H-W4.0x350	SW6-T-SH		

▸ 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)

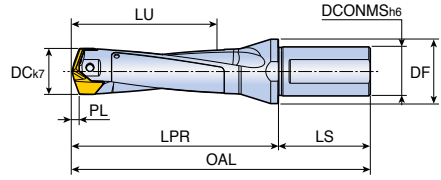
Cutting Condition D244
Technical Data D276

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

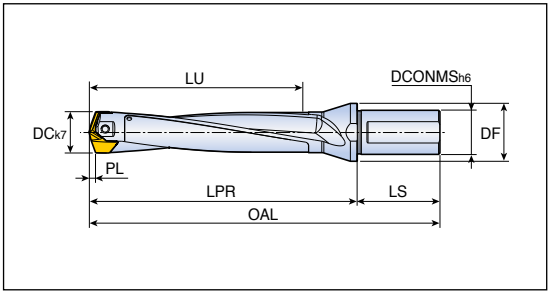
Designation	Screw	Wrench	Wrench handle	
				
LCD 200-219-3D	TS 40178D25	BLD T20/S7	SW6-T-SH	
LCD 220-239-3D	TS 40198D28	BLD T20/S7	SW6-T-SH	
LCD 240-259-3D	TS 40210D3	BLD T20/S7	SW6-T-SH	
LCD 260-279-3D	TS 50230D3	BLD T20/S7	SW6-T-SH	
LCD 280-299-3D	TS 50250D35	BLD T25/S7	SW6-T-SH	
LCD 300-319-3D	TS 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	

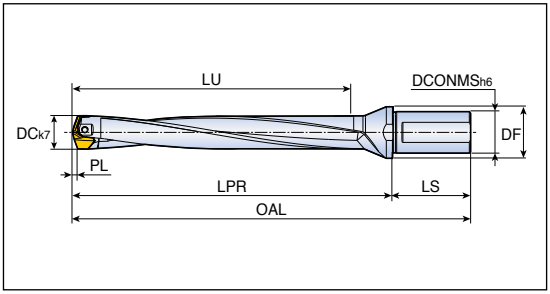
D205-D209 Cutting Condition D246

LCD...T2-8D

SPADERUSH

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

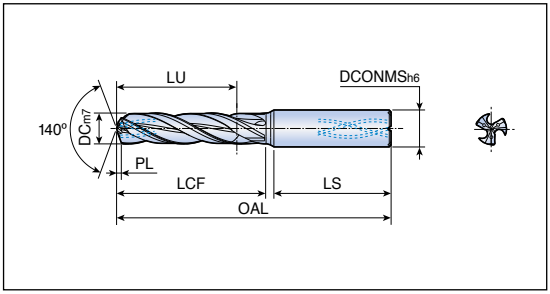
Spare parts

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	

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	●

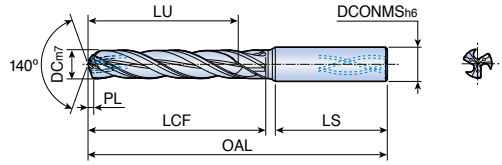
Cutting Condition D248

●: Standard items

3HD...PI5

SOLID3DRILL

3 flute solid carbide drills with oil holes



• Drilling depth: 5xdiameter

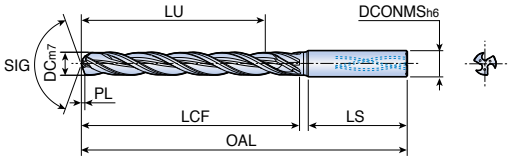
Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT5130
3HD 040-029-06 PI5	4.0	6	74	29	37	35	0.82	●
045-029-06 PI5	4.5	6	74	29	37	35	0.88	●
050-035-06 PI5	5.0	6	82	35	45	36	0.96	●
051-035-06 PI5	5.1	6	82	35	45	36	0.98	●
055-035-06 PI5	5.5	6	82	35	45	36	1.08	●
060-035-06 PI5	6.0	6	82	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

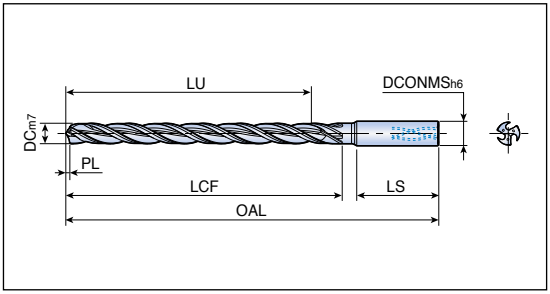
- Ø4.00-Ø8.00: SIG 140°
- Ø8.01-Ø12.00: SIG 130°

●: Standard items

3HD…CI12

SOLID3DRILL

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	●

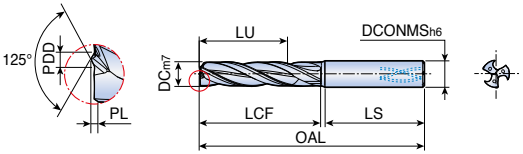
Cutting Condition D248

●: Standard items

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

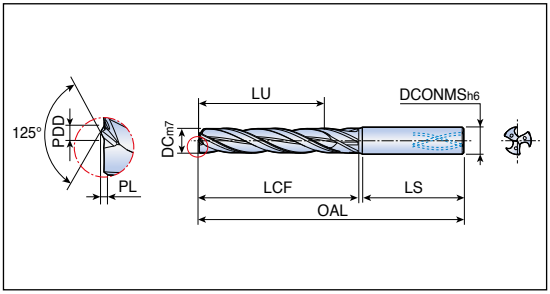
●: Standard items

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

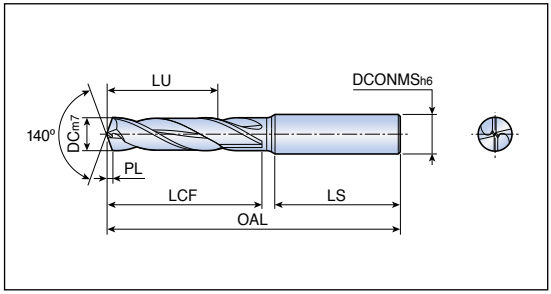
Cutting Condition D248

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	●

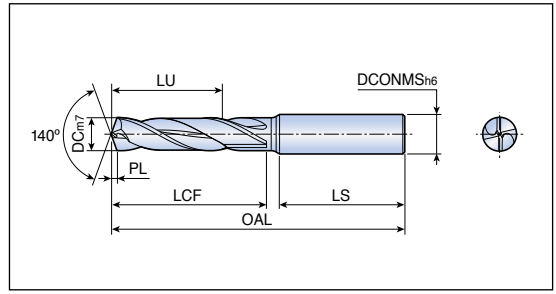
Cutting Condition D250

●: 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	●

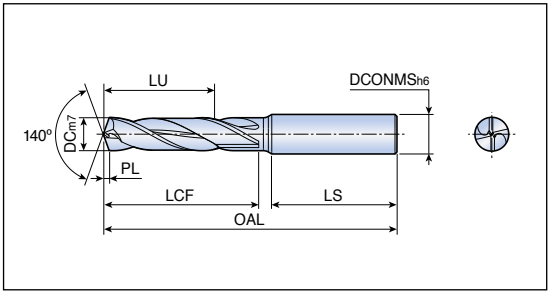
Cutting Condition D250

●: Standard items

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	●

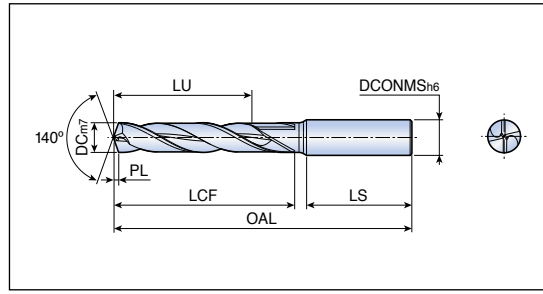
Cutting Condition D250

●: 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	●

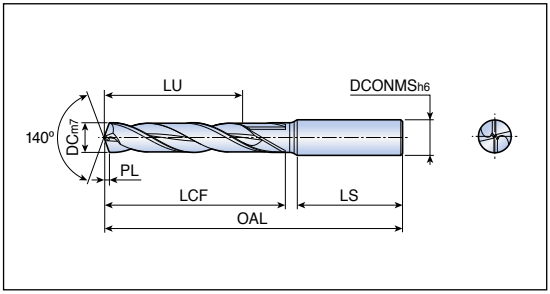
●: Standard items

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	●

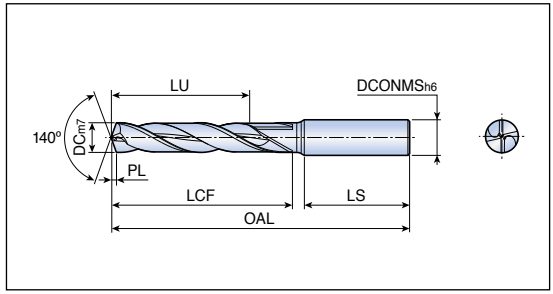
Cutting Condition D250

●: 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

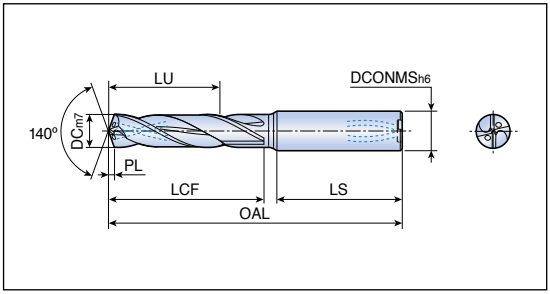
●: Standard items

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	●

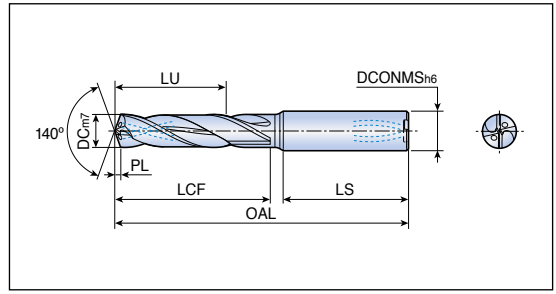
Cutting Condition D250

●: Standard items

NHD...PI3

Solid carbide drills with oil holes

• Drilling depth: 3xdiameter



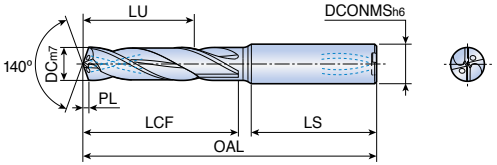
Designation	Dimension (mm)							Grade
	DC	DCONMS	OAL	LU	LCF	LS	PL	TT9030
NHD 065-024-08 PI3	6.5	8	79	24	35	36	1.0	●
066-024-08 PI3	6.6	8	79	24	35	36	1.0	●
067-024-08 PI3	6.7	8	79	24	35	36	1.1	●
068-024-08 PI3	6.8	8	79	24	35	36	1.1	●
069-024-08 PI3	6.9	8	79	24	35	36	1.1	●
070-024-08 PI3	7.0	8	79	24	35	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

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	●

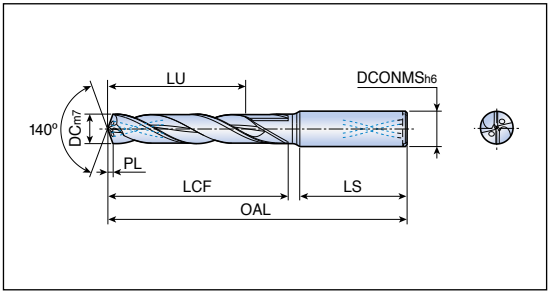
Cutting Condition D250

●: 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	●

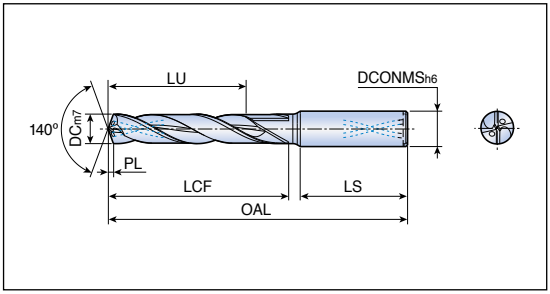
●: Standard items

Cutting Condition D250

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	●

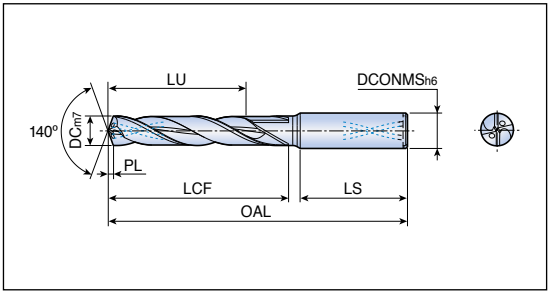
Cutting Condition D250

●: 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

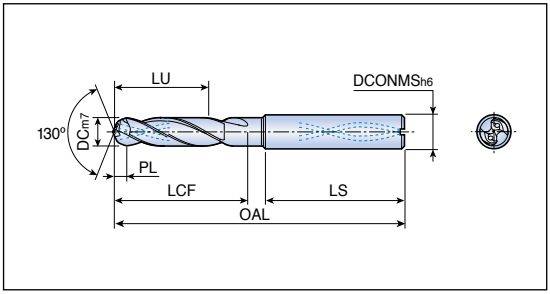
●: Standard items

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	●

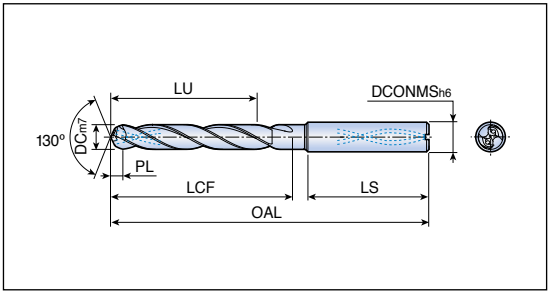
Cutting Condition D250

●: 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	●

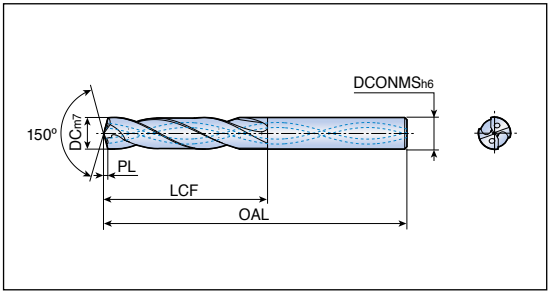
●: Standard items

Cutting Condition D250

ADVANCE CUTTING TaeguTec

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	●

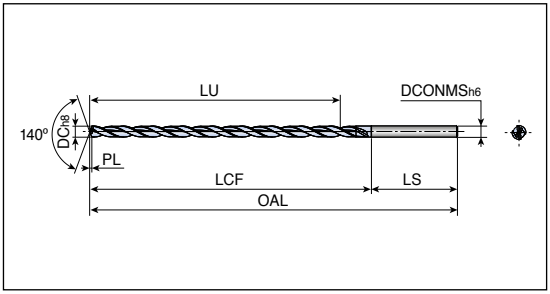
Cutting Condition D250

●: 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	●

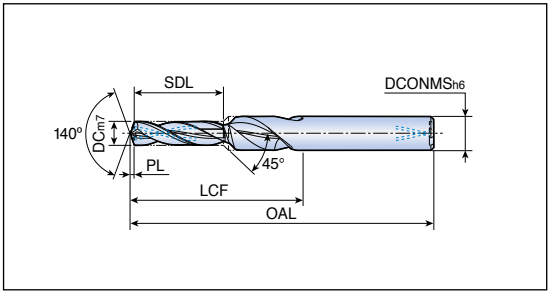
●: Standard items

Cutting Condition D250

ADVANCE CUTTING TaeguTec

SHO...-M

Solid carbide drills for pre-thread holes



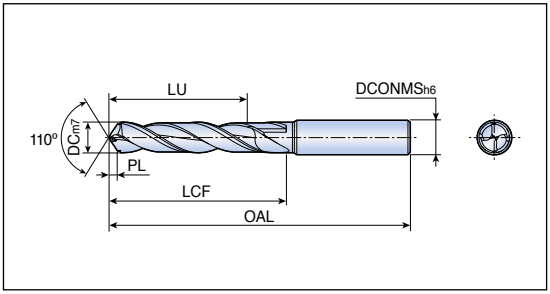
Designation	ISO thread	Dimension (mm)						Grade
		DC	OAL	SDL	LCF	DCONMS	PL	TT9030
SHO 033x12x6-M4	M4	3.3	62.5	12	26.5	6	0.5	●
042x15x6-M5	M5	4.2	66.6	15	28.6	6	0.6	●
050x18x8-M6	M6	5.0	79.8	18	36.8	8	0.8	●
068x24x10-M8	M8	6.8	91.0	24	49.0	10	1.0	●
085x30x12-M10	M10	8.5	103.3	30	56.3	12	1.3	●

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	●

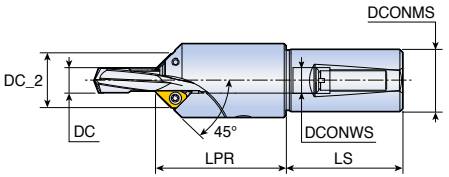
●: Standard items

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

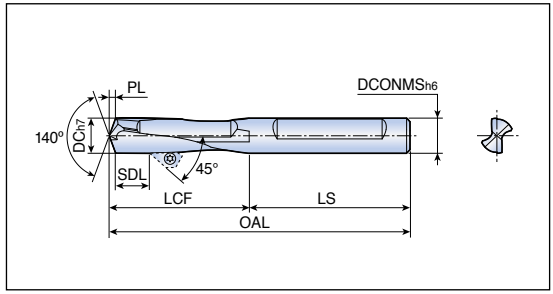
Designation	Side screw	Back screw	L-wrench	Insert screw	Wrench
T-CHAMFER 080 - 090	SS M6x1x6	M6x1-SP	L-W 3	TS 25064I	TD 8
T-CHAMFER 100 - 200	SS M10x1.5x10	M10x1.5-SP	L-W 5	TS 40093I	TD 15

Assembly
D108

SHD 3...-CF

T-CHAMFER

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

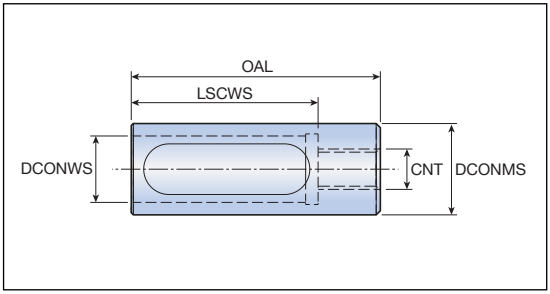
●: Standard items

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

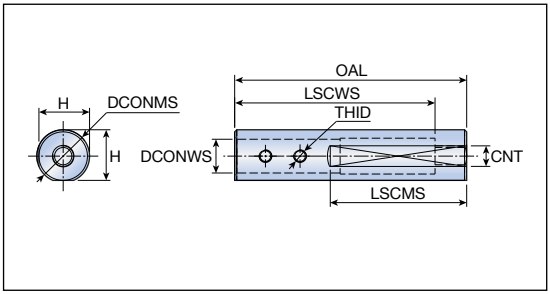
Drill sleeves for Swiss type automatic lathes (Fixed type, internal coolant)



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

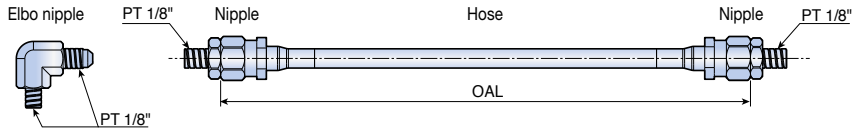
Drill sleeves for Swiss type automatic lathes (Adjustable type, internal coolant)



