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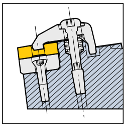
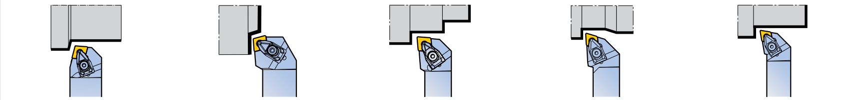
External holders



T T-Holder

80°, 70°					
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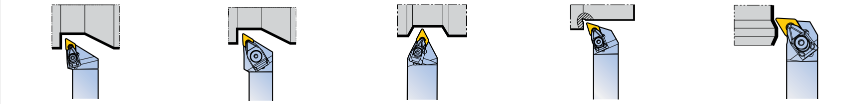
55°					
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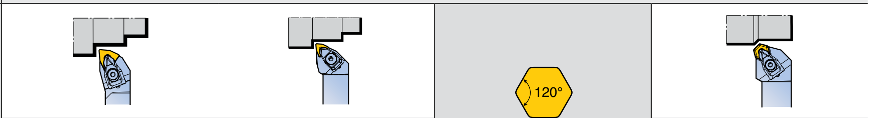
60°					
	TTFNR/L A128	TTGNR/L A128	TTJNR/L A128		
90°					
	TSDNN A126	TSKNR/L A127	TSSNR/L A127		
35°, 25°					
	TVJNR/L A129	TVJNR/L-TB A130	TVQNR/L A131	TVVNN A132	
45°, 35°					
	TZQNR/L A138	TZQNR/L-TB A138	TZXNN A139	TZXNN-TB A139	
80°			120°		
	TWLNR/L A133	TWLNR/L-TB A134		THSNR/L A117	

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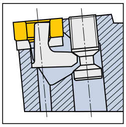
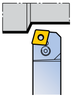
External holders



P Lever lock



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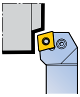

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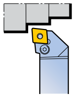

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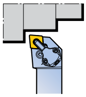

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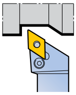

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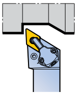

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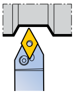

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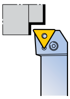

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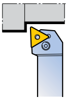

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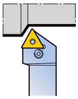

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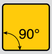

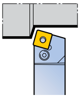

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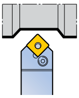

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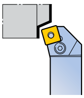

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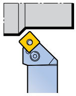

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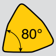

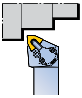

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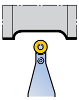

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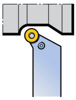

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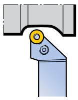

PRGNR/L A74

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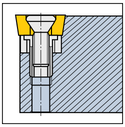
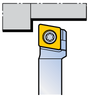
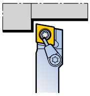
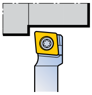
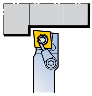
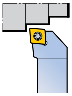
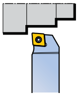
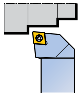
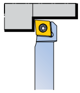
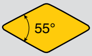
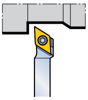
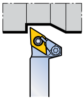
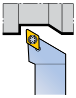
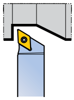
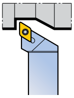
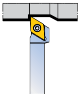
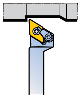
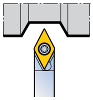
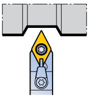
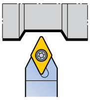
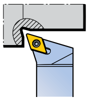
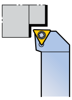
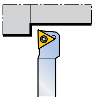
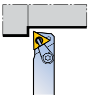
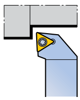
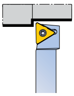


S Screw clamp

	 SCACR/L-SH A80	 SCACR/L-SH-TB A80	 SCLCR/L-SH A81	 SCLCR/L-SH-TB A81
	 SCLCR/L A82	 SCLNR/L-RS A83 (0703)	 SCLNR/L A83	 SCLNR-RS (-TB) A84 (0904)
	 SDJCR/L-SH A85	 SDJCR/L-SH-TB A85	 SDJCR/L A86	 SDJNR/L-RS A87
	 SDJNR/L A87	 SDJNR-RS A88 (1305)	 SDJNR-RS-TB A88 (1305)	 SDNCN-SH A89
	 SDNCN-SH-TB A89	 SDNCN A90	 SDQNR/L A91	
	 STFCR/L A96	 STGCR/L-SH A97	 STGCR/L-SH-TB A97	 STGCR/L A98
	 STGNR-RS A99			

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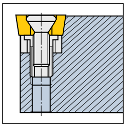

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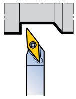

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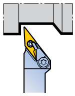

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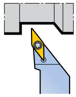

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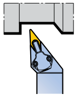

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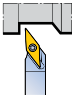

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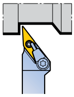

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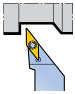

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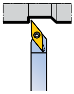

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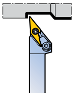

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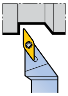

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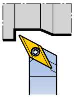

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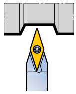

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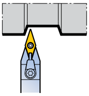

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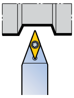

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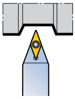

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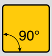

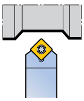

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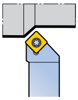
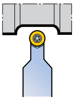
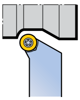


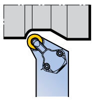
SSSCR/L A95



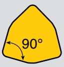
SRDCN A93

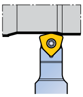


SRGCR/L A94

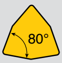


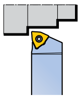
SRGCR/L-TB A94



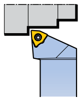


SFXCN A92





SWLNR/L-RS A109

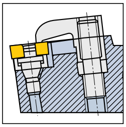


SWLNR/L A109

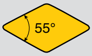
• Please refer to A118-A125 pages for miniature tool holders (TMB, TMS, TMY, TMZ...)