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

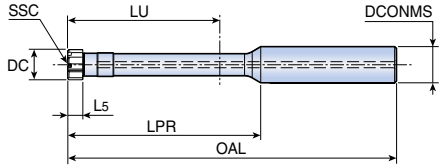
Designation	Mounting screw	Wrench		
				
TSL-SW 22-12	SS M6X1X5	L-W 3		
TSL-SW 25-12	SS M8X1.25X6	L-W 4		
TSL-SW 25-16	SS M6X1X5	L-W 3		
TSL-SW 25.4-12	SS M8X1.25X6	L-W 4		
TSL-SW 25.4-16	SS M6X1X5	L-W 3		
TSL-SW 32-12	SS M8X1.25X6	L-W 4		
TSL-SW 32-16	SS M8X1.25X6	L-W 4		
TSL-SW 32-20	SS M8X1.25X6	L-W 4		

Reaming Tools

XR...-3B/5B-S0

Head changeable reamer holders for small diameter blind hole

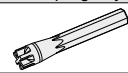
• Cylindrical shank



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

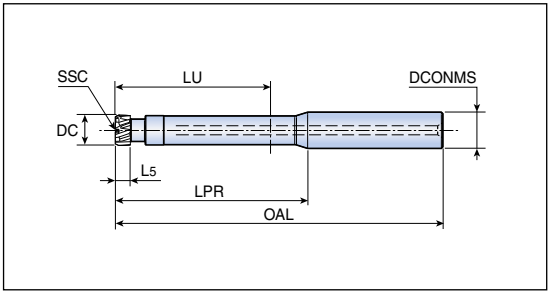
Designation	Clamping key	Key handle
		
XR-D08	W XR D08-KEY	SW6-T-SH
XR-D09	W XR D08-KEY	SW6-T-SH
XR-D10	W XR D10-KEY	SW6-T-SH
XR-D11	W XR D10-KEY	SW6-T-SH
XR-D12	W XR D12-KEY	SW6-T-SH

▸ Clamping key & clamping screw are included

D114 Cutting Condition D263 Technical Data D278

XR...-3T/5T-S0

Head changeable reamer holders for small diameter through hole

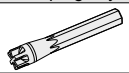


• Cylindrical shank

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

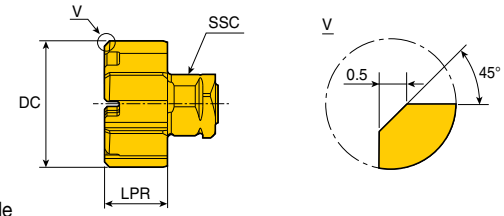
Designation	Clamping key	Key handle
		
XR-D08	W XR D08-KEY	SW6-T-SH
XR-D09	W XR D08-KEY	SW6-T-SH
XR-D10	W XR D10-KEY	SW6-T-SH
XR-D11	W XR D10-KEY	SW6-T-SH
XR-D12	W XR D12-KEY	SW6-T-SH

▸ Clamping key & clamping screw are included

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	●

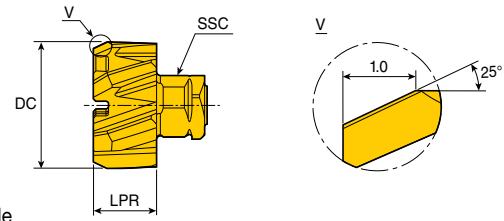
- NOF: Number of flutes
- SSC: Seat size code

●: 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	●

- NOF: Number of flutes
- SSC: Seat size code

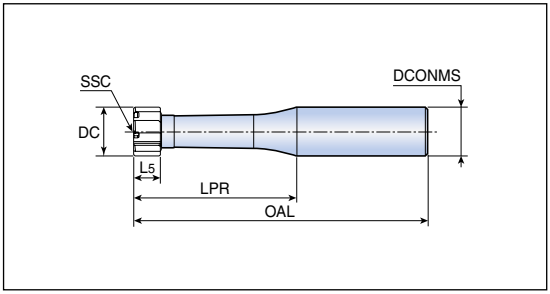
●: Standard items

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

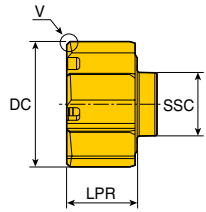
Spare parts

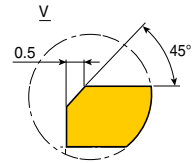
Designation	Clamping screw	Clamping key
		
TM...B5-16T0	TM-B5-SCR	TM-B5-KEY
TM...B6-16T0	TM-B6-SCR	TM-B6-KEY
TM...B7-20T0	TM-B7-SCR	TM-B7-KEY
TM...B8-20T0	TM-B8-SCR	TM-B8-KEY
TM...B9-32T0	TM-B9-SCR	TM-B9-KEY

▸ Clamping key & clamping screw are included

TM...-AS

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	●

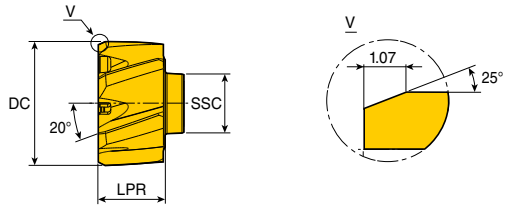
- NOF: Number of flutes
- SSC: Seat size code

●: 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

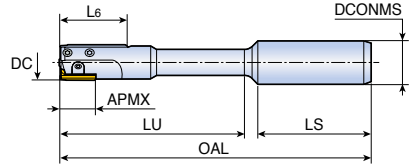
TaeguTec

TB-T...-T0

TBREAM

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

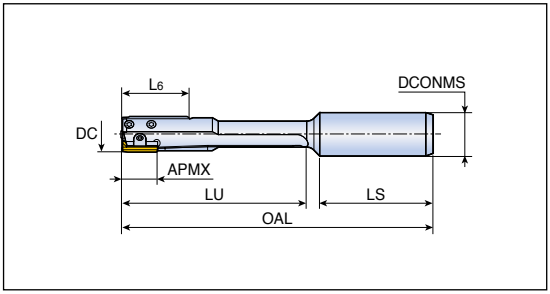
▸ Available upon request

ADVANCE CUTTING TaeguTec

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

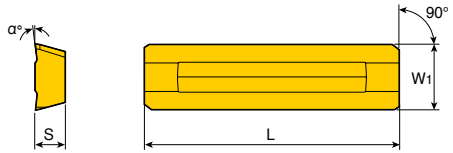
Spare parts

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)

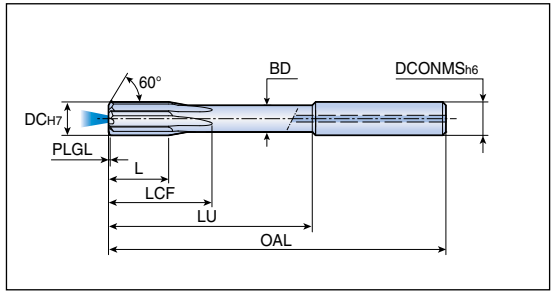
●: Standard items

▸ 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

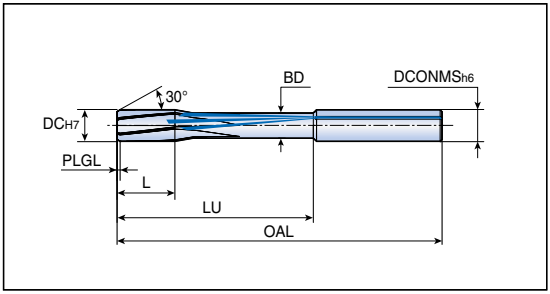
●: Standard items

ADVANCE CUTTING TaeguTec

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

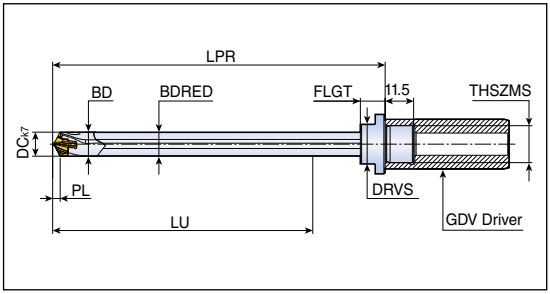
●: Standard items

Deep Drilling Tools

TCDGN

DRILL-RUSH head-changeable and modular shank gundrill holders

• Drilling depth: 16-20xdiameter

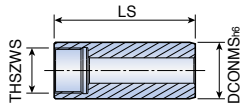


Designation		Dimension (mm)										Clamping Key
		DC	LU	LPR	PL	THSZMS	BD	BDRED	FLGT	DRVS	SSC	
TCDGN	**100X200-MF16X1**	10.0-10.4	200	274	2.33	MF16X1	9.7	9.6	10	16	10	K TCD D100-D199
	100X400-MF16X1	10.0-10.4	400	474	2.33	MF16X1	9.7	9.6	10	16	10	
	110X200-MF16X1	11.0-11.4	200	275	2.50	MF16X1	10.7	10.6	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



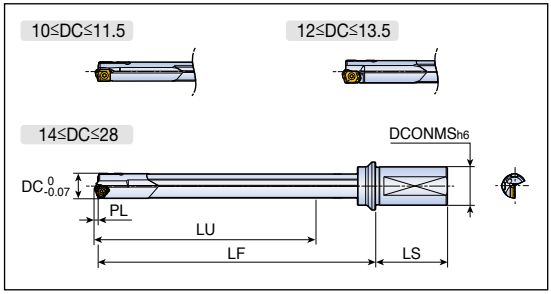
Cylindrical (C) Type　　Weldon (W) Type

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

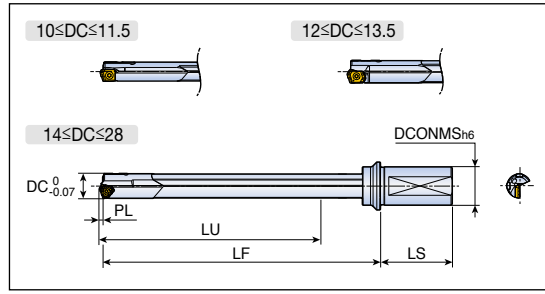
▸ Guide pad is sold separately from drill body

▸ 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

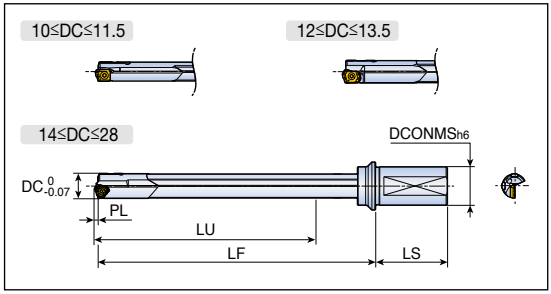
▸ Guide pad is sold separately from drill body

▸ Available upon request

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

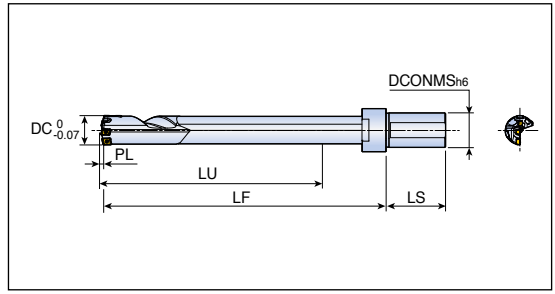
Tool dia. (mm)	Insert			Guide pad		
	Insert	Screw	Wrench	Guide pad	Screw	Wrench
10.00-10.99	ZSGT 060204R-RS	SR-M2.5X0.35L3.8	T-7F	PAD-GP04-16-045-DC-SB	CSTB-2	T-6F
11.00-11.99	LOGT 060204R-RS	SR 10503833L040	T-7F	PAD-GP04-16-050-DC-SB	CSTB-2	T-6F
12.00-13.99				PAD-GP04-16-055-DC-SB	TS 20043I/HG-P	IP-6F
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 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 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 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 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 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 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 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

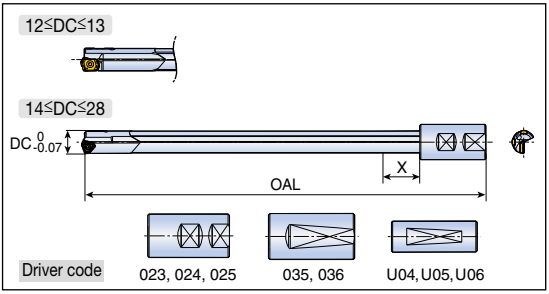
Parts		Diameter (mm)			
		29.0-29.99	30.0-33.0	33.01-35.0	35.01-36.0
Insert	Peripheral insert	NPHT 060304R-G-P	NPHT 080404R-G-P	NPHT 080404R-G-P	NPHT 080404R-G-P
	Screw	CSTB2.2	CSTB2.5	CSTB2.5	CSTB2.5
	Wrench	T-7F	T-8F	T-8F	T-8F
	Inner insert	NPMT 060304R-G-I	NPMT 070404R-G-I	NPMT 070404R-G-I	NPMT 070404R-G-I
	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



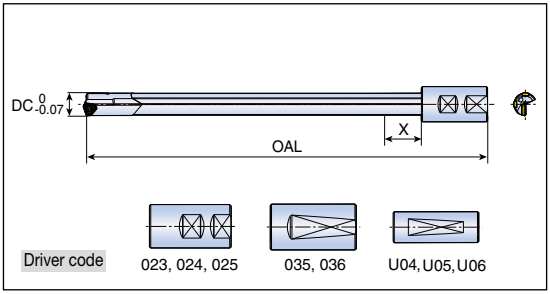
	Designation	Driver code	Dimension (mm)		
			DC	OAL	X
TRGDL	**12.00X800-XXX**	U03 022	12	801.8	18
	12.00X800-XXX		12	801.8	18
	12.00X1000-XXX		12	1001.8	18
	12.00X1000-XXX		12	1001.8	18
	12.00X1650-XXX		12	1651.8	18
	12.00X1650-XXX		12	1651.8	18
	12.70X1219-XXX	U04	12.7	1220.8	19
	12.70X1524-XXX		12.7	1525.8	19
	13.00X800-XXX	U04 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 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 023 035	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 024 036	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 025 026 036	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

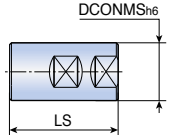
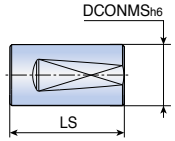
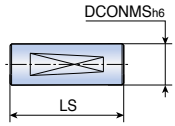
Insert & guide pad

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 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 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 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 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 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 PAD-GP07-20-120-DC-SC	SR 34-508	T-7F

D217-D218 Guide Pad D222 Cutting Condition D260

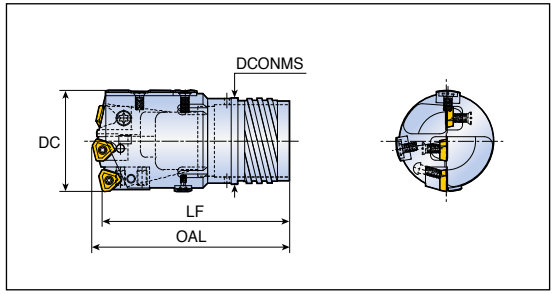
- Guide pad with "SB" is the first choice in general purpose machining "SC" is a excellent toughness grade used with water-soluble coolant
- Inserts and guide pads must be ordered separately

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



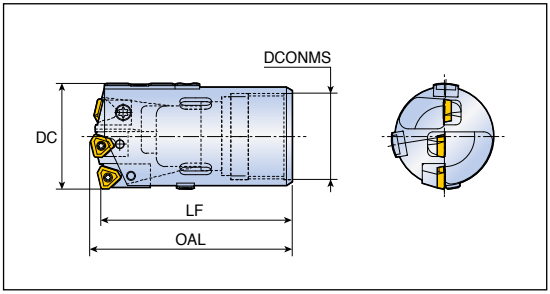
• Outer four start thread

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



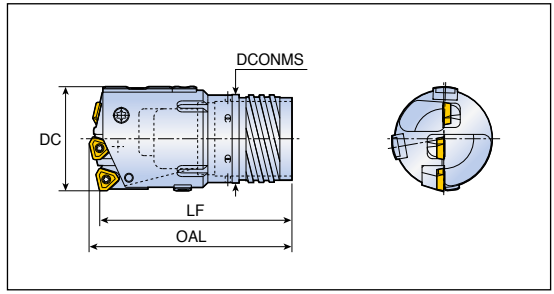
• Inner single start thread

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

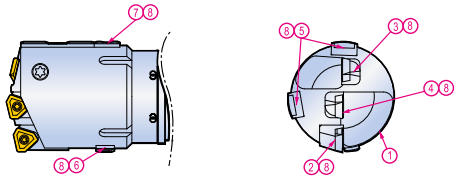
Designation	DC	Dimension (mm)			Tube		
		LF	OAL	DCONMS	Outer tube	Inner tube	Diameter (mm)
TBTA3- xxx.xxDE4-35.5	38.00-39.60	85	90	33	BTDO 035.5	BTDI 026	35.5
xxx.xxDE4-39	39.61-43.00	85	91	36	BTDO 039	BTDI 029	39.0
xxx.xxDE4-42.5	43.01-47.00	95	101	39	BTDO 042.5	BTDI 032	42.5
xxx.xxDE4-46.5	47.01-51.70	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



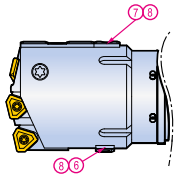
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw

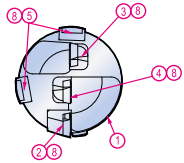
	Parts	Diameter (mm)				
		38.00-39.99	40.00-44.99	45.00-47.99	48.00-51.99	52.00-54.99
Cartridge	Outer	PERC 05R	PERC 402-04	PERC 402-04	PERC 402-04	PERC 402-32
	Adjust screw	AS0003-5	AS0004-8	AS0004-8	AS0004-8	AS0005-10
	Wrench	H1.5	H2	H2	H2	H2.5
	Screw	LS1803RH	LS1803.5RH	LS1803.5RH	LS1803.5RH	LS1805RH
	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





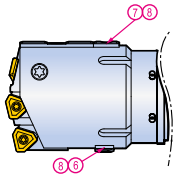
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw

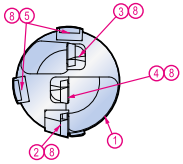
	Parts	Diameter (mm)				
		55.00-57.99	58.00-59.99	60.00-63.99	64.00-67.99	68.00-77.99
Cartridge	Outer	PERC 402-32	PERC 402-32	PERC 402-32	PERC 402-43	PERC 402-32
	Adjust screw	AS0005-10	AS0005-10	AS0005-10	AS0005-15	AS0005-10
	Wrench	H2.5	H2.5	H2.5	H2.5	H2.5
	Screw	LS1805RH	LS1805RH	LS1805RH	LS1806RH	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

D216 Guide Pad D220 Cartridge D224

TBTA3 Series

Assembly of TBTA3 series





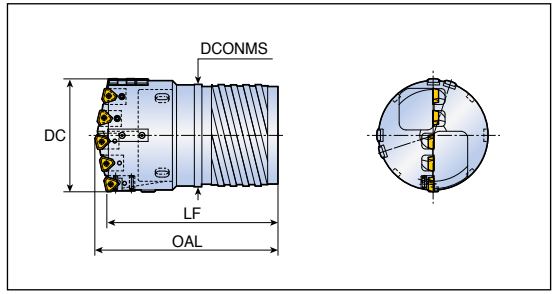
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw