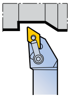
Tool Selection Guide

External holders

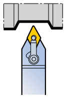


M Multi lock

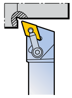




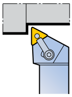
MDJNR/L A61



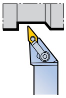
MDNNN A61



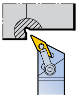
MDQNR/L A62



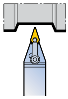
MTJNR/L A63



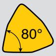
MVJNR/L A64

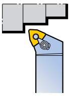


MVQNR/L A64



MVVNN A65

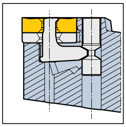




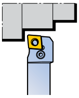
MWLNR/L A66

Tool Selection Guide

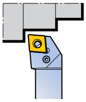
External holders



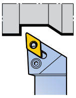
H Hook lever holder



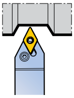
HCLNR/L-RS A53



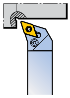
HCLNR/L A53



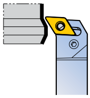
HDJNR/L A54



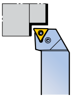
HDNNR/L A54



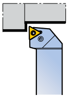
HDQNR/L A55



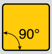
HDUNR/L A55

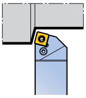


HTFNR/L A57

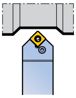


HTGNR/L A57

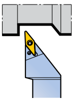




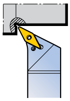
HSBNR/L A56



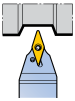
HSDNN A56



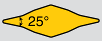
HVJNR/L A58

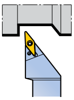


HVQNR/L A58

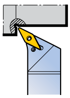


HVVNN A59

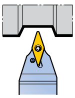




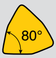
HVJNR/L A58

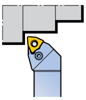


HVQNR/L A58



HVVNN A59

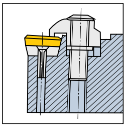




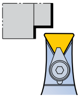
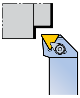
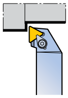
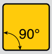
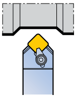
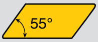
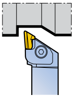
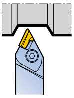
HWLNR/L A60

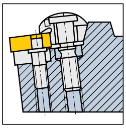
Tool Selection Guide

External holders

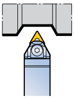
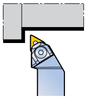
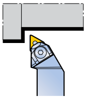
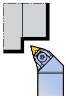


C Top clamp

 60°	 CTCPN A51	 CTFPR/L A51	 CTGPR/L A52	
 90°	 CSDPN A50			
 55°	 CKJNR/L A49	 CKNNR/L A49		

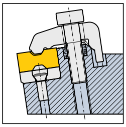


W Wedge clamp

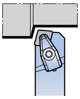
 60°	 WTENN A140	 WTGNR/L A140	 WTJNR/L A141	 WTQNR/L A141

Tool Selection Guide

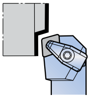
External holders



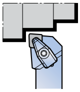
T-CH CH dimple holder



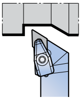
TCBNR/L-CH A145



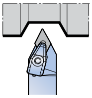
TCKNR/L-CH A145



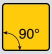
TCLNR/L-CH A146

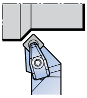


TDJNR/L-CH A147

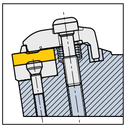


TDNNN-CH A147

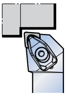




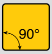
TSSNR/L-CH A148

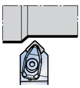


T-DA DA dimple holder

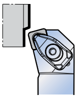


TCLNR-DA A149





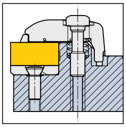
TSDNN-DA A150



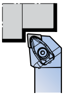
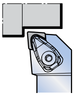
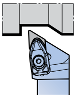
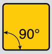
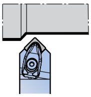
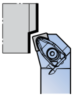
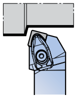
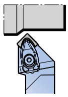
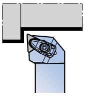
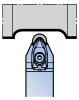
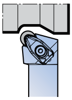
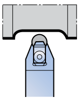
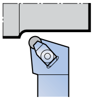
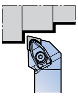
TSKNR-DA A150

Tool Selection Guide

External holders

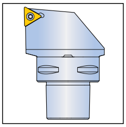


T-F Flat T-Holder

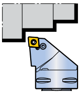
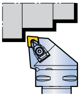
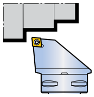
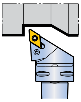
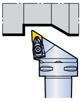
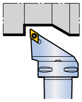
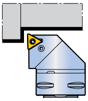
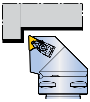
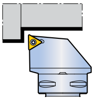
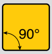
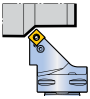
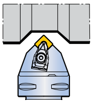
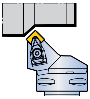
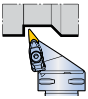
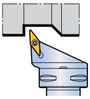
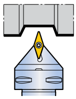
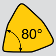
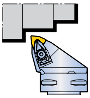
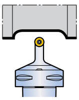
	 TCLNR/L-F A151	 CCLNR/L-F A144		
	 TDJNR/L-F A152			
	 TSDNN-F A155	 TSKNR/L-F A155	 TSRNR/L-F A156	 TSSNR/L-F A156
	 TTJNR/L-F A157			
	 TRDNN-F A154	 TRGNR/L-F A154	 CRDCN-120 A142 CRDCN-140 A142	 CRGCR/L-120 A143 CRGCR/L-140 A143
	 TEGNR/L-F A153			

Tool Selection Guide

External holders

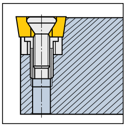


C C-Adapter

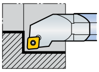
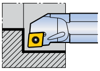
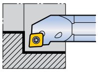
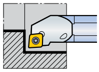
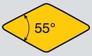
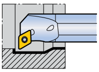
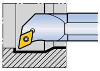
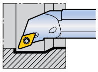
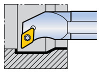
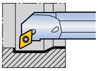
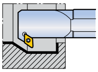
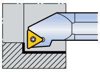
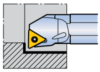
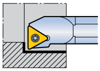
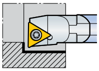
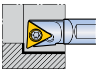
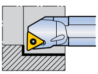
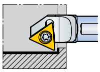
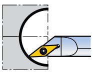
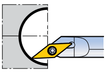
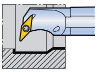
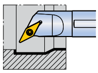
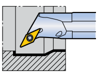
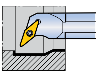
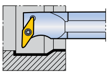
	 C...HCLNR/L A164	 C...TCLNR/L A166	 C...SCLCR/L A170
	 C...HDJNR/L A164	 C...TDJNR/L A166	 C...SDJCR/L A170
	 C...HTGNR/L A165 C...HTJNR/L A165	 C...TTGNR/L A168 C...TTJNR/L A168	 C...STGCR/L A171 C...STJCR/L A171
	 C...HSSNR/L A165	 C...TSDNN A167	 C...TSSNR/L A167
	 C...TVJNR/L A168	 C...SVJBR/L A172	 C...SVVBN A172
	 C...TWLNR/L A169		
	 C...SRDCN A171		

Tool Selection Guide

Internal boring bars

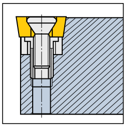


S Screw clamp

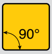
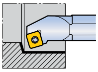
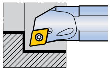
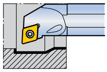
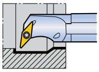
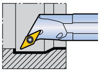
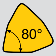
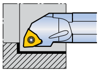
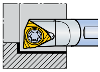
Insert				
	 S-SCLCR/L A198 C-SCLCR/L A199	 S-SCLNR/L A200 A-SCLNR/L A200	 S-SCLPR/L A201 A-SCLPR/L A201	 E-SCLPR/L A202
	 A-SDLNR/L A202	 S-SDQCR/L A203	 A-SDQNR/L A203	 S-SDUCR/L A204
	 A-SDUNR/L A204	 S-SDZCR/L A205		
	 S-STFCR/L A207 C-STFCR/L A207	 S-STFNR/L A208 A-STFNR/L A208	 S-STFPR/L A209 A-STFPR/L A209	 C-STFPR/L A210 E-STFPR/L A210
	 S-STUBR/L A211 C-STUBR/L A211	 S-STUNR/L A212 A-STUNR/L A212	 C-STZBR/L A213	
	 S-SVJBR/L A214 S-SVJCR/L A214	 S-SVJPR/L A215	 A-SVLNR/L A215	 S-SVPBR/L A216 S-SVPCR/L A216
	 A-SVPNR/L A217	 S-SVQBR/L A218 S-SVQCR/L A218	 S-SVUBR/L A219 S-SVUCR/L A219	

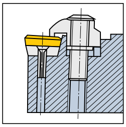
Tool Selection Guide

Internal boring bars

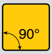
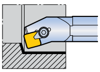
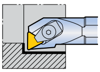
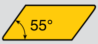
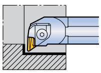


S Screw clamp

	 S-SSKCR/L A206		 A-SXQNR/L A222	 A-SXUNR/L A222
	 A-SVLNR/L A215	 A-SVPNR/L A216		
	 S-SWLNR/L A220 A-SWLNR/L A220	 S-SWUBR/L A221 C-SWUBR/L A221		

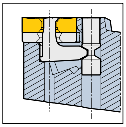


C Top clamp

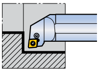
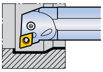
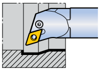
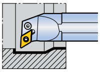
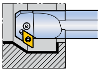
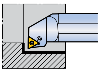
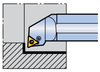
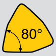
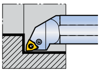
	 S-CSKPR/L A183
	 S-CTFCR/L A184 S-CTFPR/L A184
	 S-CKUNR/L A182

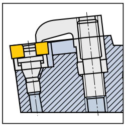
Tool Selection Guide

Internal boring bars

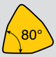
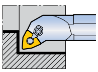


H Hook lever holder

	 S-HCLNR/L A185 A-HCLNR/L A185		
	 A-HXUNR/L A192		
	 S-HDQNR/L A186	 S-HDUNR/L A187 A-HDUNR/L A187	 S-HDZNR/L A188 A-HDZNR/L A188
	 S-HTFNR/L A189 A-HTFNR/L A189	 S-HTUNR/L A190 A-HTUNR/L A190	
	 S-HWLNR/L A191 A-HWLNR/L A191		

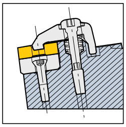


M Multi lock

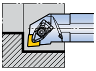
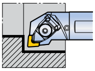
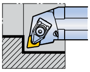
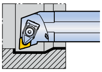
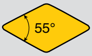
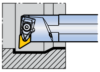
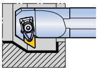
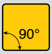
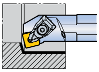
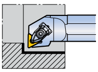
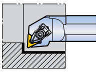
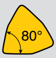
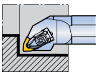
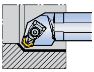
	 S-MWLNR/L A193