Parts		Diameter (mm)			
		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

D216 Guide Pad D220 Cartridge D224

TBTA5...SE4

Single tube system

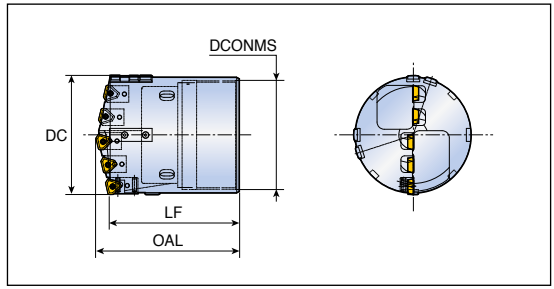


• Outer four start thread

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



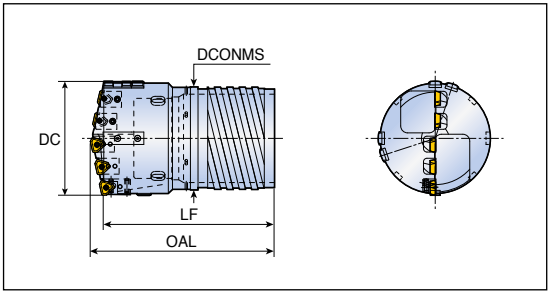
• Inner single start thread

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



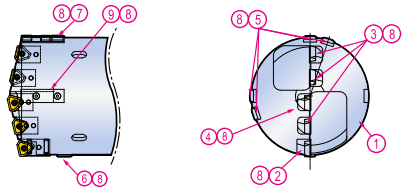
• Outer four start thread

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

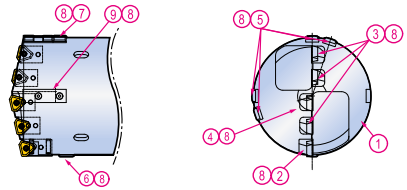


1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

	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

TBTA5 Series

Assembly of TBTA5 series



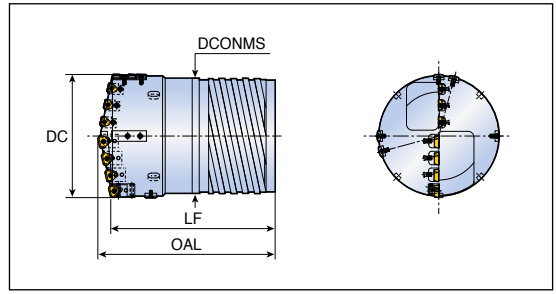
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

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

D216 Guide Pad D220 Cartridge D224

TBTA7...SE4

Single tube system

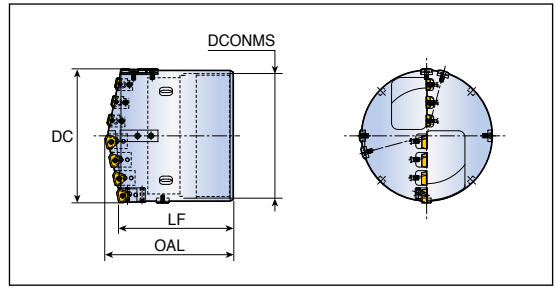


- Outer four start thread
- Double tube system also available on request

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

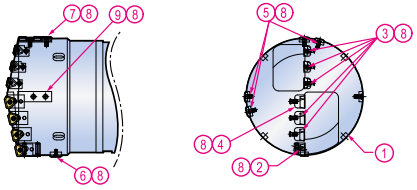


- Inner single start thread

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



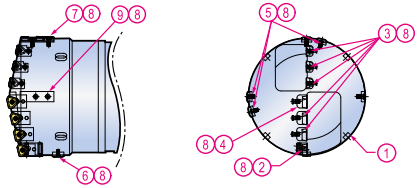
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

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

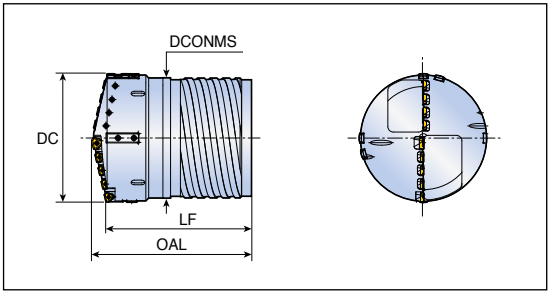


1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

	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

TBTA9...SE4

Single tube system

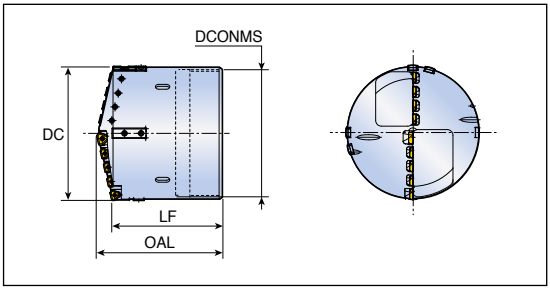


• Outer four start thread

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



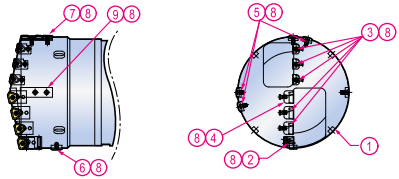
• Inner single start thread

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



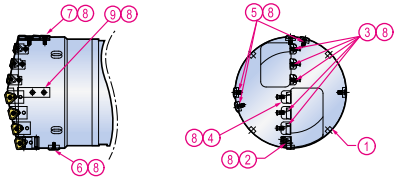
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

	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

D216 Guide Pad D220 Cartridge D224

TBTA9 Series

Assembly of TBTA9 series



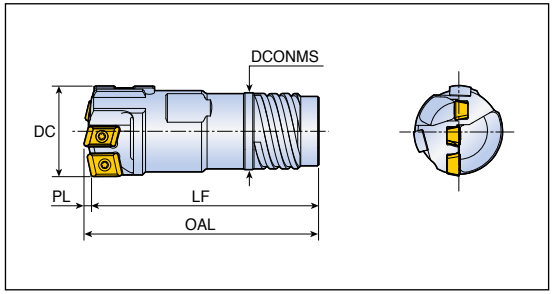
1. Head shank
2. Outer cartridge
3. Inner cartridge
4. Center cartridge
5. Guide pad
6. Sub guide pad
7. Guide pad protector
8. Lock screw
9. Filler

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

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

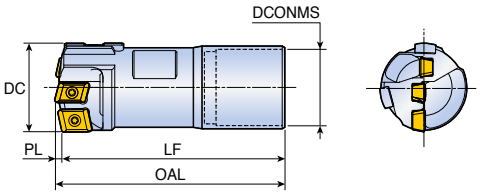
Assembly D153 | Tube D170-D171 | Cutting Condition D254

▸ Insert and guide pad are sold separately from drill body

ADVANCE CUTTING TaeguTec

TBTA-FB...SI1

Single tube system



• Inner single start thread

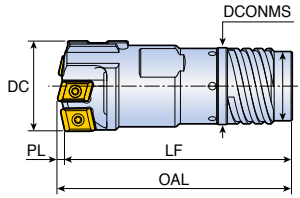
Designation	DC	Dimension (mm)				Tube	
		LF	OAL	DCONMS	PL	Part	Diameter (mm)
TBTA-FB xx.xxSI1-22	25.00-26.99	70	73	20	3	BTSE 022	22
xx.xxSI1-24	27.00-29.00	70	73	22	3	BTSE 024	24
xx.xxSI1-24	29.01-29.99	70	73	22	3	BTSE 024	24
xx.xxSI1-26	30.00-31.99	75	78	24	3	BTSE 026	26
xx.xxSI1-28	32.00-33.99	75	78	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

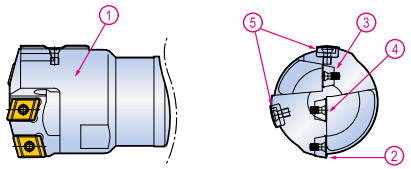
Designation		DC	Dimension (mm)				Tube		
			LF	OAL	DCONMS	PL	Outer tube	Inner tube	Diameter (mm)
TBTA-FB	**xx.xxDE4-23.5**	25.00-26.40	70	73	21.0	3	BTDO 023.5	BTDI 016	23.5
	xx.xxDE4-26	26.41-28.70	75	78	23.5	3	BTDO 026	BTDI 018	26.0
	xx.xxDE4-28	28.71-31.00	75	78	25.5	3	BTDO 028	BTDI 020	28.0
	xx.xxDE4-30.5	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

TBTA-FB Series

Assembly of TBTA-FB series



1. Head shank
2. Outer insert
3. Inner insert
4. Center insert
5. Guide pad

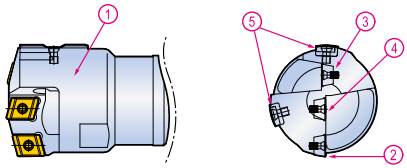
	Parts	Diameter (mm)			
		25.00-28.00	28.01-29.99	30.00-35.00	35.01-38.00
Insert	PER	NPHT 060304R-G-P	NPHT 060304R-G-P	NPHT 080404R-G-P	NPHT 080404R-G-P
	Screw	CSTB2.2	CSTB2.2	SR 14-560-HG	SR 14-560-HG
	Wrench	T-7F	T-7F	T-8F	T-8F
	INT	NPMT 060304R-G-I	NPMT 060304R-G-I	NPMT 070404R-G-I	NPMT 070404R-G-I
	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

	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

▸ 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

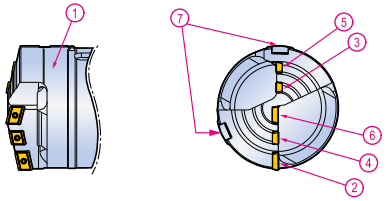
	Parts	Diameter (mm)		
		57.01-60.00	60.01-64.00	64.01-65.00
Insert	PER	NPHT 110404R-G-P	NPHT 130404R-G-P	NPHT 130404R-G-P
	Screw	SR 14-560-HG	SR 14-560-HG	SR 14-560-HG
	Wrench	T-8F	T-8F	T-8F
	INT	NPMT 100404R-G-I	NPMT 100404R-G-I	NPMT 130404R-G-I
	Screw	SR 14-560-HG	SR 14-560-HG	SR 14-560-HG
	Wrench	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

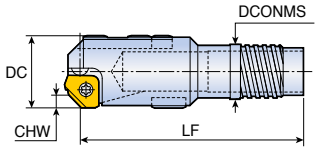
	Parts	Diameter (mm)		
		65.01-71.00	71.01-83.00	83.01-89.00
Insert	PER	NPHT 110404R-G-P	NPHT 130404R-G-P	NPHT 130404R-G-P
	Screw	SR 14-560-HG	SR 14-560-HG	SR 14-560-HG
	Wrench	T-8F	T-8F	T-8F
	INT	NPMT 080404R-G-I	NPMT 080404R-G-I	NPMT 080404R-G-I
	Screw	SR 14-560-HG	SR 14-560-HG	SR 14-560-HG
	Wrench	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



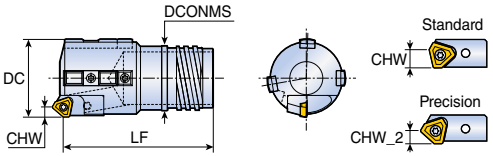
• Outer four start thread

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



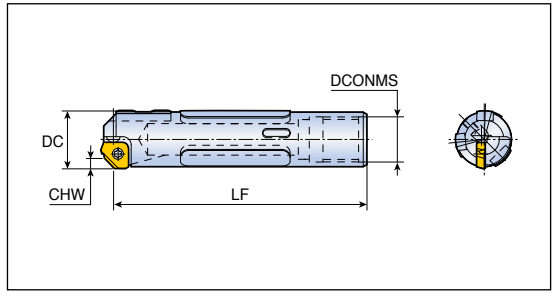
- Outer four start thread

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

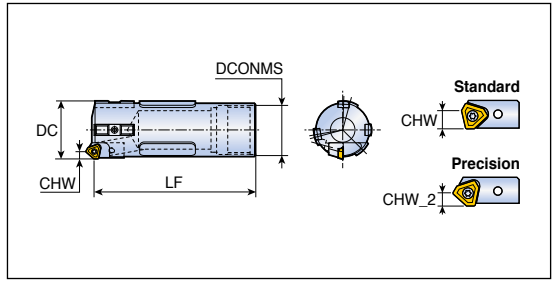


• Inner single start thread

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



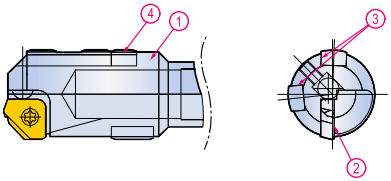
• Inner single start thread

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

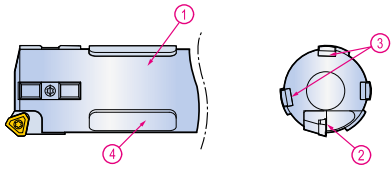
Parts			Diameter (mm)			
			25.00-27.99	28.00-29.99	30.00-37.99	38.00-39.99
Close tolerance	Cartridge	Adjust ball	BALL5	BALL5	BALL5	BALL5
		Adjust screw	AS0005-5	AS0005-5	AS0005-5	AS0005-5
		Wrench	H2.5	H2.5	H2.5	H2.5
		Screw	-	-	-	-
		Wrench	-	-	-	-
	Insert	Insert	XPMT 16002-45	XPMT 16002-45	XPMT 16002-45	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

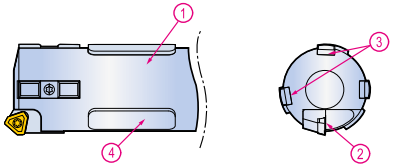
Parts			Diameter (mm)			
			40.00-45.99	46.00-51.99	52.00-56.99	57.00-59.99
Close tolerance	Cartridge	Outer	PERC-P 04R	PERC-P 04R	PERC-P 32R	PERC-P 32R
		Adjust screw	AS0004-8	AS0004-8	AS0005-10	AS0005-10
		Wrench	H2	H2	H2.5	H2.5
		Screw	LS1803.5RH	LS1803.5RH	LS1805RH	LS1805RH
		Wrench	H2.5	H2.5	H3	H3
	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



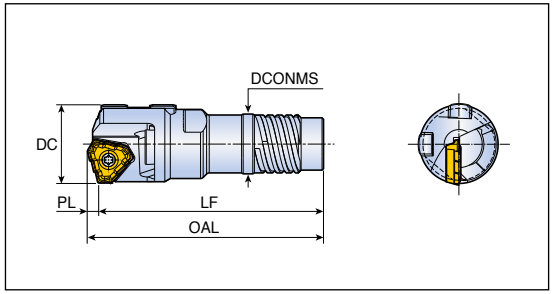
1. Head shank
2. Cartridge & lock screw
3. Guide pad
4. Resin guide pad & lock screw

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

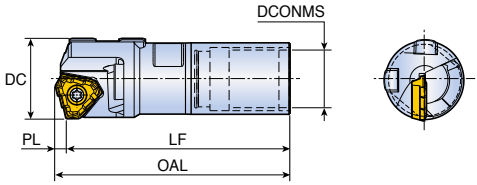
Designation		DC	Dimension (mm)				Tube	
			LF	OAL	DCONMS	PL	Part	Diameter (mm)
TBTA-	**TRxx.xxSE4-14**	16.00-16.70	55.0	57.2	12.6	2.2	BTSI 014	14
	TRxx.xxSE4-15	16.71-17.70	55.0	57.2	13.6	2.2	BTSI 015	15
	TRxx.xxSE4-16	17.71-18.90	56.0	59.0	14.5	3.0	BTSI 016	16
	TRxx.xxSE4-17	18.91-20.00	56.0	59.0	15.5	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

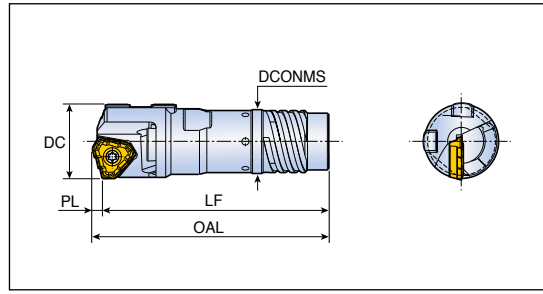
Designation		DC	Dimension (mm)				Tube	
			LF	OAL	DCONMS	PL	Part	Diameter (mm)
TBTA-	**TR16.00SI1-13A**	16.00	53.5	55.7	10.8	2.2	BTSE 013A	13
	TRxx.xxSI1-13B	16.01-16.50	53.5	55.7	11.1	2.2	BTSE 013B	13
	TRxx.xxSI1-14A	16.51-17.25	53.5	55.7	11.8	2.2	BTSE 014A	14
	TRxx.xxSI1-14B	17.26-18.00	53.5	55.7	12.1	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

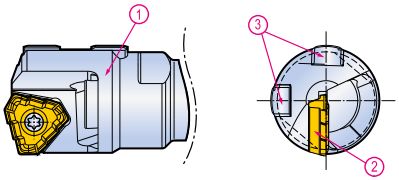
Designation		DC	Dimension (mm)				Tube	
			LF	OAL	DCONMS	PL	Part	Diameter (mm)
TBTA-	**TRxx.xxDE4-18**	18.40-20.00	59.0	62.0	16.0	3.0	BTDO 018	18
	TRxx.xxDE4-19.5	20.01-21.80	63.5	66.7	18.0	3.2	BTDO 019.5	19.5
	TRxx.xxDE4-21.5	21.81-21.99	63.5	66.7	19.5	3.2	BTDO 021.5	21.5
	TRxx.xxDE4-21.5	22.00-24.10	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

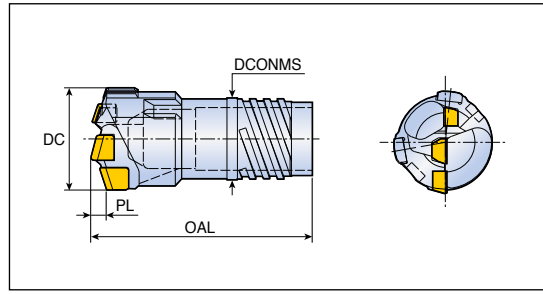
D218 D222

Guide Pad

▸ Insert and guide pad are sold separately from drill body.

BTA...SE2/SE4

Single tube system



• Outer four start thread

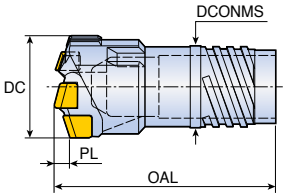
Designation	DC	Dimension (mm)			Tube	
		OAL	PL	DCONMS	Part	Diameter (mm)
BTA xxx.xx SE2-11*	12.60-13.10	43.0	1.1	9.6	BTSI011	11
xxx.xx SE2-11*	13.11-13.60	43.0	1.1	9.6	BTSI011	11
xxx.xx SE2-12*	13.61-14.10	43.0	1.2	10.6	BTSI012	12
xxx.xx SE2-12*	14.11-14.60	43.0	1.2	10.6	BTSI012	12
xxx.xx SE2-13*	14.61-15.10	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



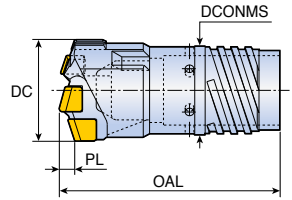
• Outer four start thread

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



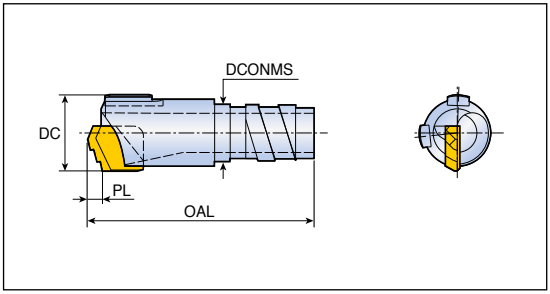
• Outer four start thread

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

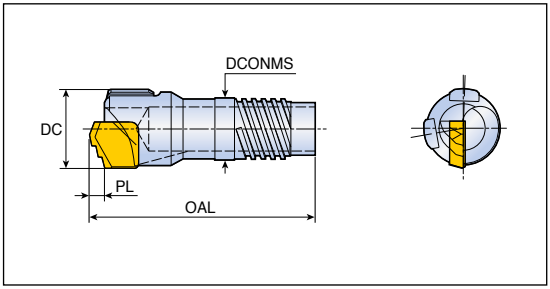


• Outer single start thread

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

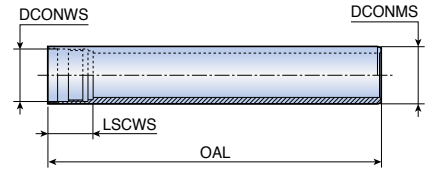
Designation	DC	Dimension (mm)			Tube	
		OAL	PL	DCONMS	Part	Diameter (mm)
BTS xxx.xx SE2-11*	12.60-13.60	40	2.3	9.6	BTSI011	11
xxx.xx SE2-12*	13.61-14.60	40	2.4	10.6	BTSI012	12
xxx.xx SE2-13*	14.61-15.59	40	3.0	11.6	BTSI013	13
xxx.xx SE4-14	15.60-16.70	40	2.4	12.6	BTSI014	14
xxx.xx SE4-15	16.71-17.70	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



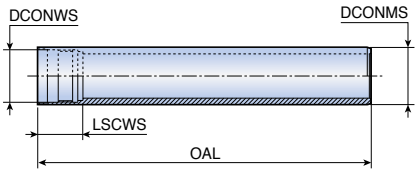
• Inner four start thread

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



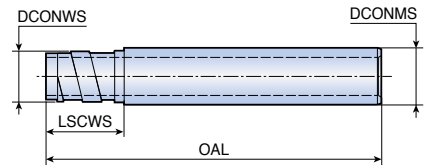
• Inner four start thread

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



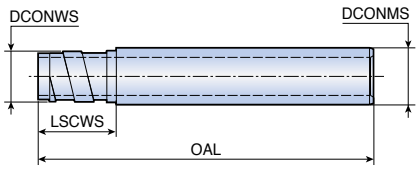
• Outer single start thread

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

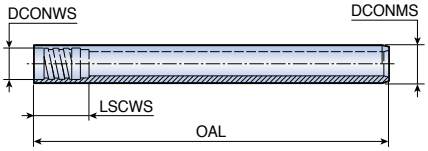
▸ Please indicate overall length (OAL) when ordering

BTSE / BTSO

Single tube



BTSE
Outer single start thread



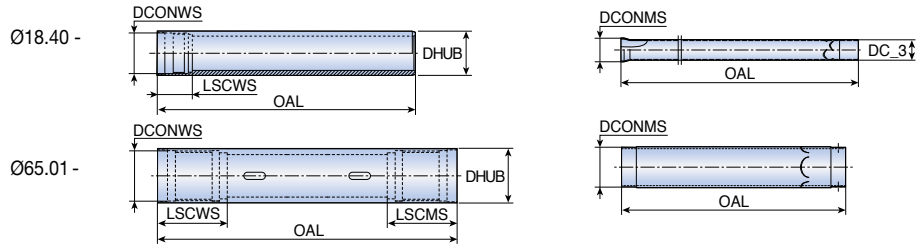
BTSO
Inner single start thread

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



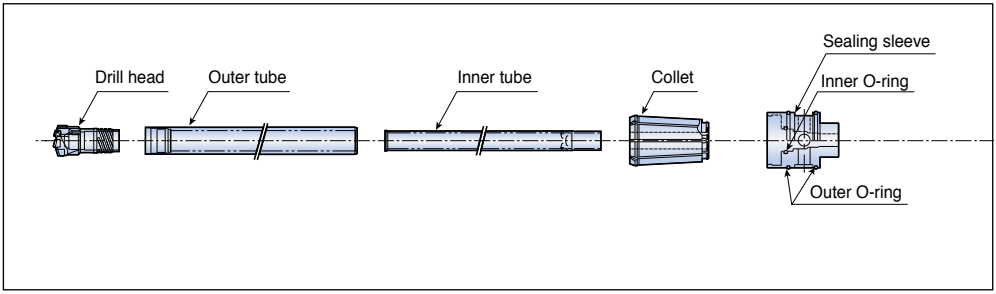
Outer tube **Inner tube**

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

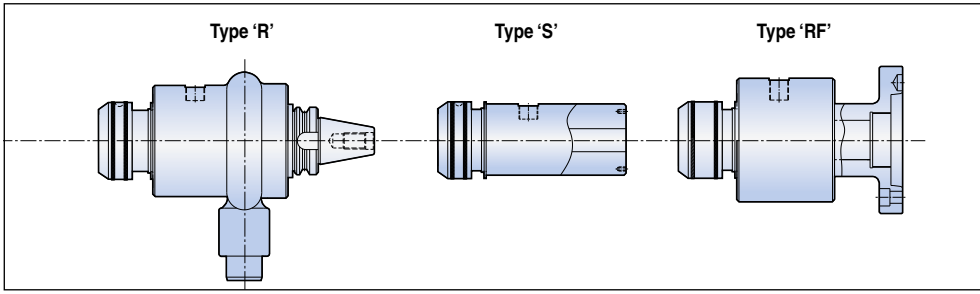


Designation		DC	Collet
BTDO 018	**BTDI 012**	18.40-19.20	COLLET 4-18
018	**012**	19.21-20.00	COLLET 4-18
019.5	**014**	20.01-20.90	COLLET 4-19.5
019.5	**014**	20.91-21.80	COLLET 4-19.5
021.5	**015**	21.81-22.90	COLLET 4-21.5
021.5	**015**	22.91-24.10	COLLET 4-21.5
023.5	**016**	24.11-25.20	COLLET 4-23.5
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

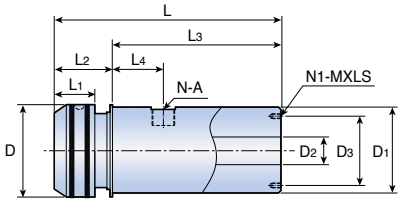
Connector



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

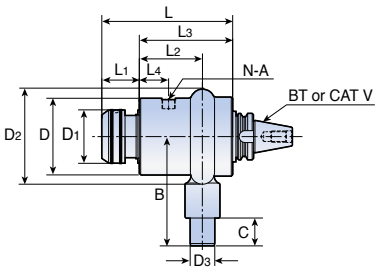
'S' type connector



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

DTC-R

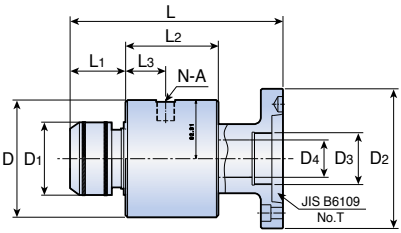
'R' type connector



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"

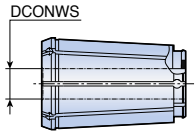
DTC-RF

'RF' type connector

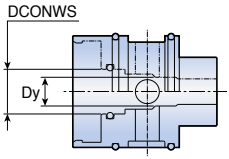


Designation	DC	D	D1	D2	D3	D4	L	L1	L2	L3	N-A
DTC 4RF	18.4-65.0	160	115	210	M62x2	46	291.5	64.5	150	75	2-PT1"

Collet / Sealing Sleeve



Collet



Sealing sleeve

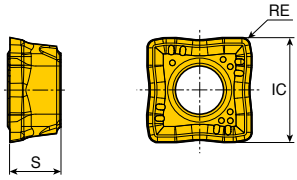
Designation	DC	DCONWS	Designation	DC	DCONWS	Dy	Outer O-ring	Inner O-ring
COLLET 4-18	18.40-20.00	18.0	**SEALING SLEEVE 4-18**	18.40-20.00	18.0	10	OOR 65	IOR 18
4-19.5	20.01-21.80	19.5	**4-19.5**	20.01-21.80	19.5	12		IOR 19.5
4-21.5	21.81-24.10	21.5	**4-21.5**	21.81-24.10	21.5	13		IOR 21.5
4-23.5	24.11-26.40	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	●	●	●				

D18-D33

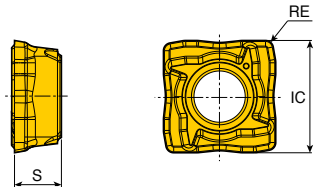
- TT9080: First choice for general purpose
- TT8020: For unstable condition
- TT9300: For high speed machining on a steel application (Peripheral **ONLY**)

●: 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	●						

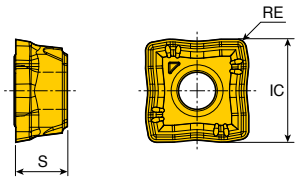
D18-D33

- 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

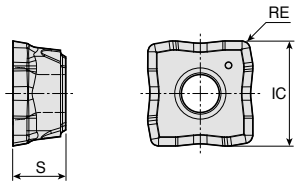
Insert	Designation	Coated							Uncoated			
		TT9080	TT8020	TT9300	TT9030	TT6030	TT6080	TT7400	K10			
	**SOMT 050204 DK**						●					
	060204 DK						●					
	070306 DK						●					
	08T306 DK						●					
	09T308 DK						●					
	11T308 DK						●					
	130408 DK						●					
	150510 DK						●					

●: Standard items

D18-D33

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

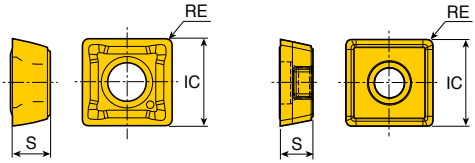
Insert	Designation	Coated							Uncoated			
		TT9080	TT8020	TT9300	TT9030	TT6030	TT6080	TT7400	K10			
	**SOMT 050204 DA**								●			
	060204 DA								●			
	070306 DA								●			
	08T306 DA								●			
	09T308 DA								●			
	11T308 DA								●			
	130408 DA								●			
	150510 DA								●			

●: Standard items

D18-D33

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		●	●			●	

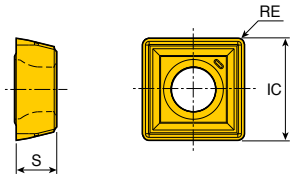
D34-D49

- 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

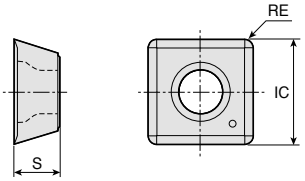
Insert	Designation	Coated						Uncoated
		TT9080	TT9030	TT8020	TT6030	TT9300	TT7400	K10
	**SPMG 050204 DK**				●			
	060204 DK				●			
	07T308 DK				●			
	090408 DK				●			
	110408 DK				●			
	140512 DK				●			

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

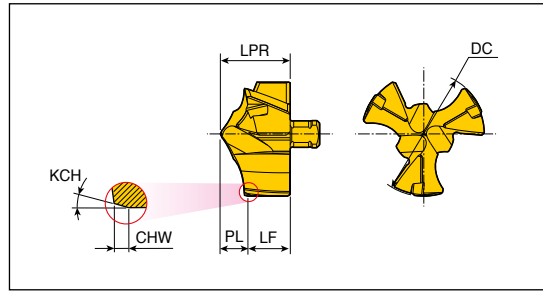
Insert	Designation	Coated						Uncoated
		TT9080	TT9030	TT8020	TT6030	TT9300	TT7400	K10
	**SPGG 050204 DA**							●
	060204 DA							●
	07T308 DA							●
	090408 DA							●
	110408 DA							●
	140512 DA							●

●: 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	●

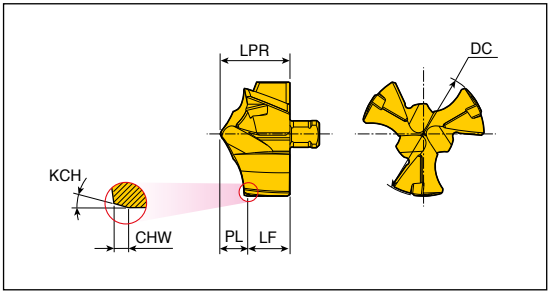
D55-D57

▸ 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	●

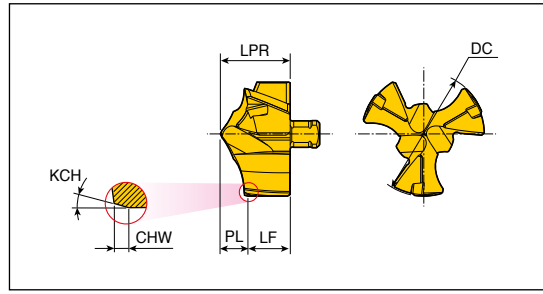
D55-D57

▸ 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	●

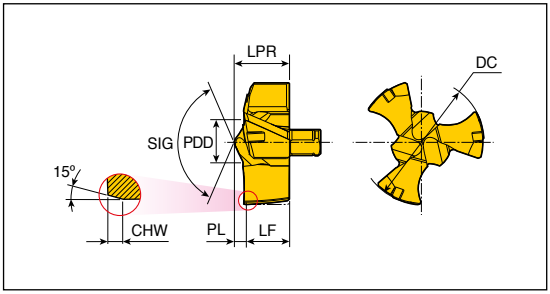
D55-D57

▸ 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	●

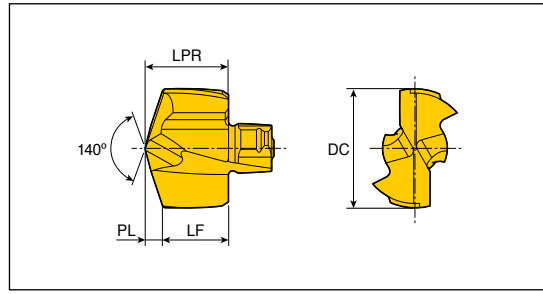
D55-D57

▸ 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	●

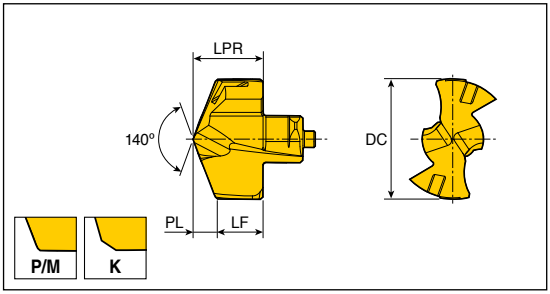
●: Standard items

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

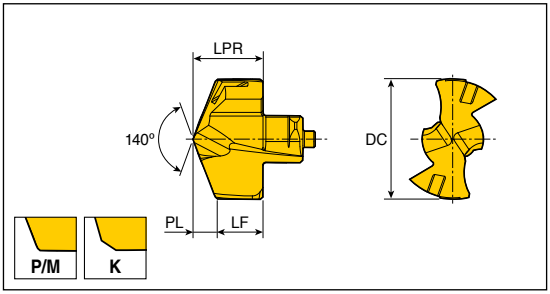
P Steel M Stainless steel K Cast iron

TaeguTec

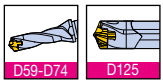
TCD...P/M/K

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

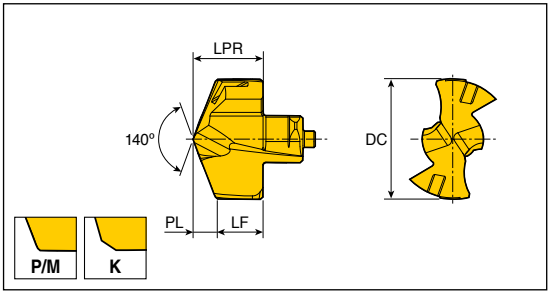
P Steel M Stainless steel K Cast iron

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

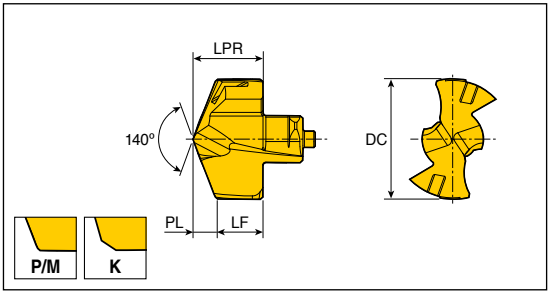
●: Standard items

P Steel M Stainless steel K Cast iron

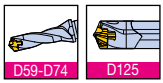
TaeguTec

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

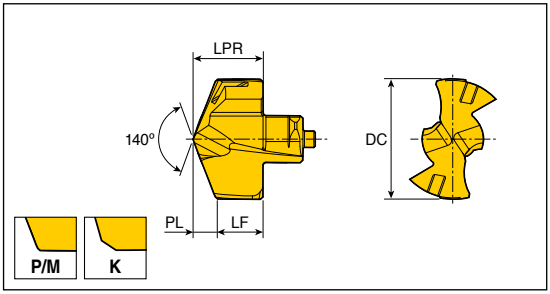
●: Standard items

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

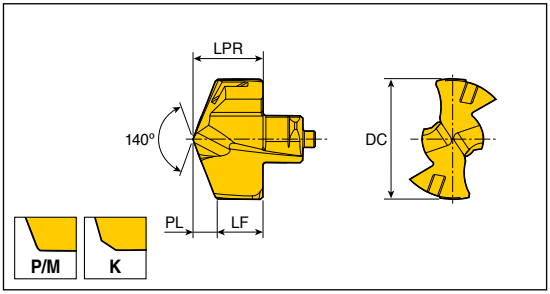
P Steel M Stainless steel K Cast iron

TaeguTec

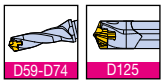
TCD...P/M/K

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

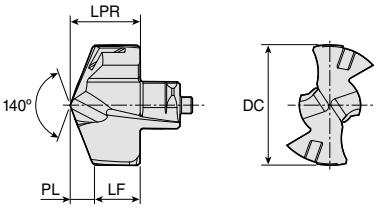
●: Standard items

P Steel M Stainless steel K Cast iron

ADVANCE CUTTING TaeguTec

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

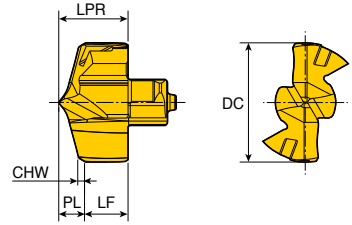
●: Standard items

Nonferrous

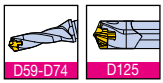
TCD-P+

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	●



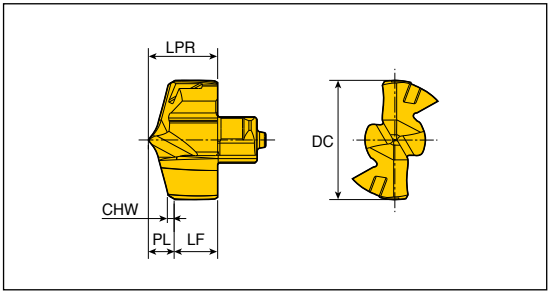
▸ SSC: Seat size code

●: Standard items

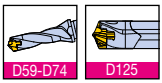
ADVANCE CUTTING
TaeguTec

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	●



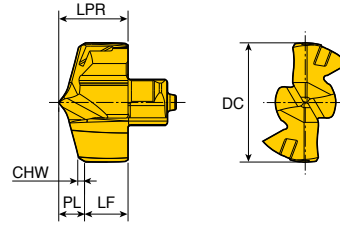
▸ SSC: Seat size code

●: Standard items

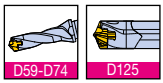
TCD-P+

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	●



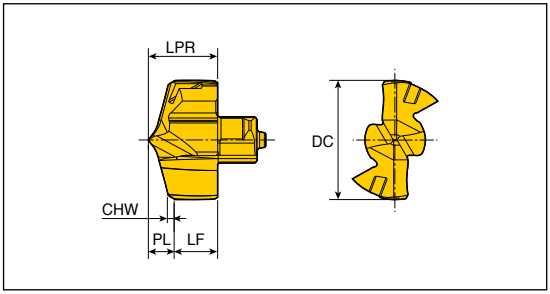
▸ SSC: Seat size code

●: Standard items

ADVANCE CUTTING
TaeguTec

TCD-P+

Self-centering drill heads



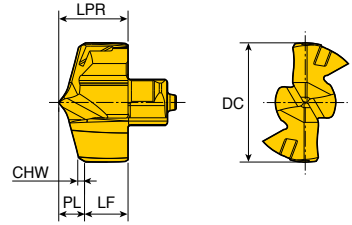
Designation	Dimension (mm)						Grade
	DC	LPR	PL	LF	CHW	SSC	TT9080
TCD-188-P+	18.8	10.50	3.92	6.58	0.81	18	●
190-P+	19.0	11.00	3.98	7.02	0.81	19	●
191-P+	19.1	11.00	3.99	7.01	0.81	19	●
192-P+	19.2	11.00	4.01	6.99	0.81	19	●
193-P+	19.3	11.00	4.02	6.98	0.81	19	●
194-P+	19.4	11.00	4.03	6.97	0.81	19	●
195-P+	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