Tool Selection Guide

Internal boring bars

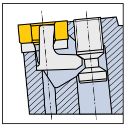


T T-Holder

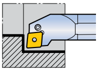
	 S-TCLNR/L A223 A-TCLNR/L A224	 A-TCLNR/L-TB A225
	 A-TXQNR/L A233	 A-TXUNR/L A233
	 S-TDUNR/L A226 A-TDUNR/L A226	 S-TDZNR/L A227 A-TDZNR/L A227
	 S-TSKNR/L A229 A-TSKNR/L A229	
	 S-TTFNR/L A230 A-TTFNR/L A230	 S-TTUNR/L A231 A-TTUNR/L A231
	 S-TWLNR/L A232 A-TWLNR/L A232	
	 A-THSNR/L A228	

Tool Selection Guide

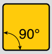
Internal boring bars

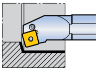


P Lever lock

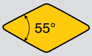


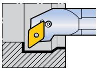
S-PCLNR/L A194



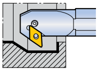


S-PSKNR/L A196

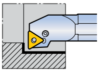




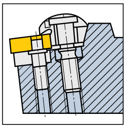
S-PDUNR/L A195



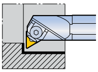
S-PDZNR/L A195



S-PTFNR/L A197



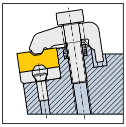
W Wedge clamp



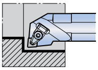
S-WTFNR/L A234

Tool Selection Guide

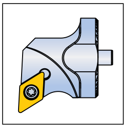
Internal boring bars



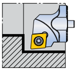
T-CH CH dimple holder



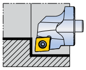
S-TCLNR/L-CH A235



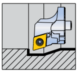
QH Modular head



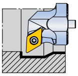
QH-SCLCR/L A239



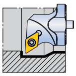
QH-SCLNR/L A240



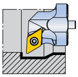
QH-SXUNR/L A245



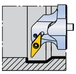
QH-HDUNR/L A238



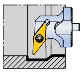
QH-SDUCR/L A241



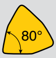
QH-SDUNR/L A242

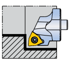


QH-HVUNR/L A238



QH-SVUBR/L A243

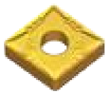
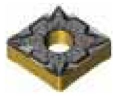


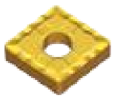
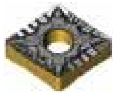


QH-SWLNR/L A244

Tool Selection Guide

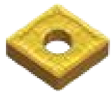
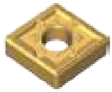
Negative inserts

	T-TURN				
Application	Super finishing			Finishing	
Chip breaker	FA	EA	FS	FLP	FG
Insert					
Material	P	M S	P	P	P
C 80°	● A253	● A252	● A254	● A254	● A254
D 55°	● A261	● A261	● A262	● A262	● A262
R					
S 90°		● A270			● A271
T 60°		● A276	● A277	● A277	● A277
V 35°	● A281	● A281	● A283	● A282	● A282 A283
W 80°		● A284	● A287	● A285	● A284 A287
Y 25°			● A289		

	T-TURN				
Application	Finishing				Medium
Chip breaker	SF	FX	FC	FM	MLP
Insert					
Material	P M	P	P M	P	P
C 80°	● A257		● A253	● A254	● A255
D 55°			● A261	● A262	● A263
R					
S 90°			● A271	● A271	
T 60°	● A280		● A277	● A277	● A279
V 35°		● A282 A283	● A281	● A283	
W 80°			● A284	● A287	● A285
Y 25°					

Tool Selection Guide

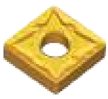
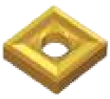
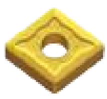
Negative inserts

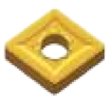
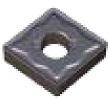
	T-TURN				
Application	Medium				
Chip breaker	**MC**	**FT**	**VF**	**MGS**	**ML**
Insert					
Material	P	P	P M	S	P M S
C 80°	● A255	● A254		● A255	● A250 A255
D 55°	● A263	● A262	● A265	● A263	● A260 A263
R					
S 90°	● A272			● A272	● A272
T 60°	● A278	● A278	● A280		● A278
V 35°					● A281 A282
W 80°	● A285			● A285	● A285
Y 25°					

	T-TURN				
Application	Medium				
Chip breaker	**MP**	**EM**	**MK**	**MM**	**MGP**
Insert					
Material	M S	M S	M S	P M	P
C 80°	● A255	● A253	● A255	● A255	● A255
D 55°	● A264	● A261	● A263	● A263	● A263
R					
S 90°	● A272	● A270 A271	● A272	● A272	● A272
T 60°	● A279	● A276	● A278	● A279	● A278
V 35°		● A281	● A283		● A282
W 80°	● A285	● A284 A287	● A288	● A288	● A285
Y 25°					

Tool Selection Guide

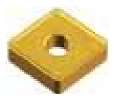
Negative inserts

	T-TURN				
Application	Medium			Roughing	
Chip breaker	**PC**	**MT**	**MG-**	**ET**	**RGP**
Insert					
Material	P	P M K	P K	M S	P
C 80°	● A256	● A256	● A252	● A253	● A256
D 55°	● A264	● A264	● A260	● A261	
R			● A267		
S 90°	● A273	● A272 A273	● A270	● A271	
T 60°	● A279 A280	● A279	● A275 A276	● A277	
V 35°	● A282 A283	● A282 A283	● A281		
W 80°	● A286 A288	● A286 A288		● A284	● A286
Y 25°					

	T-TURN				
Application	Roughing				
Chip breaker	**RT**	**KT**	**RX**	**RH**	**EH**
Insert					
Material	P M K	K	P	P	M
C 80°	● A257	● A254	● A259	● A259	● A258
D 55°	● A264	● A262			
R					
S 90°	● A273	● A271	● A274	● A274	● A273
T 60°	● A280	● A278	● A280	● A280	
V 35°					
W 80°	● A286	● A285			
Y 25°					

Tool Selection Guide

Negative inserts

	T-TURN					
Application	Roughing				Finishing wiper	
Chip breaker	HT	HD	HY	HZ	WS	WA
Insert						
Material	P	P	P	P	P M K	P K
C 80°	● A251 A258	● A251	● A251 A258	● A251 A258	● A257	● A257
D 55°					● A265	● A265
H 120°						
S 90°	● A269 A273	● A268	● A269 A274	● A269 A274		
T 60°						● A280
V 35°						
W 80°					● A286	● A288
Y 25°						

	T-TURN					POSSTURN
Application	Medium wiper	Medium		Roughing	Medium	Finishing/Medium
Chip breaker	WT	GU	SU	KNUX	DNUX	ZNMV
Insert						
Material	P M K S	P K	P M S	P M	P M	P S
C 80°	● A250 A257					
D 55°	● A265				● A265	
H 120°		● A266	● A266			
K 55°				● A266		
T 60°						
V 35°						
W 80°	● A287					
Z 45°						● A290

Tool Selection Guide

Positive inserts

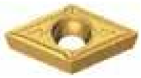
	T-TURN				
Application	Super finishing	Finishing		Medium	
Chip breaker	**FA**	**FG**	**FX**	**PC**	**FM**
Insert					
Material	P M	P M S	P	P M S	P M
C 80°	● A295	● A295 A296		● A295 A296	● A295 A296
D 55°	● A300	● A300		● A300	● A300
R				● A303	
S 90°		● A304		● A304	● A304
T 60°	● A308 A311	● A308 A311		● A308 A311	● A308 A311
V 35°	● A314	● A314	● A314	● A314 A316	● A314 A316
W 80°					
Y 25°					

	T-TURN				
Application	Medium		Medium wiper	Roughing	
Chip breaker	**MT**	**MGS**	**WT**	**PMR-**	**RA**
Insert					
Material	P M K	M S	P M K	P M K S	P
C 80°	● A295		● A295		
D 55°	● A300				
R	● A303	● A303			● A303
S 90°	● A304			● A305	
T 60°	● A308			● A311	
V 35°	● A314				
W 80°					
Y 25°					

Tool Selection Guide

Positive inserts

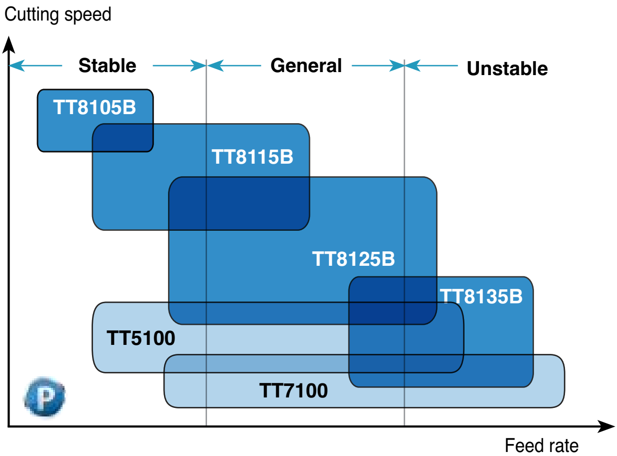
	T-TURN				
Application	Roughing	Finishing			
Chip breaker	**CMX-**	**FF**	**GF**	**GW**	**FGS**
Insert					
Material	P	P M S	P M S	P M S	S
C 80°		● A293	● A292	● A292	
D 55°		● A298 A301	● A297 A301	● A297	
R	● A303				
S 90°					
T 60°		● A306 A309	● A307 A309		
V 35°		● A313 A317	● A313 A317	● A313	● A314
W 80°		● A318			
Y 25°					

	T-TURN				
Application	Finishing				
Chip breaker	**SL**	**SA**	**SM**	**SH**	**FL**
Insert					
Material	P M S	P M S	P M S	P M S	M N S
C 80°	● A294	● A293	● A294	● A294	● A293
D 55°	● A299	● A298	● A299	● A299	● A298
R					● A303
S 90°					● A304
T 60°		● A307			● A307
V 35°	● A313	● A313 A315	● A313 A315		● A315
W 80°					
Y 25°					

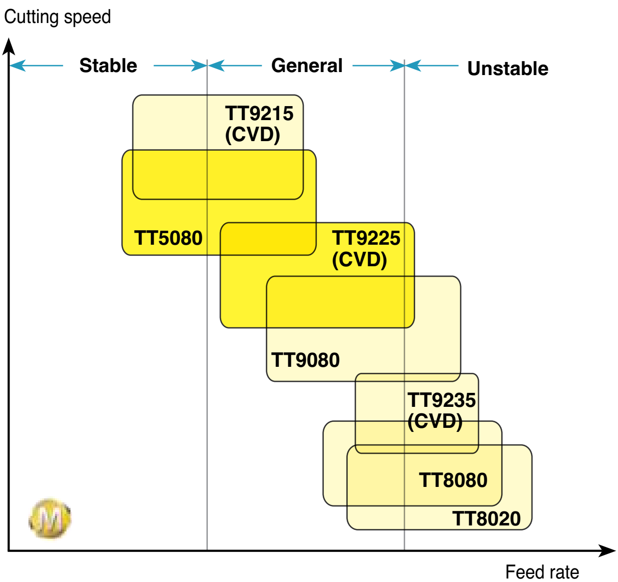
Grades

Selection guide for turning grades

For steel (SPEEDRUSH - CVD coated)