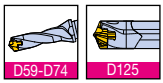
●: Standard items

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	●

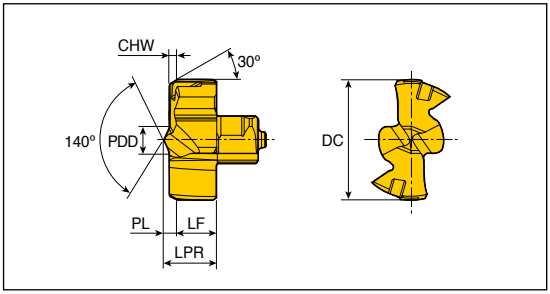


▸ SSC: Seat size code

●: Standard items

TCD...F

Drill heads for flat bottom hole



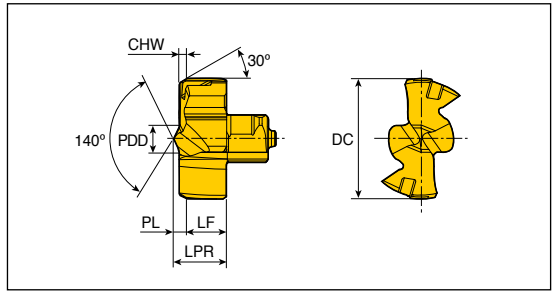
Designation	Dimension (mm)							Grade
	DC	PDD	LPR	PL	LF	CHW	SSC	TT9080
TCD - 080-F	8.0	2.33	4.4	1.09	3.3	0.7	8	●
085-F	8.5	2.33	4.4	1.09	3.3	0.7	8	●
090-F	9.0	2.29	4.6	1.11	3.5	0.7	9	●
095-F	9.5	2.29	4.6	1.11	3.5	0.7	9	●
100-F	10.0	2.44	4.9	1.17	3.7	0.7	10	●
105-F	10.5	2.44	4.9	1.17	3.7	0.7	10	●
110-F	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

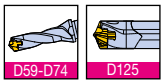
●: Standard items

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	●



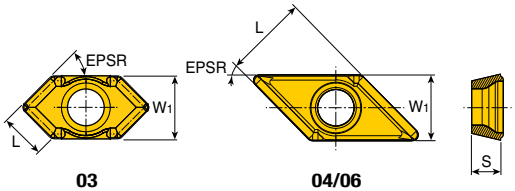
▸ SSC: Seat size code

●: Standard items

ADVANCE CUTTING TaeguTec

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

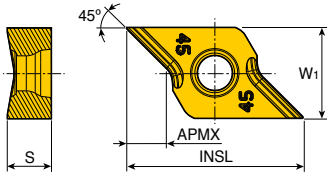
Insert	Designation	Coated						Uncoated
		TT9080	TT9030	TT8020	TT6030	TT9300	TT7400	K10
	**AOMT 030204-C30**	●						
	030204-C45	●						
	**AOMT 040204-C45**	●						
	060204-C45	●						

●: 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

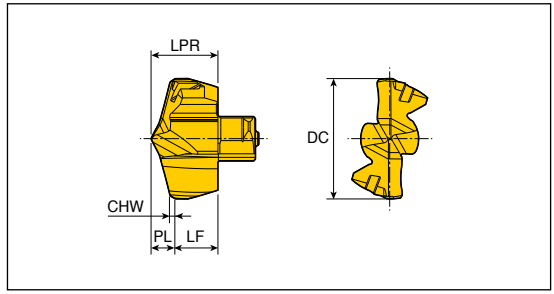
Insert	Designation	Coated						Uncoated
		TT9080	TT9030	TT8020	TT6030	TT9300	TT7400	K10
	**CRNG 0802-45CD**	●						

●: 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	●

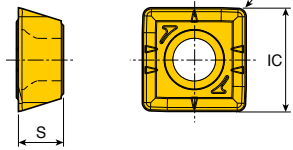
D75-D76

▸ 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	●											

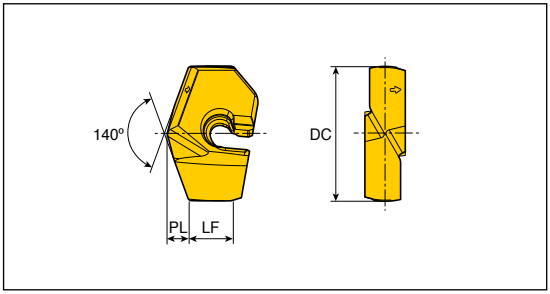
●: Standard items

D75-D76

LCD...-P

SPADERUSH

Drill heads



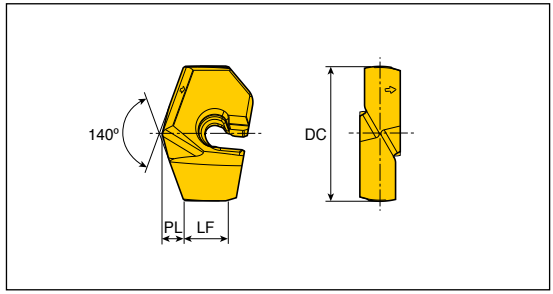
Designation	Dimension (mm)				Grade
	DC	PL	LF	SSC	TT9080
LCD- 200-P	20.0	3.11	6.54	20	●
205-P	20.5	3.20	6.45	20	●
210-P	21.0	3.29	6.36	21	●
215-P	21.5	3.38	6.27	21	●
220-P	22.0	3.42	7.12	22	●
225-P	22.5	3.51	7.03	22	●
230-P	23.0	3.60	6.94	23	●
235-P	23.5	3.69	6.85	23	●
240-P	24.0	3.73	7.03	24	●
245-P	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

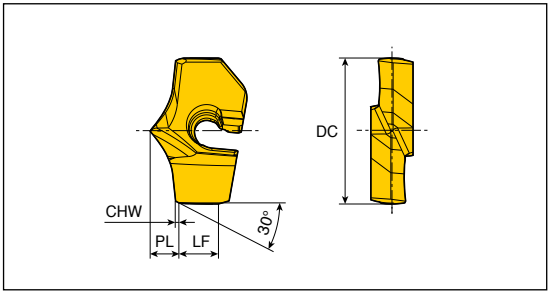
▸ SSC: Seat size code

●: 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	●

D80-D82

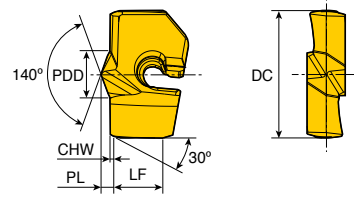
▸ SSC: Seat size code

●: 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	●

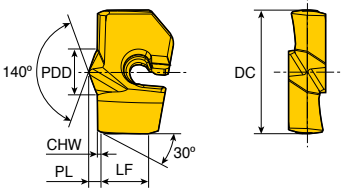
▸ SSC: Seat size code

●: 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

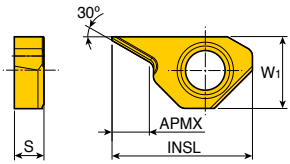
●: Standard items

TaeguTec

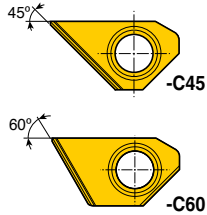
XCGT ...-C

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

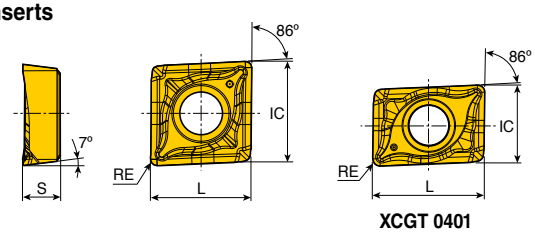
Insert	Designation	Coated						Uncoated
		TT9080	TT9030	TT8020	TT6030	TT9300	TT7400	K10
	**XCGT 0603-C30**	●						
	0903-C30	●						
	**XCGT 0603-C45**	●						
	0903-C45	●						
	**XCGT 0603-C60**	●						
	0903-C60	●						

●: 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							●

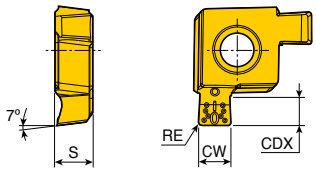
D51-D52

●: 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	●	●					

D51-D52

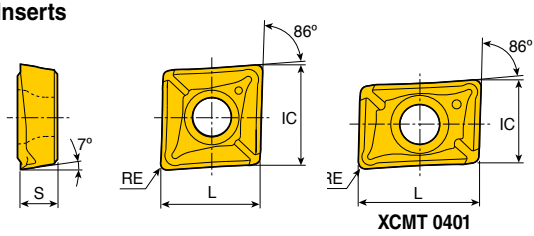
▸ Grooving insert is available only for right handed type

●: 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

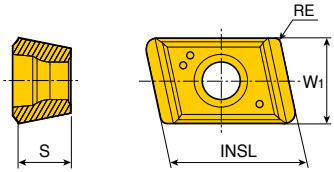
Insert	Designation	Turning		Drilling	Coated						Uncoated
		ap (mm)	Feed (mm/rev)	Feed (mm/rev)	TT9080	TT8020	TT9300	TT9030	TT6030	TT7400	K10
 Right hand shown (XCMT 0401) 	**XCMT 040104R TC**	0.2-1.8	0.02-0.15	0.02-0.09	●	●		●			
	040104L TC	0.2-1.8	0.02-0.15	0.02-0.09	●	●		●			
	050204 TC	0.2-2.2	0.03-0.18	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



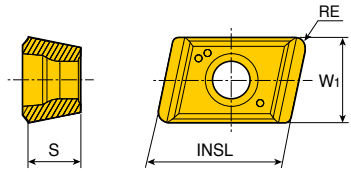
Size	Dimension (mm)			
	W_1	INSL	S	RE
06	6.0	8	3.0	0.4/0.8
08	7.5	10	4.0	0.4/0.8
09	9.0	10	4.0	0.4/0.8
11	11.0	10	4.0	0.4/0.8
13	13.0	10	4.0	0.4/0.8

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



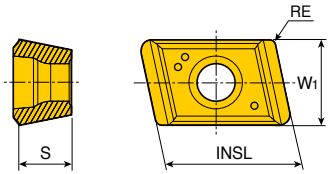
Size	Dimension (mm)			
	W1	INSL	S	RE
06	5.5	8	3.0	0.8
07	6.5	10	4.0	0.8
08	8.0	10	4.0	0.8
10	10.0	10	4.0	0.8
13	12.5	10	4.0	0.8

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

NPMT...R-G-I/R-HF-I

Inserts for TBTA-FB & TRGD



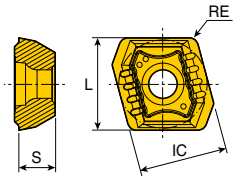
Size	Dimension (mm)			
	W1	INSL	S	RE
06	5.5	8	3.0	0.4
07	6.5	10	4.0	0.4
08	8.0	10	4.0	0.4
10	10.0	10	4.0	0.4
13	12.5	10	4.0	0.4

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		●		●	●	●		●			●	

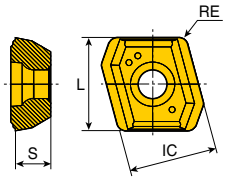
●: Standard items

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

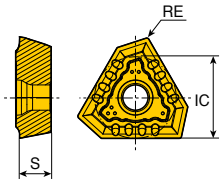
Insert	Designation	Pocket			Coated							Uncoated	
		Center	Inner	Outer	TT9030	TT8125	TT7200	TT6130	TT6020	TT5100	TT5030	K10	
	**NPMX 080308R-B**	●	●	●	●	●		●					
	080308R-G	●	●	●	●	●			●	●			

●: Standard items

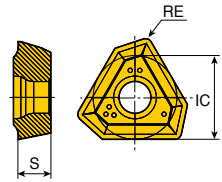
D134-D149

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	

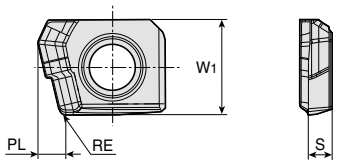
Insert	Designation	Pocket			Coated								Uncoated	
		Center	Inner	Outer	TT9030	TT9130	TT8125	TT7200	TT6130	TT6020	TT5100	TT5030	K10	
	**TPMX 140304R-B**	●	●	●	●		●		●					
	140308R-B	●	●	●		●						●		
	140308R-G	●	●	●	●	●	●	●		●	●	●		
	170404R-B	●	●	●	●		●		●					
	170408R-B	●	●	●		●						●		
	170408R-G	●	●	●	●	●	●	●		●	●	●		
	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

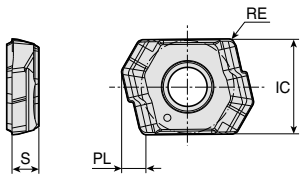
Insert	Designation	Coated								Uncoated		
		TT9030	TT9130	TT8125	TT7200	TT6130	TT6020	TT5100	TT5030	K10		
	**ZSGT 060204R-RS**		●									

D127-D129

●: Standard items

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**		●	●								

D127,D131

●: Standard items

TOGT…RS/GF

Inserts for TBTA-TR & TRGD

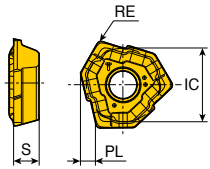


Fig.1

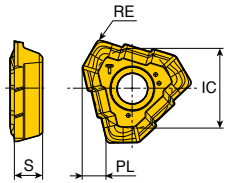


Fig.2

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

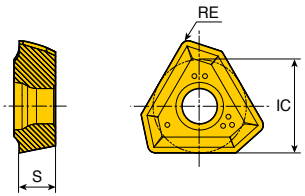
Insert	Designation	Fig.	Coated						Uncoated	
			TT9030	TT8125	TT7200	TT6130	TT6020	TT5100	TT5030	K10
	**TOGT 070304 RS**	1	●							
	070304 GF	1	●							
	080305 RS	1	●							
	080305 GF	1	●							
	090305 RS	2	●							
	090305 GF	2	●							
	100305 RS	2	●							
	100305 GF	2	●							
	110405 RS	2	●							
	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

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	

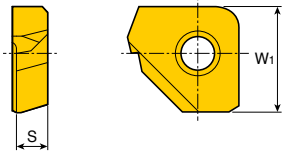
Insert	Designation	Pocket			Coated								Uncoated
		Center	Inner	Outer	TT9030	TT9130	TT8125	TT7200	TT6130	TT6020	TT5100	TT5030	K10
	**TPMX 140308 LG**			●	●							●	
	170408 LG			●	●	●				●		●	
	240512 LG			●	●	●				●		●	

D156-D161

●: Standard items

XPMT...-45

Inserts for TBTA-R



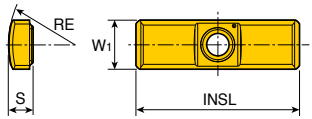
Size	Dimension (mm)			
	W_1	S		
16	9.5	2.70		

Insert	Designation	Pocket			Coated							Uncoated
		Center	Inner	Outer	TT9030	TT8125	TT7100	TT3500	TT6020	TT9300	TT7400	K10
	**XPMT 16002-45**			●	●							

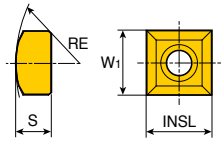
D156-D161

●: Standard items

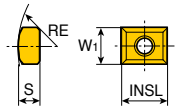
Pad for TBTA 3.../5.../7.../9...



Guide pad



Guide pad protector

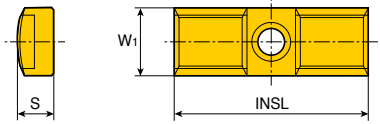


Sub guide pad

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...

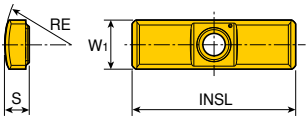


- Plus guide pad for diameter enlargement

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



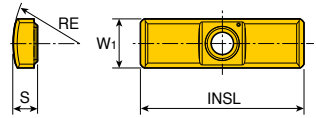
Guide pad

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

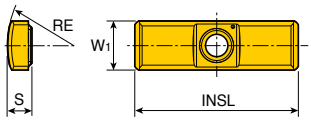


Designation		Dimension (mm)				Screw
		W1	S	INSL	RE	
Guide pad	PAD- GP04-16-045-DC-SB	4	1.8	16	4.5	CSTB-2
	GP04-16-050-DC-SB	4	1.8	16	5.0	CSTB-2
	GP04-16-055-DC-SB	4	2.0	16	5.5	TS 20043I/HG-P
	GP04-16-055-DC-SC	4	2.0	16	5.5	TS 20043I/HG-P
	GP05-18-060-DC-SB	5	2.5	18	6.0	SR34-508
	GP05-18-060-DC-SC	5	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

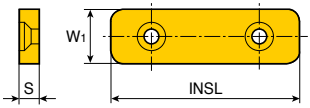
D162-D165 D127-D133

▸ 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

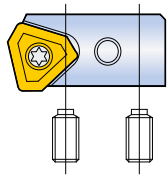


Resin guide pad

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



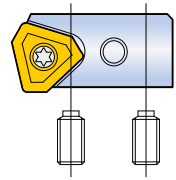
Outer

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

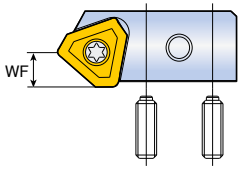


• Plus cartridge for diameter enlargement

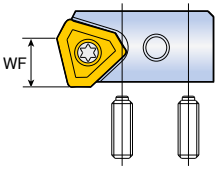
Designation					
DC	DC+1mm	DC+2mm	DC+3mm	DC+4mm	DC+5mm
PERC 05R	**PERC 05R+1**	**PERC 05R+2**	**-**	**-**	**-**
PERC 402-04	**PERC 402-04+1**	**PERC 402-04+2**	**PERC 402-04+3**	**-**	**-**
PERC 402-32	**PERC 402-32+1**	**PERC 402-32+2**	**PERC 402-32+3**	**PERC 402-32+4**	**-**
PERC 402-43	**PERC 402-43+1**	**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



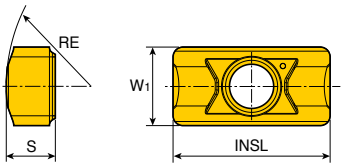
Open tolerance applications

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 Drill length 2,3,4xD								
SOMT 04 Ø12 - Ø13.5	SOMT 05 Ø14 - Ø16	SOMT 06 Ø17 - Ø19	SOMT 07 Ø20 - Ø22	SOMT 08 Ø23 - Ø26	SOMT 09 Ø27 - Ø31	SOMT 11 Ø32 - Ø36	SOMT 13 Ø37 - Ø43	SOMT 15 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

Machining data for TOP-DRILL 5xD

Feed (mm/rev) vs. drill diameter Drill length 5xD								
SOMT 04 Ø12 - Ø13.5	SOMT 05 Ø14 - Ø16	SOMT 06 Ø17 - Ø19	SOMT 07 Ø20 - Ø22	SOMT 08 Ø23 - Ø26	SOMT 09 Ø27 - Ø31	SOMT 11 Ø32 - Ø36	SOMT 13 Ø37 - Ø43	SOMT 15 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

Machining data for TOP-DRILL cartridge

Feed (mm/rev) vs. drill diameter Drill length 2,3,4xD					
SOMT 09 Ø51 - Ø55	SOMT 11 Ø56 - Ø60	SOMT 11 Ø61 - Ø65	SOMT 11 Ø66 - Ø70	SOMT 13 Ø71 - Ø75	SOMT 13 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/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

Machining data for T-DRILL 2,3,4xD

Feed (mm/rev) vs. drill diameter Drill length 2,3,4xD					
SPMG 05 Ø12.5 - Ø15	SPMG 06 Ø16 - Ø21	SPMG 07 Ø22 - Ø27	SPMG 09 Ø28 - Ø33	SPMG 11 Ø34 - Ø41	SPMG 14 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 Drill length 5xD					
SPMG 05 Ø12.5 - Ø15	SPMG 06 Ø16 - Ø21	SPMG 07 Ø22 - Ø27	SPMG 09 Ø28 - Ø33	SPMG 11 Ø34 - Ø41	SPMG 14 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/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