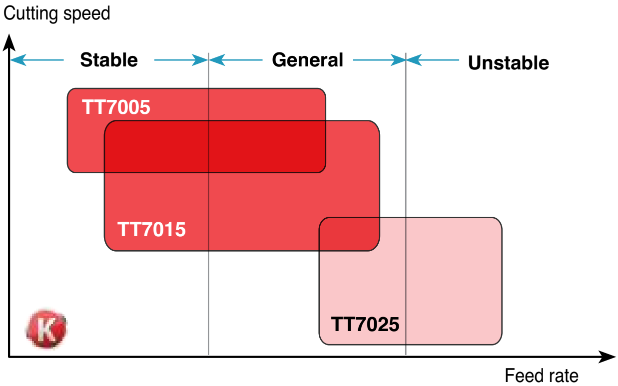
For stainless steel (CVD coated & PVD coated)



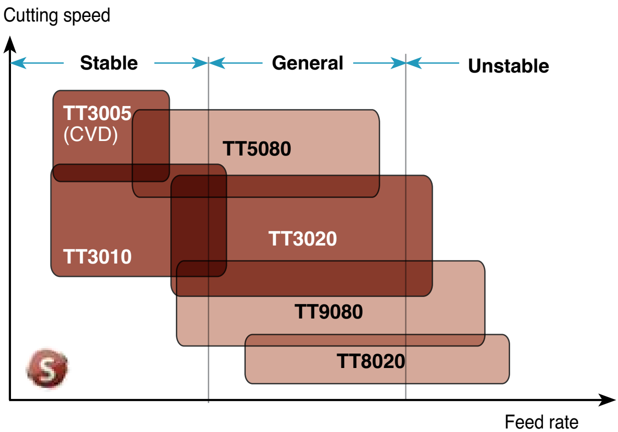
Grades

Selection guide for turning grades

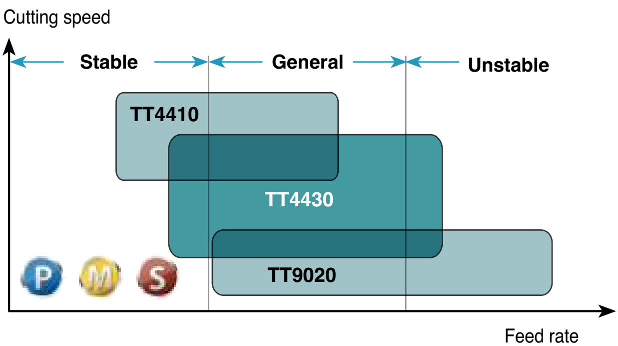
For cast iron (CVD coated)



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
KB90A Solid CBN	K15 – K35	• High speed turning of cast iron. Solid CBN insert
TB730 CBN	K05 – K10 P10 – P20	• General turning of sintered or powder metals
AW120 Ceramic, $Al_2O_3+Z_rO_2$	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
TD810 PCD	N05 – N15	• Bi-modal composition for high speed turning of non-ferrous materials, high Si aluminum alloy, ceramic and sintered tungsten carbide
KP300 PCD	N10 – N25	• General turning of non-ferrous materials and finish turning of carbide roll
TD830 PCD	N20 – N35	• Low Si aluminum alloys and composite plastics (CFRP, GFRP)

Recommendations for Chip Breakers

ISO Negative inserts

For steel

	Stable ← P → Unstable
Finishing	WS (wiper), FG, FLP, FC
Medium	MLP, PC, MGP, MT
Roughing	RGP, RT

For stainless steel

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

For super alloys

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

For cast iron

	Stable ← K → Unstable
Finishing	
Medium	MT, MG-
Roughing	KT, MA-

For aluminum

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

Recommendations for Chip Breakers

RHINO-TURN Negative inserts

For steel

	Stable — P — Unstable
Finishing	WA (wiper), FS, FG, FM, FT
Medium	PC, MM, MT
Roughing	

For stainless steel

	Stable — M — Unstable
Finishing	EA
Medium	GG-ML, MK, EM, MM
Roughing	

For super alloys

	Stable — S — Unstable
Finishing	EA
Medium	GG-ML, MK, EM
Roughing	

For cast iron

	Stable — K — Unstable
Finishing	
Medium	MG-
Roughing	MA-

For aluminum

	Stable — N — Unstable
Finishing	
Medium	GG-ML
Roughing	

Recommendations for Chip Breakers

ISO Positive inserts

For steel

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

For stainless steel

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

For super alloys

	S: Stable ← → Unstable
Finishing	FG
Medium	PC
Roughing	

For cast iron

	K: Stable ← → Unstable
Finishing	
Medium	MT
Roughing	

For aluminum

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

Recommendations for Chip Breakers

Chip breakers for Swiss turn (Ground type)

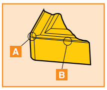
RHINO-TURN Negative inserts

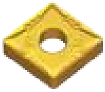
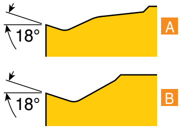
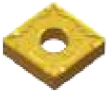
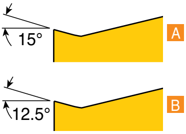
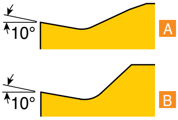
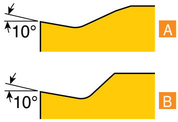
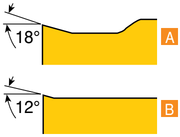
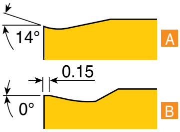
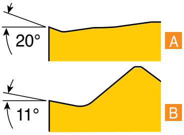
	Stable — P M S — Unstable
Finishing	 VNGX-FS
Finishing-Medium	 DNGG-FU
Roughing	 GG-ML

ISO Positive inserts

	Stable — P M S — Unstable
Finishing	 SL
Finishing-Medium	 SA  SM
Roughing	 SH

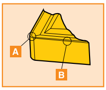
Negative inserts

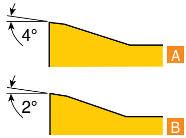
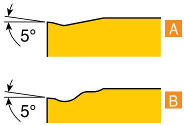
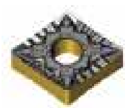
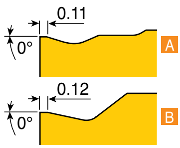
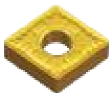
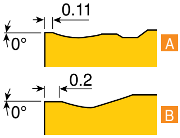
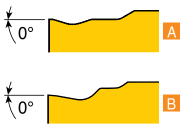
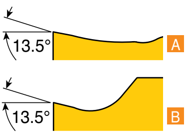
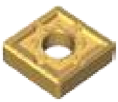
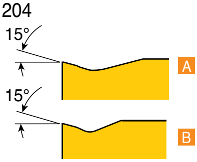


Chip breaker name and geometry			Applications and features
FA		CNMG 1204 	• For super finish applications • Steel, stainless steel and heat resistant alloy machining • Excellent chip control
EA		CNMG 1204 	• For finishing applications • Exotic materials • Excellent chip control at low feeds and depths of cut
FS	 RHINOTURN	CNMG 0904 	• Super finishing chip breaker for steel machining • Excellent chip control and chip evacuation • Minimal vibration due to less machining load
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

Chip Breakers

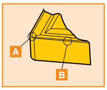
Negative inserts

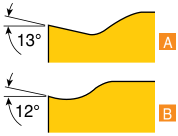
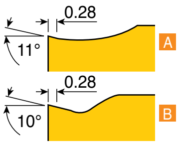
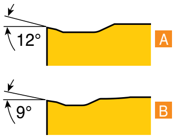
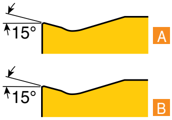
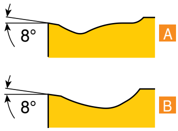
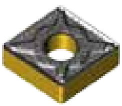
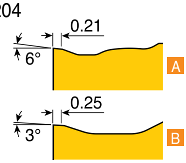
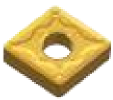
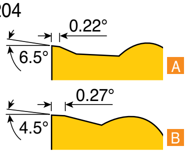


Chip breaker name and geometry			Applications and features
FC		CNMG 1204 	• Ideal for finishing applications • Low carbon steel & low carbon alloy steel • Effective chip breaking in both turning and facing operations
FM	 RHINO TURN	CNMG 0904 	• For steel machining • Improved chip breaking due to 3dimension chipbreaker • Solution for a wide range from semi-finishing to semi-medium machining
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
FT	 RHINO TURN	CNMG 0904 	• For steel machining • Strong, serrated cutting edge for excellent chip evacuation • Semi-finishing and medium machining • Excellent chip breaking for automotive components
VF		DNMG 1504 	• For slender workpiece applications • Vibration free • Steel and stainless steel machining • High positive rake geometry to minimize cutting forces
MGS		CNMG 1204 	• Low cutting resistance and heat generation in high-temperature alloy machining • High rake angle for smooth chip formation

Chip Breakers

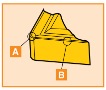
Negative inserts

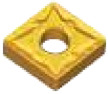
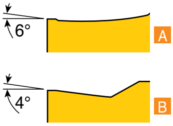
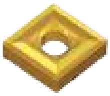
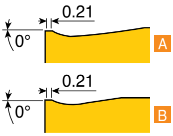
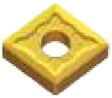
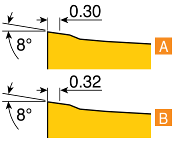
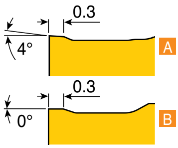
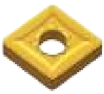
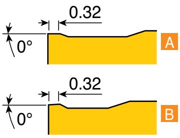
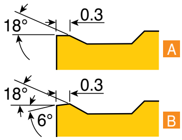
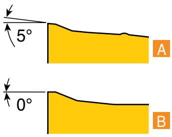


Chip breaker name and geometry			Applications and features
ML		CNMG 1204 	• For medium light applications • Stainless steel, steel and aluminum • Very high positive rake geometry to minimize built-up-edge and cutting forces
MP		CNMG 1204 	• For medium machining applications • Steel and stainless steel • 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
MK	 RHINOTURN	CNMG 0904 	• For medium applications • Stainless steel and heat resistant material machining • Sharp cutting edge to reduce built-up-edge
MM	 RHINOTURN	CNMG 0904 	• For general machining on stainless steel and steel • Positive rake angle provides excellent chip evacuation
MGP		CNMG 1204 	• Wide range for medium application on steels • Wide groove and several dimples
PC		CNMG 1204 	• For medium to semi-finishing applications • Steel & Automotive component • Positive geometry • Excellent chip control on medium applications

Chip Breakers

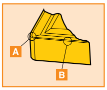
Negative inserts

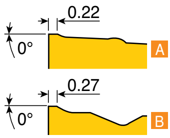
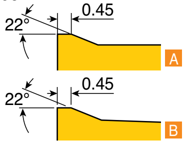
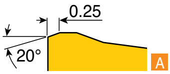
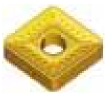
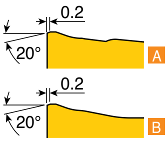
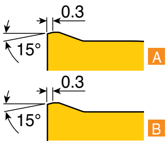
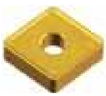
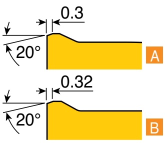
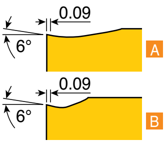


Chip breaker name and geometry			Applications and features
MT		CNMG 1204 	• For medium rough applications • Steel, cast iron and stainless steel • Tough rake angle for general use
MG-		CNMG 1204 	• For medium rough applications • Steel and cast iron machining • Strong rake geometry • Suitable for manual 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
RX		CNMM 1906 	• For semi heavy roughing applications • Steel, stainless steel and cast iron machining • Strong cutting edge with flat land • Low cutting force