Machining data for T-DRILL cartridge

Feed (mm/rev) vs. drill diameter Drill length 5xD					
SPMG 07 Ø51 - Ø53	SPMG 07 Ø54 - Ø56	SPMG 09 Ø57 - Ø62	SPMG 09 Ø63- Ø66	SPMG 11 Ø67 - Ø73	SPMG 12 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

TOPCAP

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

DRILLSFEED

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

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

MODU R DRILL

Machining data for MODU-R-DRILL

Feed (mm/rev) vs. drill diameter					
SPGX 06 Ø26 - Ø28	SPGX 07 Ø29 - Ø32	SPGX 09 Ø33 - Ø36	SPGX 11 Ø37 - Ø43	SPGX 11 Ø44 - Ø45	SPGX 14 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

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

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

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		

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

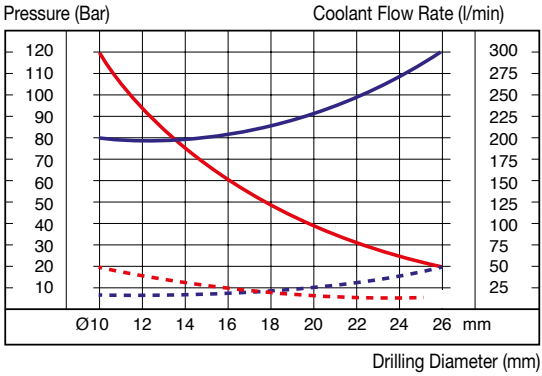
Machining data for WIN-GUN

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



Q (l/min) **P (bar)**

GUN-DRILL Machines

Milling and Turning Machines

ADVANCE CUTTING TaeguTec

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 0.18 0.21	0.18 0.21 0.24	0.20 0.23 0.27	0.25 0.30 0.35	0.25 0.30 0.35
0.14 0.17 0.21	0.16 0.20 0.24	0.18 0.22 0.26	0.23 0.27 0.31	0.25 0.30 0.35
0.12 0.14 0.17	0.15 0.17 0.20	0.18 0.20 0.23	0.20 0.22 0.25	0.22 0.24 0.27
0.12 0.13 0.15	0.14 0.15 0.17	0.16 0.18 0.20	0.16 0.19 0.21	0.18 0.21 0.24
0.20 0.23 0.27	0.25 0.28 0.32	0.30 0.33 0.37	0.35 0.40 0.45	0.35 0.42 0.47
0.25 0.28 0.32	0.30 0.33 0.37	0.35 0.38 0.42	0.40 0.45 0.50	0.45 0.50 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/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		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

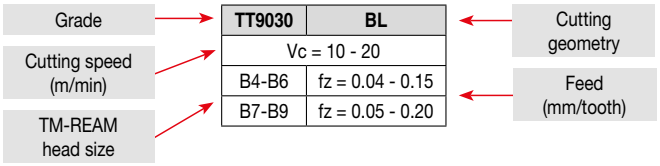
Machining data for TM-REAM - Through hole

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.

Legend:



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

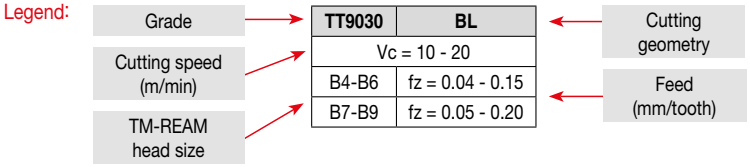
TM-REAM

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

TB-REAM

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

TBREAM

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"

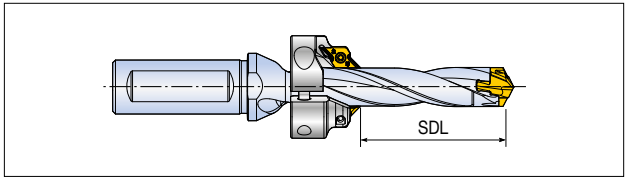
Steel Stainless steel Cast iron Nonferrous High temp. alloys Hardened steel

Recommended Cutting Conditions

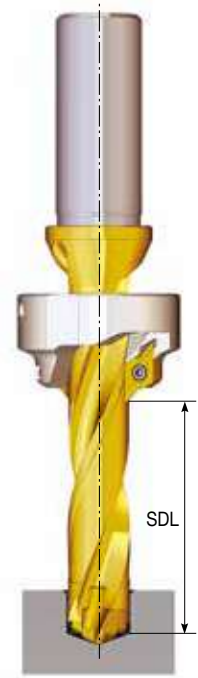
Machining data for TS-REAM

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
0.10-0.40	0.15-0.70	0.50-1.40	0.80-1.60

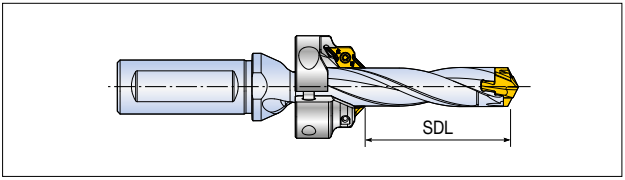
Chamfering ring designation - DRILL-RUSH



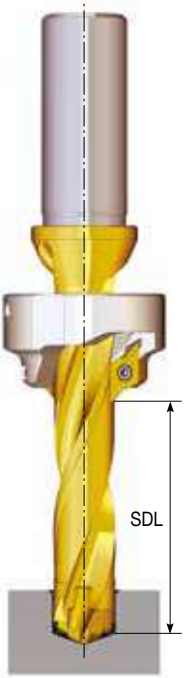
	Designation	CFR designation	SDL	
			min	max
3D	TCD 130-134-16T3/S0-3D	CFR D130-A45	19	19
	135-139-16T3/S0-3D	CFR D135-A45	19	20
	140-144-16T3/S0-3D	CFR D140-A45	21	22
	145-149-16T3/S0-3D	CFR D145-A45	22	23
	150-159-20T3/S0-3D	CFR D150-A45	23	23
	160-169-20T3/S0-3D	CFR D160-A45	24	25
	170-179-20T3/S0-3D	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



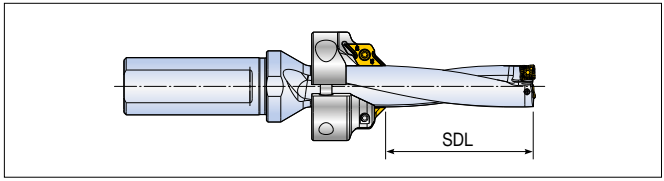
Chamfering ring designation - DRILL-RUSH



	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

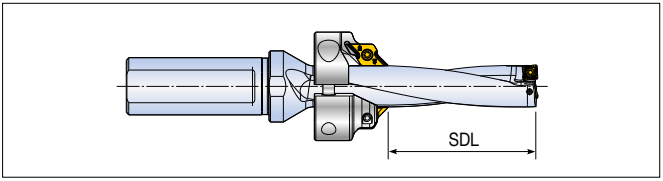


Chamfering ring designation - TOP-DRILL and T-DRILL



	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

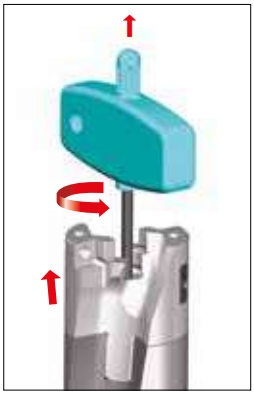


	TOP-DRILL		T-DRILL		CFR designation	SDL	
						min	max
4D	TOP	-	TDR	4125-20T2-05	CFR D125-A45	25	26
		-		4130-20T2-05	CFR D130-A45	25	26
		-		4135-20T2-05	CFR D135-A45	27	30
		4140-20T2-05		4140-20T2-05	CFR D140-A45	28	30
		4145-20T2-05		4145-20T2-05	CFR D145-A45	29	34
		4150-20T2-05		4150-20T2-05	CFR 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.



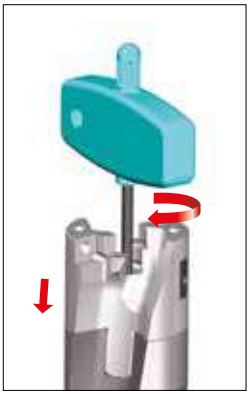
3. Insert the setting gauge into the bottom of the disconnected modular head.

4. Rotate the screw to adjust to the same height with the setting gauge.

Setting gauge

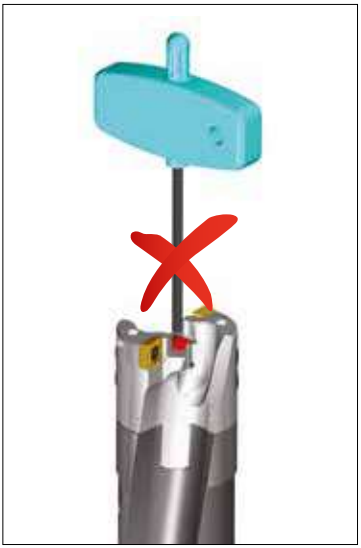
Drill dia.	Designation
D26-D29	SG TNDH D26-29-TP
D30-D35	SG TNDH D30-35-TP
D36-D39	SG TNDH D36-39-TP
D40-D43	SG TNDH D40-43-TP
D44-D50	SG TNDH D44-50-TP

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.

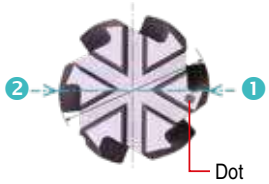


Damaged center drill

- Disassembling wrench and handle are included with the modular drill holder. (MDB Dxx/xx…)

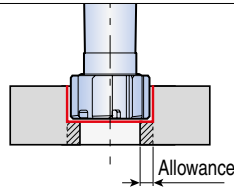
XM-REAM user guide and notice

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

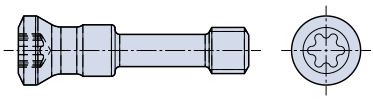
Coolant hole is hidden by the flute

Reduced coolant flow

Screw torque

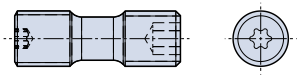
For SPADE-RUSH

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



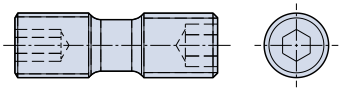
For MODU-R-DRILL

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

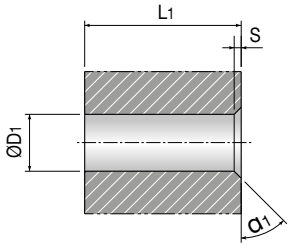
Hole tolerance

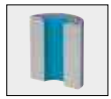
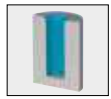
Diameter D(mm)		Tolerance (μm)															
>D	≤D	B10	C9	C10	D8	D9	D10	E7	E8	E9	F6	F7	F8	G6	G7	H6	H7
–	3	+180 +140	+85 +60	+100 +60	+34 +20	+45 +20	+60 +20	+24 +14	+28 +14	+39 +14	+12 +6	+16 +6	+20 +6	+8 +2	+12 +2	+6 0	+10 0
3	6	+180 +140	+100 +70	+118 +70	+48 +30	+60 +30	+78 +30	+32 +20	+38 +20	+50 +20	+18 +10	+22 +10	+28 +10	+12 +4	+16 +4	+8 0	+12 0
6	10	+208 +150	+116 +80	+138 +80	+62 +40	+76 +40	+98 +40	+40 +25	+47 +25	+61 +25	+22 +13	+28 +13	+35 +13	+14 +5	+20 +5	+9 0	+15 0
10	14	+220 +150	+138 +95	+165 +95	+77 +50	+93 +50	+120 +50	+50 +32	+59 +32	+75 +32	+27 +16	+34 +16	+43 +16	+17 +6	+24 +6	+11 0	+18 0
14	18																
18	24	+244 +160	+162 +110	+194 +110	+98 +65	+117 +65	+149 +65	+61 +40	+73 +40	+92 +40	+33 +20	+41 +20	+53 +20	+20 +7	+28 +7	+13 0	+21 0
24	30																
30	40	+270 +170	+182 +120	+220 +120	+119 +80	+142 +80	+180 +80	+75 +50	+89 +50	+112 +50	+41 +25	+50 +25	+64 +25	+25 +9	+34 +9	+16 0	+25 0
40	50	+280 +180	+192 +130	+230 +130													
50	65	+310 +190	+214 +140	+260 +140	+146 +100	+174 +100	+220 +146	+90 +60	+106 +60	+134 +60	+49 +30	+60 +30	+76 +30	+29 +10	+40 +10	+19 0	+30 0
65	80	+320 +200	+224 +150	+270 +150													

Hole tolerance

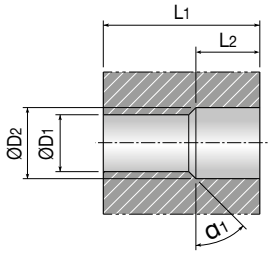
Tolerance (μm)																
H8	H9	H10	JS6	JS7	K6	K7	M6	M7	N6	N7	P6	P7	R7	S7	T7	U7	X7
+14 0	+25 0	+40 0	±3	±5	0 -6	0 -10	-2 -8	-2 -12	-4 -10	-4 -14	-6 -12	-6 -16	-10 -20	-14 -24	–	-18 -28	-20 -30
+18 0	+30 0	+48 0	±4	±6	+2 -6	+3 -9	-1 -9	0 -12	-5 -13	-4 -16	-9 -17	-8 -20	-11 -23	-15 -27	–	-19 -31	-24 -36
+22 0	+36 0	+58 0	±4.5	±7.5	+2 -7	+5 -10	-3 -12	0 -15	-7 -16	-4 -19	-12 -21	-9 -24	-13 -28	-17 -32	–	-22 -37	-28 -43
+27 0	+43 0	+70 0	±5.5	±9	+2 -9	+6 -12	-4 -15	0 -18	-9 -20	-5 -23	-15 -26	-11 -29	-16 -34	-21 -39	–	-26 -44	-33 -51 -38 -56
+33 0	+52 0	+84 0	±6.5	±10.5	+2 -11	+6 -15	-4 -17	0 -21	-11 -24	-7 -28	-18 -31	-14 -35	-20 -41	-27 -48	– -33 -54	-33 -54 -40 -61	-46 -67 -56 -77
+39 0	+62 0	+100 0	±8	±12.5	+3 -13	+7 -18	-4 -20	0 -25	-12 -28	-8 -33	-21 -37	-17 -42	-25 -50	-34 -59	-39 -64 -45 -70	-51 -76 -61 -86	–
+46 0	+74 0	+120 0	±9.5	±15	+4 -15	+9 -21	-5 -24	0 -30	-14 -33	-9 -39	-26 -45	-21 -51	-30 -60 -32 -62	-42 -72 -48 -78	-55 -85 -64 -94	-76 -106 -91 -121	–

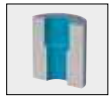
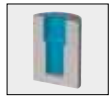
Specific dimensions



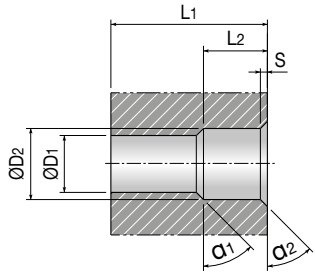



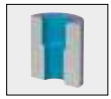
Through ☐ Blind ☐
ØD1 L1
α1 S
•Hole tolerance



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

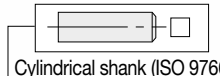
•Machine type
MCT ☐ Lathe ☐
Vertical ☐ Horizontal ☐
Machine name
Power kW

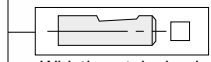
•Coolant supply
Internal ☐ External ☐
Coolant pressure bar
Coolant type

Workpiece

•Part
•Material
•Hardness

Shank type


Cylindrical shank (ISO 9766)


Whistle notch shank

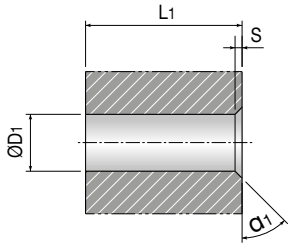

Cylindrical with flat type

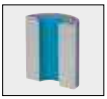

Weldon shank

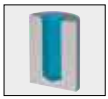
Tailor-made Order Form

DRILLRUSH

Specific dimensions





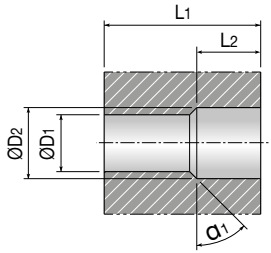


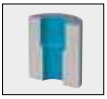
Through ☐ Blind ☐

ØD1 _____ L1 _____

α1 _____ S _____

•Hole tolerance _____





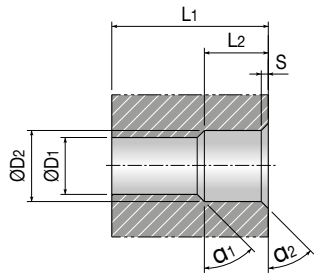
Through ☐ Blind ☐

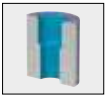
ØD1 _____ ØD2 _____

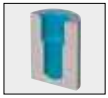
L1 _____ L2 _____

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 _____

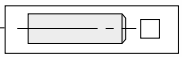
Workpiece

•Part _____

•Material _____

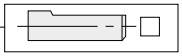
•Hardness _____

Shank type



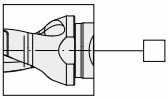
Cylindrical shank (ISO 9766)

Whistle notch shank



Cylindrical with flat type

Weldon shank

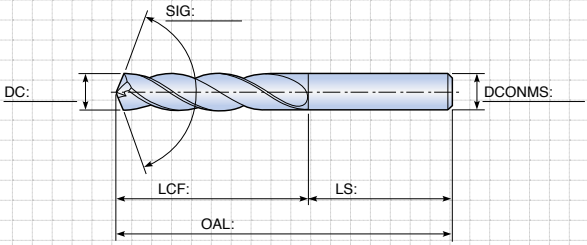


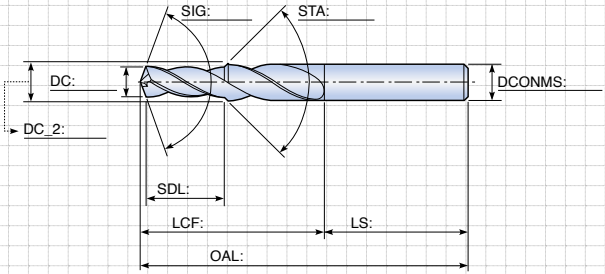
•Shank dia: _____

•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 _____ ☐

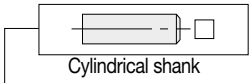
•Through hole _____ ☐

Coating

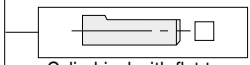
•TiAlN _____ ☐

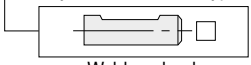
•Non-coated _____ ☐

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★ 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

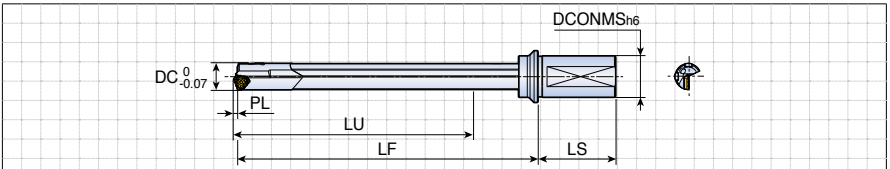
Boring conditions	
Through hole drilling	☐
Blind hole drilling	☐
Cross hole drilling★	☐

★ **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.

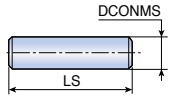
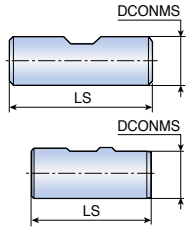
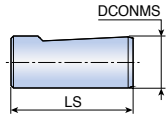
Workpiece (If possible, please attach a drawing)		
Material description (DIN material number or any other standard)		
Hardness and properties		
Hole type		☐ Blind hole ☐ Through hole ☐ Drilling into pre-hole ☐ Angled entry ☐ Drilling into solid ☐ Boring ☐ Angled exit
Drilling depth		mm
Hole tolerance		
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	

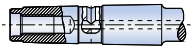
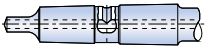
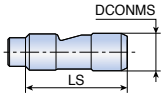
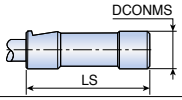
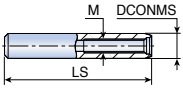
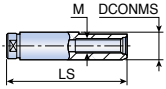
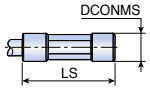
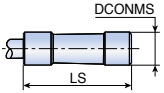
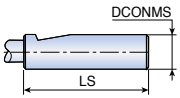
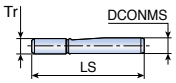
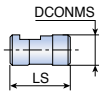
Standard gundrill drivers for machining centers and lathes

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:

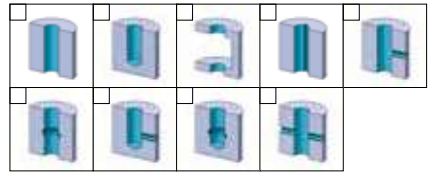
Contact person:

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	

Machine		
Model		
Type★	vertical	☐
	horizontal	☐
	multi-spindle	☐
Adaption★		
Max RPM		
Power		
Spindle accuracy		
Coolant		

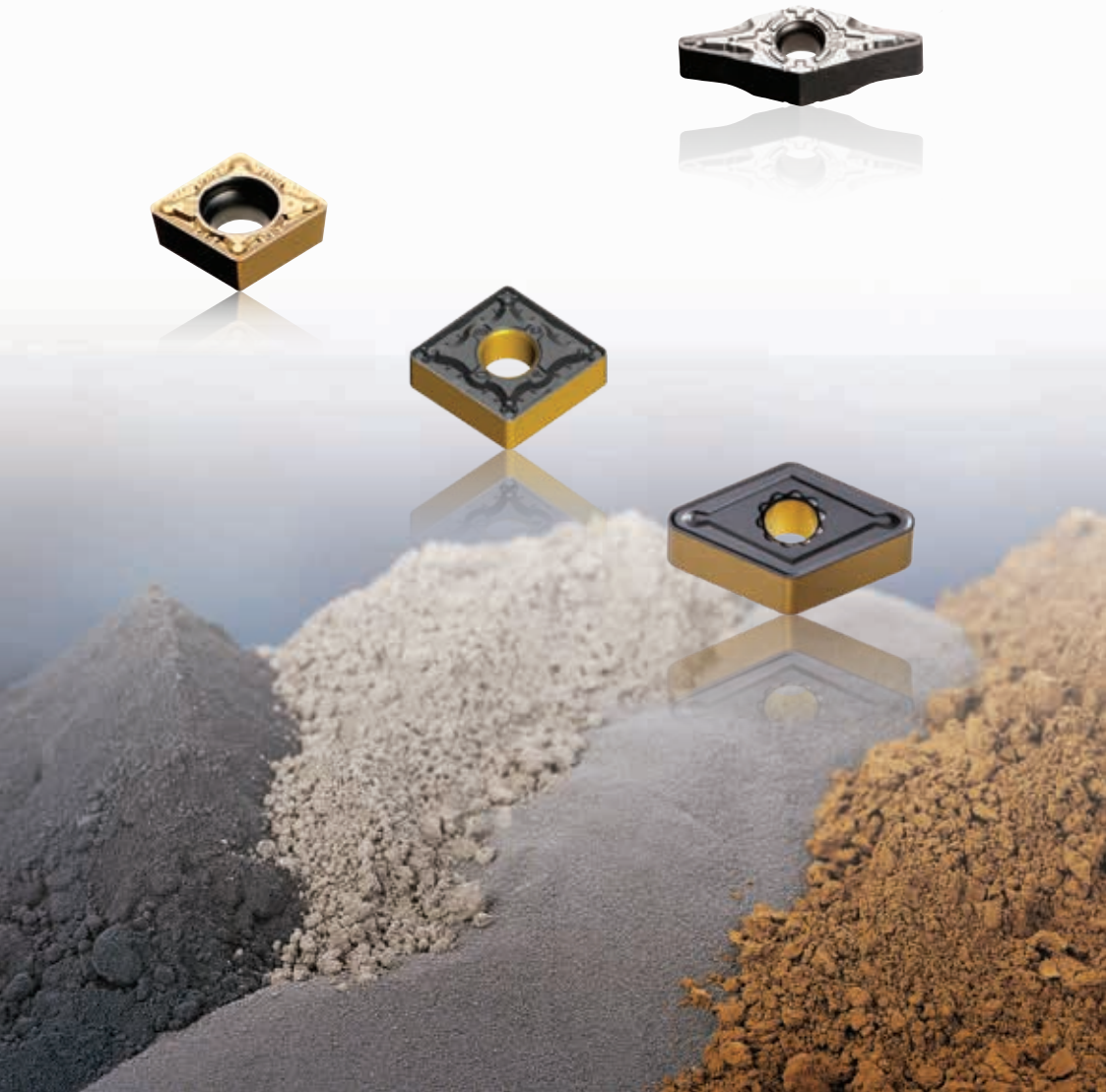
Workpiece	
Description★	
Hardness★	
Pre-hole size★	(Tolerance :)
Depth★	
Bore type	
Clamping information	

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 TT8105	GC4305 GC4205	WKP01G WPP05S WPP05	TP0501 TP0500	KCP05	UE6105 UE6005	AC810P	T9205 T9105 T9005	CA510 CA5505		
P	TT8115B TT8115	GC4415 GC4315	WKP10G WEP10C WPP10S WPP10 WPV10	TP1501 TP1500	KCP10 KCP10B	MC6115 MC6015 UE6110	AC8015P AC820 AC1000	T9215 T9115 T9015	VP5115 CA515 CA5515 PR1705	NC3215 NC3010	IC807 IC8150 IC9150
P	TT8125B TT8125 TT5100 TT9080	GC4425 GC4325	WNN10 WPP20G WPP20S WMP20S WPV20	TP2501 TP2500 TP25	KCU10B KCP25 KCP25B	MC6125 MC6025 UE6020 VP10RT MS7025 VP15TF	AC8025P AC2000 AC1030U ACZ150 AC5005S AC5025S AC520U	T9225 T9125 T9025 AH7025 AH730	CA025P VP5125 CA525 CA5525 PR930 PR1025 PR1725	NC3225 NC3220 NC5330 NC3120 PC5300	IC8250 IC9250
P	TT8135B TT8135 TT7100 TT8080 TT8020	GC4335 GC4235 GC2135	WPP30G WPP30S WPP30	TP3501 TP3500	KCP30 KCP30B KCP40	MC6035 UH6400	AC8035P AC830P AC3000	T9235 T9135 T9035	CA530 CA5535 PR1535	NC500H NC5340 NC5350 NC3030 PC5400	IC8350 IC9350 IC830
M	TT9215 TT5080 TT3020	GC2015 GC1115	WNN10 WSM01 WSM10 WSM10S WAM10	TM1501 TM2000 TH1000 TS2000 TS2050 CP200	KCM15B KCM15 KCU10 KCU10B KCS10 KC5510 KC5010	MC7015 US7020 VP10RT MS6015	AC6020M AC610M AC5005S AC5015S AC510U ACZ150 AC520U	T6120 AH110 AH120 AH8005 AH8015	KX409 CA6515 PR930	NC9115 NC9020 PC8105 PC8110	IC6015 IC807 IC804
M	TT9225 TT9080	GC2025 GC2220 GC1125	WMP20S WSM20 WSM21	TM2501 TS2500 CP500	KCM25B KCM25 KCU25 KC5525 KC5025	MC7025 US735 MH515 MS7025 MS9025 VP15TF VP20MF VP20RT UP20M	AC6030M AC630M AC5025S AC6040M AC1030U AC530U	T6130 AH630 AH725 AH7025 GH110	CA6525 PR1025 PR1125 PR1225 PR1425 PR1725 PR120S	NC9125 NC5330 NC5340 PC8115 PC5300 PC9030 PC9035	IC6025
M	TT9235 TT8080 TT8020	GC2135 GC2035 GC30	WSM30 WAM30	TM3501 TM4000 CP600	KCM35B KCM35	MP7035 UH6400 MP7035	AC6040M	AH6030 T6030 AH645	PR1325 PR1535	NC9135 NC5350 PC5400	IC5400 IC3028 IC830
K	TT7005	GC3205 GC3005	WKK10S WAK10	TK0501 TK1001 TK1000	KCK05	MC5005 UC5105	AC405K	T5105 T5010	CA310 CA4505 CA4010	NC6310 NC6205 NC6105	IC5005 IC4028
K	TT7015	GC3210 GC3015	WKK20S WAK20	TK1501 TK2001 TK2000	KCK15 KCK15B	MC5015 UC5115	AC410K AC415K	T5115 T5020 T515	CA315 CA4515 CA4115	NC6315 NC6210 NC6110	IC5010
K	TT7025	GC3215 GC3225	WAK30		KCK20B KCK20	MH515	AC420K	T5125	CA320 CA4120	NC6215	IC8150
S H	TT3005 TT5080 TT3010	GCS05F GC1105 GC1115	WNN10 WSM01	CP200 CP250 TH1000 TH1500 TS2000 TS2050 TS2500	KCU10 KCU10B KCS10 KCS10B KC5510 KC5010	MV9005 US905 MP9005 MP9015 VP05RT VP10RT	AC5005S AC5015S AC510U ACZ1500	AH8005 AH110 AH905 AH8015	PR1305 PR115S	PC8105 PC8110	IC804 IC807 IC806 IC1007 IC907
S H	TT3020 TT9080 TT8080	GC15 GC1125 GC1135 GC1515 GC1525 S205	WSM10 WSM10S WSM21 WSM20 WSM20S WSM30 WSM30S	TS2500 CP500 CP600	KCU25 KCU30 KC5525 KC5025	MS6015 VP15TF VP20RT MP9025 MS9025 MS7025	AC520U AC5025S AC6040M AC1030U AC530U	AH9030 AH120 AH725 AH7025 SH730 AH7025 AH6030	PR1310 PR005S PR015S PR115S PR120S PR1125 PR1325 PR1535	PC8115 PC5300 PC5400 PC9035	IC808 IC908 IC830

Grade Comparison Table

▶ Miniature turning grades

ISO class	TaeguTec	ARNO	Diametal	Kyocera	NTK	Tungaloy	Sumitomo	Horn
P	TT4410 TT4430 TT9020	AM5015 AM5025 AM5020 AM5120 AM5120+ AP7220 AP5030 AM5040	D60 D30 D10	PR1705 PR1725 PR1425 PR1005 PR1025 PR1115 PR1225 PR930 PR1535	VM1 DM4 DT4 TM4 ZM3 QM3 CP7	AH710 SH725 SH730 AH725 AH7025 AH730 AH9030 AH120 AH130 AH3135	ACZ150 AC5015S AC5025S AC530U AC1030U	TH35 (TiAlN) TI25(TiCN) TN35(TiN)
M	TT4410 TT4430 TT9020	AM5110 AN5015 AM5025 AM5020 AM5120 AM5120+ AM5220 AM5130 AP7220 AP5030 AM5040	D60 D30 D20 D10	PR1705 PR1725 PR1425 PR1025 PR1125 PR1225 PR930 PR1535	ST4 VM1 DM4 DT4 TM4 ZM3 QM3	AH710 SH725 AH725 AH120 AH130	ACZ150 AC5015S AC5025S AC530U AC1030U	TH35 (TiAlN) TI25(TiCN) TN35(TiN)
S	TT4410 TT4430 TT9020	AM5110 AM5015 AM5025 AM5120 AM5120+ AM5220 AM5130 AP7220 AP5030	D60 D30 D20	PR1305 PR1310 PR1325 PR1125 PR1535	DM4 DT4 TM4 QM3 ZM3	AH905 AH8005 AH8015 AH110 SH730 AH725 AH120	ACZ150 AC5015S AC5025S AC530U AC1030U	TH35 (TiAlN) TI25(TiCN) TN35(TiN)

Grade Comparison Table

▶ Parting & Grooving Grades

ISO class	TaeguTec	Sandvik	Walter	Seco	Kennametal	MMC	Sumitomo	Tungaloy	Kyocera	Korloy	Iscar
P	TT5100 TT9080 TT9030 TT4430 TT9010 TT7220 TT8020	CT525 GC3115 GC5015 GC4325 GC4225 GC1125 GC1225 GC2135 GC1135 GC1145	WSM13S WKP23S WSM23S WKP33S WSM33G WSM33S WSM43S	CP200 TGP25 TGP35 TGP45 CP30 T25M T350M CP500 CP600	KCP10 KCP10B KCP25 KCP25B KT315 KC9110 KC9125 KC5010 KC5025 KCU10 KCU25 KCM35B	NX2525 NY5015 VP10RT VP20RT RT9010 RT9020	AC8025P AC830P AC8035P AC530U ACZ150 AC510U AC520U AC5025S AC530U AC1030U T2500A	AH8005 GH130 AH725 T9215 AH725 AH7025 T9225 SH730 GH730 SH730 NS9530 T9530 AH6235 AH710 J740 TX10S UX30	PV7040 PR915 PR1115 PR1215 TN620 TN6020 TN60 TN90 TC40 TC60 CR9025 PR1025 PR1225 PR1625 PR930 PR630 PR660 PR1535	CN20 A30 NC3020 NC3120 NC3225 NC3030 NC5330 NC9025 PC8110 PC3535 PC5300 PC9030 PC3035 PC230	IC20N IC907, IC507 IC1007 IC9015, IC9025, IC9054 IC807(907) IC808(908) IC1008 IC8250 IC250(950) IC5400 IC354, IC328 IC830(928) IC228
M	TT5100 TT3010 TT9080 TT9030 TT4430 TT3020 TT7220 TT8020	H13A GC1005 GC1105 GC5015 GC1125 GC1225 GC2135 GC1135 GC1145	WSM13S WSM23S WSM33G WSM33S WSM43S	CP200 TGP25 TGP35 TGP45 TGS2050 T25M T350M 890 CP500 HX 883 CP600	K313 KCU10 KC5010 KCU25 KC5025 KCM35B	VP10RT VP20RT	AC8035P ACZ150 AC510U AC5015S AC520U AC5025S AC530U AC1030U AC6040M	AH8005 GH130 AH725 SH725 SH7025 AH6235 SH730 GH730 J740 AH710	PV7040 PR915 PR1115 PR1215 TN620 TN6020 TN60 TN90 TC40 TC60 CR9025 PR1025 PR1225 PR930 PR630 PR660 PR1535	NC9025 NC5330 PC8110 PC9030 PC3035 PC5300	IC1007 IC807 IC907 IC808(908) IC1008 IC8250 IC5400 IC1028(830, 928) IC354, IC328 IC228
K	K10 TT7505 TT6080 TT9080 TT9030	H13A GC3115 GC4225 GC4425 GC1125 GC1225 GC1025 GC1125 GC1135	WTA33 WKP13S WAK20 WKP23S WAK30 WKP33S WSM33G WSM33S WPP23	TGH1050 TGK1500 CBN200 CP200 890 HX TGP25 TGP35 TGP45 TGS2050 883 CP500 CP600	K313 KCU10 KCP25B KCU25 KC5010 KC5025	MY5015 VP10RT VP20RT	G10E AC510U AC8025P AC5015S AC520U AC5025S AC530U AC1030U AC425K	AH8005 GH130 AH725 AH710 SH730 GH730 AH6235 T515 TH10	A65 A66N PT600M PV7040 PR905 TN60 TC40 KW10 GW15 PR1215	NC5330 PC5300 A30 NC6110 PC9030 PC215K PC6510	IC20 IC1007 IC5010 IC428, IC418 IC807, IC907 IC9015 IC808(908) IC8250 IC250(950) IC228
N	K10 TT9080 TT9030	H13A GC1005 GC1105 GC1115 GC1025 GC1225	WK1	890 883 HX	K313 KCU10 KC5010 KC5025 KCU25 KCM35B	RT9010 RT9020	ACZ150 G10E AC530U	TH10 KC05F KS05F TH10 SH725 SH730	KPD001 KPD010 KW10 GW15 PDL025	G10E H01 A30 PC215K	ID5 IC20 IC08 IC228 IC28
S	K10 TT3010 TT9080 TT9030 TT4430 TT3020 TT8020	GC1005 GC1105 S205 GC1115 GC1025 GC1225 GC1145	WSM13S WSM23S WSM33G WSM33S WSM43S	TGH1050 890 CP200 TGS2050 HX CP500 883 CP600 CBN010 CBN170 CBN170C	K313 KCU10 KC5010 KCU25 KC5025	RT9010 MP9015 RT9020 MP9025 VP10RT VP20RT	AC425K G10E AC5015S AC5025S AC1030U	AH8005 AH905 GH130 AH725 AH7025 SH725 SH730 TH10	KPD001 KPD010 KW10 GW15	PC5300 PC3035	IC804 IC806 IC1007 IC807, IC907 IC07 IC20 IC08 IC808(908) IC1008 IC830(928)
H	TT6080	CB7015 CB7115	WAK20	CBN10 TGH1050 T350M TGS2050 HX CBN200 CP200 890 883	KCU10 KC5010 KCU25	BC8110	H10	BXA10 BX360	KBN510 KBN525 A65 A66N PT600M		IB50 IC428 IC1007 IC807, IC907 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 SN80	HC1 HW2	KA30		TZ120
	Al_2O_3, TiC	AB30	CC650	KY1615	SH2 SH4	HC2 HC5 HC6	A65	NB90S NB90M	LX21
	Si_3N_4, Al_2O_3, Y_2O_3, AlN	AS500		KY1310 KY3000	SL506 SL508 SL606 SL608	SX9			
	Si_3N_4, ZrO_2, Al_2O_3, Y_2O_3	AS10	CC6090 CC6190	KY1320 KY3500 KYK10	SL500 SL808	SX1 SX6 SX8	KS6000 KS6050	SN2000K SN2100K NS260	FX105 CX710
	CVD coated	SC10	CC1690	KY3400 KYK25	SL550C SL554C SL654C SL658C SL854C SL858C	SP2 SP9	CS7050	NS260C	CXC73
H	Al_2O_3, TiCN	AB20	CC6050		SH2 SH4	HC2 HC5 HC7			LX10
	PVD coated	AB2010	CC670	KY4400		ZC4 ZC7	A66N PT600M	NB100C	LX11
S	Al_2O_3, SiC whisker	TC430	CC6060 CC6065 CC6160	KY4300		WA1 WA5		WX2000	
	Si_3N_4, TiN	TC3020 TC3030	CC6220 CC6230	KY2100 KY1540 KYS30 KYS25 KYS30P		SX3 SX5 SX7 SX9	KS6030 KS6040	SN1000S SN2000S	TS200 TS300

Grade Comparison Table

▶ CBN grades

ISO class	TaeguTec	Iscar	Tungaloy	Sumitomo	Sandvik	Kennametal	Mitsubishi	Kyocera	Seco
H	TB610	IB10H IB50	BX310	BN1000 BNX10	CB7105 CB7015	KB1610	MBC010	KBN510	CBN010
		IB10HC	BXC30 BXA30	BNC80 BNC100 BNC2010		KB5610 KB9610	MB8025 BC8105 BC8210	KBN10M KBN10C KBN25C	CBN050C CH0550
	TB2015 TB650	IB20H IB55	BX330 BX530	BN250 BN2000 BNX20	CB7115 CB7025	KB1625	MB810	KBN525	CBN100
		IB25HA	BXM10 BXC30 BXA40	BNC160 BNC2020		KB5625	MB820 BC8110 BC8220	KBN05M KBN25M	CBN160C CH2540
	TB670	IB25HC	BX360 BX380	BNX25 BN350	CB7125 CB7135 CB50 CB7525 CB7925		MB825 MB8025 BC8120 BC8220		CBN150 CBN170
			BXM20 BXA20 BXA40 BXC50	BNC200 BNC300			MB835 BC8020 BC8130	KBN30M	CBN060K CBN100P
K	TB7015 TB730	IB90	BX930 BX850 BX950	BN500 BN7500 BN7000	CB50 CB7525	KB1630 KB1345	MB4020 MB710	KBN475 KBN60M KBN65B	CBN200
		IB05S IB10S	BX470 BX480	BN700 BNC500	CB7050	KB5630 KB9640	MB730	KBN65M KBN70M KBN570	CH3515
	KB90A TB7020		BX90S BXC90	BNS800	CB7925		MBS140	KBN900	CBN200 CBN300 CBN300P CBN350 CBN400C

Grade Comparison Table

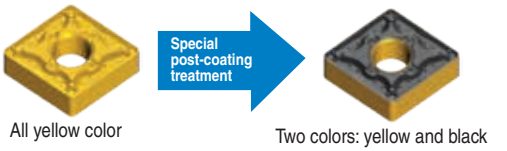
▶ PCD grades

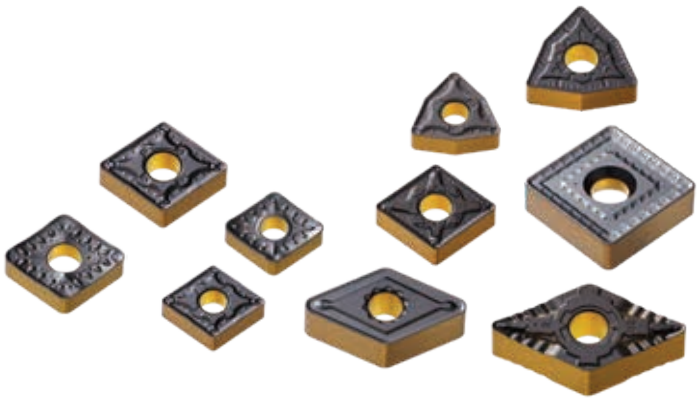
ISO class	TaeguTec	Iscar	Tungaloy	Sumitomo	Sandvik	Kennametal	Mitsubishi	Kyocera	Seco	NTK
N01-N10	TC1010	ID8	DX180 DX160	DA90		KD1405	MD203	KPD230	PCD30M PCD30	
N05-N20	TC1020	ID5	DX140	DA150	CD10	KD1400	MD220	KPD010	PCD20	PD1
N15-N30	TC1030		DX120 DX110	DA2200 DA1000		KD1425	MD205	KPD001	PCD10 PCD05	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 FX		FF, FS	FF1, FF2
			FLP, FG FM	QF	FP MP-K, LF, FN	MF2
		Semi-finishing	MLP, FC, FT	PF, XF		
		Medium	VF, DNUX	K		UX
			MLP, MC		MN	MR3
			MGP, PC MM	PM, XM QM	P	MF3 MF5, M3
			MGP, MT	HM, XMR	MP RP, RM	
			MGP, MG-		MG-, UN	M4 MR4
		Roughing	RGP, RT	PR	RN	M5 MR7, M6
		Low carbon steel	FLP, FS,GG-FU MLP, FC	WL, LC		
	Single sided	Heavy	RX	PR	RM	
			RH	QR MR	MR, RP	R6, RR9 R4, R5, 37 RR6
			HT, HD	HR, 31	RH	R8, 56, 57 R7
			HY, HZ			
M	Double sided	Finishing	EA, SF	MF	FP	MF1
		Medium	EM, ML	MM	MP, UP, MR	MF4
		Roughing	ET	MR MM-MR	RP	MR6, MF5 MM-RR6
K	Double sided	Finishing-medium	MT	KF KM	FN	MF5 M4
		Medium	MG-		MG-,RN	M5
		Roughing	KT 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 MGS, MP,MK	SGF, GP- QM, SM, 23	MS, GP-K UP, P	M1 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 FV5	FH, FP FS, FY	FA FL	DP, GP, PP VF	TF, 01, CB ZF	VL	SF
NF3, NF4	LP SH	SP, SU, FE	HQ	NS, 11 TS, AS, TSF, TQ PS	VF VQ	NF, F3P
NS6	SA	LU SE, SX	CQ, PQ CJ	SS, NM ZM	VB, VC, LP, CP	
MV5	ES	GX, HM		S		
MP3			GS			
MP5 MM5, NM4	MP, MV MA	GU UG	PG PS	PM TM, AM	MP, VM	M3P TF
MU5, NM6 NM9	MH	UX, GE	HS CS		HM, GM	GN
MG-	MG-	UZ	MG- C	33, 37, 38 DM, MG-	B25	MG-
NR4, RP5 RP7	RP GH	ME MU, MX	PT, GT PH, HT	TH	GR	NR, R3P
	FS, FY SY	FL	XF, XP,XP-T XQ, XS	17	VL	
NRF			PX	THS		
NR6	HZ	MP HG HP	HX	TRS 57	GH	R3P NM
NRR	HCS HX, HBS, HL	HF HU		65 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 NRS	RM	MU, HM	HU	SM, SH	RM	NR, R3M
NM, MK5	LK MA, MK	UZ	KQ MG-	CF CM	MP	M3P, GN
NM5, RK5	MG-, GK		KG, C	MG-		MG-
MV7, RK7	GH, RK	GZ	KH ZS, GC	CH	B25, MK, VR 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 FX	PF, UF	UF, 11, GM	FF1
		GT-SL GT-SA, GT-SM			
		FG	UM XF	FP LF	F1
	Medium	PC, GT-SH FM	PM	MP	
		GT-SH MT	XM PR, UR 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 FP	LU FB, FP	XP GK, GP, DP VF	01, PSF	VL, FP	F3P PF
FV4	SMG	FC	CF GF CK	JS	FS VP1	
PS5	LP, SV SQ, SV	FK LB, SU SC, SK	XQ GK		VF HMP	SM 16, GT-
MP4, FP6, MV4		GU UG	GQ HQ	PSS PS	MP	
PM5 MP6, E47, MT-	MQ, MV MT- G	SF, MU	MT-	PM	C25	14, 17 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) 1008	0.0030	C10	040 A 10 045 M 10 1449 10 CS	AF 34 C 10 XC 10
1		1.0028	Ust 34-2 (S250G1T)		A 34-2
1		1.0034	RSt 34-2 (S250G2T)	1449 34/20 HR, HS, CR, CS	A 34-2 NE
1		1.0035	St185 (Fe 310-0) St 33	Fe 310-0 1449 15 HR, HS	A 33
1	A 570 Gr. 33,36	1.0036	S235JRG1 (Fe 360 B) Ust 37-2	Fe 360 B 4360-40 B	
1		1.0037	S235JR (Fe 360 B) St 37-2	Fe 360 B 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) St44-2	Fe 430 B FN 1449 43/25 HR, HS 4360-43 B	E 28-2
1		1.0045	S355JR	4360-50 B	E 36-2
1	A 570 Gr.50 A 572 Gr.50	1.0050	E295 (Fe 490-2) St 50-2	Fe 490-2 FN 4360-50 B	A 50-2
1	A 572 Gr. 65	1.0060	E335 (Fe 590-2) St 60-2	Fe 60-2 4360-55 E; 55 C	A 60-2
1		1.0060	St 60-2		
1		1.0070	E360 (Fe 690-2) 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 A 573 Gr.58 A 570 Gr 36;C A 611 Gr. C	1.0116	S235J2G3 (Fe 360 D 1) St 37-3	Fe 360 D1 FF 1449 37/23 CR 4360-40 D	E 24-3 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 1 C 10	F.1511 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 1312	FE37BFU	AE 235 B Fe 360 B			16D, 18Kp St3Kp
1311	Fe 360 B 1449 37/23 HR	AE 235 B Fe 360 B	STKM 12A;C	STKM 12A;C	
1325	Fe 330,Fe 330 B FU		SS 330	SS 330	
1412	Fe 430 B Fe 430 B FN	AE 275 B Fe 430 B FN	SM 400 A;B;C	SM 400 A;B;C	St4ps; sp
2172	Fe 510 B	AE 355 B			
1550 2172	Fe 490	a 490-2 Fe 490-2 FN	SS 490	SS 490	ST5ps; sp
1650	Fe 60-2 Fe 590	A 590-2 Fe 590-2 FN	SM 570	SM 570	St6ps; sp
	Fe 60-2				
1655	Fe 70-2 Fe 690	A 690-2 Fe 690-2 FN			
	Fe 360 C	AE 235 C			
	Fe 360 C	AE 235 C			
1312 1313	Fe 360 D1 FF Fe 360 C FN Fe 360 D FF Fe 37-2	AE 235 D Fe 360 D1 FF			St3kp; ps; sp 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 A 611 Gr.D	1.0144	S275J2G3 (Fe 430 D 1) St 44-3	Fe 430 D1 FF 4360-43 C; 43 D	E 28-3 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 10 045 M 10 1449 10 CS	AF 34 C 10 XC 10
1	A 621 (1008)	1.0330	DC 01 St 2; St 12	1449 4 CR 1449 3 CS	 TE
1	A 619 (1008)	1.0333	Ust 3 (DC03G1) 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 St4; St 14	1449 1 CR;2 CR	ES
1	A 516 Gr. 65; 55 A 515 Gr. 65;55 A 414 Gr. C A 442 Gr.55	1.0345	P235GH HI	1501 Gr. 141-360 1501 Gr. 161-360; 151-360 1501 Gr. 161-400; 154-360 1501 Gr. 164-360; 161-360	A 37 CP;AP
1	(M) 1020 M 1023	1.0402	C22	055 M 15, 070 M 20 2C/2D 1499 22 HS, CS	AF 42 C 20; 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; XC 25;1 C 22
1		1.0425	P265GH H II	1501 Gr. 161-400;151-400 1501 Gr. 164-360; 161-400 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 1414	Fe 430 B, Fe 430 C (FN) Fe 430 D (FF)	AE 275 D 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 1 C 10	F.1511 F.151.A	S 10C	SM 10C	10
1142	FeP 00 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 1330	FeE235, Fe 360 1 KW;KG Fe 360 2 KW;KG	A 37 RC I 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 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; C 21;C 25	1 C 22F.112	S 20 C;S 22 C	SM 20 C;SM 22C	
1431 1430 1432	Fe 410 1 KW; KG; KT Fe 410 2 KW; KG	A 42 RC I A 42 RC II	SPV 315; SPV 355 SG 295; SGV 410 SGV 450; SGV 480	SPPV 315; SPPV 355 SG 295; SGV 410 SGV 450; SGV 480	16K 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 A 588	1.0562	P355N StE 355	1501 Gr.225-490A LT 20	FeE 355 KG N E 355 R/FP; 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 St 52-3	Fe 510 D1 FF 1449 50/35 HR>HS 4360-50 D	E 36-3 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 (11SMnPb30)		S 250 Pb
1	1108 1109	1.0721	10 S 20	(210 M 15)	10S20 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 (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 (C10E)	040 A 10	XC 10
1		1.1121	St 37-1	4360 40 A	
1	1015	1.1141	CK 15 (C15E)	040 A 15 32C 080 M 15	XC 12 XC 15 XC 18
1	1020 1023	1.1151	C22E CK 22	055 M 15 (070 M 20)	2 C 22 XC 18 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 2134, 2174	17GS 17G1S	AE 355 D Fe 510, D1 FF	SM 490 A;B;C; YA;YB	SM 490 A;B;C; YA;YB	17GS 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 SUM 23 L, SUM 24 L	SUM 22 L 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 2 C 15	F-1510-C 10 K	S 9 CK S 10 C	S 9 CK S 10 C	08;10
1300					
1370	C 15 C 16	F.1110-C 15 F.1511-C 16 K	S 15 S 15 CK	SM 15C SM 15CK	15
1450	C 20 C 25	F.1120-C 25 K	S 20 C, S 20 CK S 22 C	SM 20 C, SM20 CK 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 A 414 Gr. G A 612	1.0473	P355GH	19 Mn 6	A 52 CP
2	1035	1.0501	C 35	080 A 32, 080 A 35 080 M 36, 1449 40 CS	1 C 35 AF 55 C 35 XC 38
2	1045	1.0503	CF 45 (C45G)	060 A 47 080 M 46	XC 42 H 1 TS
2	1040	1.0511	C 40	080 M 40	1 C 40 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 1501 Gr.224-460 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 1041	1.1157	40Mn4	150 M 36 15	35 M 5 40 M 5
2	1025	1.1158	C25E CK 25	(070 M 25)	2 C 25 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 2102	Fe E 355-2	A 52 RC I RA II	SGV 410 SGV 450 SGV 480	SGV 410 SGV 450 SGV 480	
1572 1550	C 35 1 C 35	F.113	S35C	SM35C	35
1672	C 43 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 AE 355 D			
1957		F.210.G			
1973					
			S 09CK	SMn 433	
C 25	F.1120 - C 25 K	S 25 C 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 Cm 35	080 A 35	3 C 35 XC 32
2	1035 1038	1.1181	C35E CK 35	080 A 35 (080 M 36)	2 C 35, XC 32 XC 38 H 1
2	1035	1.1181	C35E CK 35	080 A 35 (080 M 36)	
2	1042	1.1191	GS- Ck 45	080 A 46	XC 45
2	1049 1050	1.1206	C50E CK 50	080 M 50	2 C 50 XC 48 H 1; XC 50 H 1
2	1050 1055	1.1213	Cf 53 (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 A 515 Gr. 70 A 414 Gr.F; G	1.0481	P295GH 17 Mn 4	1501 Gr. 224	a 48 Cp;AP
3	1043	1.0503	C35	060 A 47 080 M 46 1449 50 HS, CS	1 C 45 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 1330	1.1165	30Mn5	120 M 36 (150 M 28)	35 M 5
3	1335	1.1167	30Mn5	150 M 36	40 M 5
3	1040	1.1186	C40E CK 40	060 A 40, 080 A 40 080 M 40	2 C 40 XC 42 H 1
3	1045	1.1191	C45E CK 45	080 M 46 060 A 47	2 C 45 XC 42 H 1 XC 45 XC 48 H 1

SS	UNI	UNE	JIS	KS	GOST
1572		F.1130-C 35 K-1			
1550 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 Fe 510-2 KG;KT;KW FeE 295	A 47 RC I RA II	SG 365, SGV 410 SGV 450 SGV 480	SG 365, SGV 410 SGV 450 SGV 480	14G2
1672 1650	C 45 1 C 45	F.114	S 45 C	SM 45 C	45
C 85					
		F.8211-30 Mn 5 f.8311-AM 30 Mn 5	SMn 433 H SCMn 2	SMn 433 H SCMn 2	27ChGSNMDTL 30GSL
2120		F. 1203-36 Mn 6 F. 8212-36 Mn 5	SMn 438 (H) SCMn 3	SMn 438 (H) SCMn 3	35G2 35GL
	C 40		S 40 C	SM 40 C	
1672	C 45 C 46	F.1140-C 45 K F.1142-C48 K	S 45 C S 48 C	S 45 C 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 Cm 45	080 M 46		3 C 45 XC 42 H 1 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 AF 70 C 55
4	1060	1.0601	C60	060 A 62 1449 HS,CS	43D	1 C 60 AF 70 C 55
4	1070	1.0603	C67	080 A 67 1449 70HS		XC65
4	1074 1075	1.0605	C75	1449 80 HS		
4	1055	1.1203	C55E CK 55	060 A 57 070 M 55		2 C 5 XC 55 H 1
4	1055	1.1209	C55R Cm 55	070 M 55		3 C 55 XC 55 H 1
4	1060 1064	1.1221	C60E CK 60	060 A 62	43D	2 C 60 XC 60 H 1
4	1070	1.1231	CK 67 (C67E)	060 A 67		XC 68
4	1074 1075 1078	1.1248	CK 75 (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 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 1 C 55		S 55 C	SM 55 C	55
	C 60 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 1678	C 60		S 58 C	SM 58 C	60 60G, 60GA
1770	C 70				65GA 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 135 535 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 51 Si 7
6	9255	1.5026	55Si7	251 a 58		55 S 7
6	9260	1.5027	60Si7	251 A 60 251 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 4017	1.5415	16Mo3 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) RSt 37-2	Fe 360 B FU 1449 27/23 CR 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 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 RSt;RRSt 13	1449 3 CR 1449 2 CR		E
10	M 1015 M 1016 M 1017	1.0401	C15	080 M 15 080 M 15 1449 17 CS		AF 37 C12 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 C16 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 15 S 20	210 A 15 210 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 06-05-05-04-02
11		1.3246	S 7-4-2-5		Z110 WKCDV 07-05-04
11		1.3247	S 2-10-1-8	BM 42	Z110 DKCWV 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 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 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 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 8 430 Ti 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 (X2CrTi12)	LW 19 409 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 18- 08-05
14	316	1.4401	X 5 CrNiMo 17 12 2 (X4 CrNiMo 17 -12-2)	316 S 13 316 S 17 316 S 19 316 S 31 316 S 33		Z 3 CND 17 -11-01 Z 6 CND 17-11 Z 6 CND 17-11-02 Z 7 CND 17-11-02 Z 7 CND 17-12-02
14	316L	1.4404	X2 CrNiMo 17 13 2 (X2 CrNiMo 17-12-2) GX 2 CrNiMoN 18-10	316 S 11, 316 S 13 316 S 14, 316 S 31; 316 S 42, S.537;316 C 12, T.75, S. 161		Z 2 CND 17-12 Z 2 CND 18-13 Z 3 CND 17-11-02 Z 3 CND 17-12-02 FF Z 3 CND 18-12-03 Z 3 CND 19.10 M
14	316LN	1.4406	X2 CrNiMoN 17 12 2 (X2CrNiMoN 18-10)	316 S 61 316 S 63		Z2 CND 17-12 AZ
14	CF-8M	1.4408	GX 5 CrNiMoN 7 12 2 G-X 6 CrNiMo 18 10	316 C 16 (LT 196) 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 13 316 S 14;316 S 31 LW 22 LWCF 22		Z 3 CND 17-12-03 Z 3 CND 18-14-03
14	316	1.4436	X 5 CrNiMo 17 13 3 (X4CRNIMO 17-13-3	316 S 19; 316 S 31 316 S 33 LW 23 LWCF 23		Z 6 CND 18-12-03 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 X 8 cRnImO 17 13	F.3543-X 5 CrNiMo 17 12 2 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 (X2CrNiMo 18-15-4)	317 S 12		Z 2 CND 19-15-04 z 3 cnd 19-15-04
14	(s31726)	1.4439	X2 CrNiMoN 17 13 5			Z 3 CND 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 1.4460	X 4 CrNiMo 27 5 2 (X3CrNiMo27-5-2)			(Z 3 CND 25-07 Az) 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 (Z 2 CND 24 -08 Az) (Z 3 CND 25-06-03 Az)
14		1.4500	G-X7NiCrMoCuNb25 20			23NCDU25.20M
14	17-7PH	1.4504		316S111		
14	443 444	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 31 321 S 51 (1010;1105) LW 24 LWCF 24		Z 6 CNT 18-10
14	630	1.4542	X5 CrNiCuNb 17 4 (X5 CrNiChNb 16-4)			Z 7 CNU 15-05 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 08Ch18N10T 09Ch18N10T 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
	X6CrNiMoTi17 12				
		F.8414	SCS17	SSC17	
2361	X6CrNi25 20	F.331	SUH310	STR310	
2337	X6CrNiTi18 11	F.3553	SUS321	STS321	
2372					
2368					
2333					
2570					
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
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 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	
811-04					
4231			C4BS	C4BS	
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
4244			A5052	A5052P	
4261					
4260			ADC12	ALDC12	
4247			A6061	A6061P	
4250			A7075	A7075P	
	C 2700				
	C 2720				

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
2584					
			SUH330	STR 330	
	XG50NiCr39 19		SCH15	HRSC 15	

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		

SS	UNI	UNE	JIS	KS	GOST
1880	C100KU	F-5118	SK3	STC 105(STC3)	
2900	C120KU	CF.515	SUP4	SPS 4	
	0512-00				
	0513-00				
	0466-00				
		107 WCr 5 KU			

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