Chip Breakers

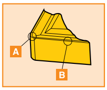
Negative inserts

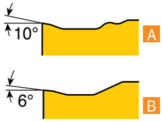
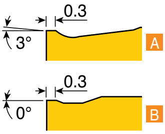


Chip breaker name and geometry			Applications and features
RH		CNMM 1906 	• For roughing applications • Steel, stainless steel and cast iron machining • Very strong rake geometry
EH		CNMM 2509 	• Heavy turning for stainless and mild steel • Low cutting force in stainless steel machining • Reliable & 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
WS	wiper 	CNMG 1204 	• For super finish applications • Steel, cast iron and stainless steel machining • Excellent chip control and low cutting forces

Chip Breakers

Negative inserts

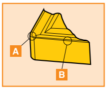


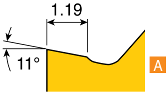
Chip breaker name and geometry			Applications and features
WA	wiper  RHINOTURN	CNMG 0904 	• For super finish applications • Steel, cast iron and stainless steel machining • Excellent surface roughness after machining
WT	wiper 	CNMG 1204 	• For medium to rough machining applications • Steel, cast iron and stainless steel machining • Stable cutting and low cutting forces at high feed rates

Chip Breakers

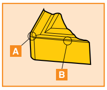
Negative inserts

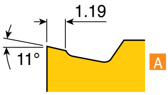
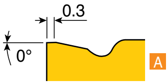
DNUX type



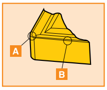
		Chip breaker name and geometry	Applications and features
11		DNUX 1304 	• For medium applications less than 5mm depth of cut • Steel and stainless steel machining • Positive rake geometry to decrease cutting forces • Suitable for turning slender bar, thin-wall components

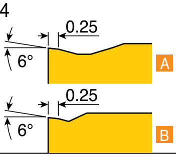
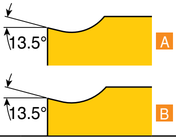
KNUX type



		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 geometry • Wide chip control range

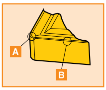
HNMG type

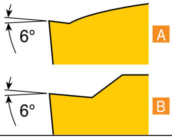
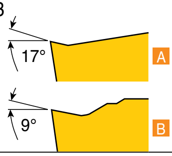
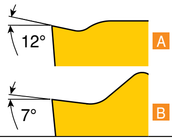
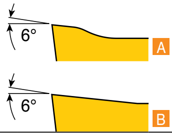
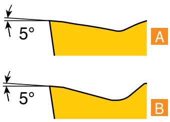
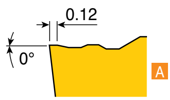
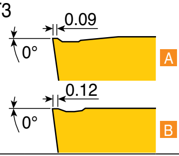


		Chip breaker name and geometry	Applications and features
GU		HNMG 0504 	• For medium applications • For general turning of steels and cast irons • Strong rake geometry
SU		HNMG 0504 	• For exotic materials • Stainless steels, super alloys, low carbon steels, low carbon alloy steel machining • Sharp geometry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

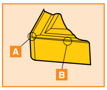
Chip Breakers

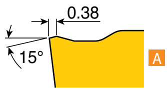
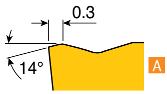
Positive inserts-pressed



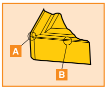
Chip breaker name and geometry			Applications and features
FA		DCMT 11T3 	• For super finish applications • Very tight chipbreaker • Excellent chip control
FG		CCMT 09T3 	• For finish to medium light applications • Steel and stainless steel machining • Low cutting forces • Excellent chip control
FX		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		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

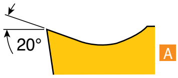
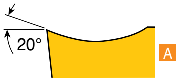
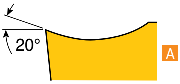
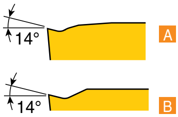
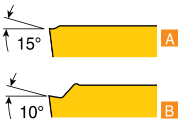
Positive inserts-pressed



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
CMX-		RCMX 1204 	• For high feed roughing applications • Steel, stainless steel and cast iron machining • Strong rake geometry

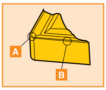
Positive inserts-ground

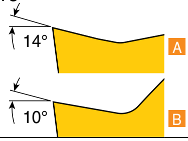
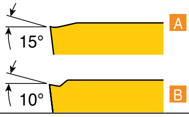
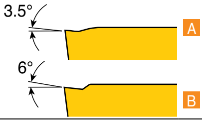
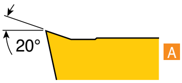


Chip breaker name and geometry			Applications and features
FF		CCGT 0301 	• For finish to medium applications • For small component machining • Excellent surface finish
GF		CCET 0602 	• For super finish applications • Steel, stainless steel and alloy steel machining
GW		CCET 0602 	• For super finish 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



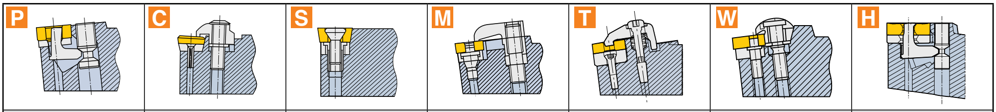
Chip breaker name and geometry			Applications and features
SA		CCGT 09T3 	• For finish to medium applications • Steel & aluminum machining • Low cutting force
SM		CCGT 09T3 	• 1st recommended chip breaker for Swiss type automatic lathe • Stable cutting edge and low cutting resistance
SH		CCGT 09T3 	• 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

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

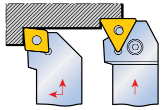
80°	55°	75°	120°	55°		90°	60°	35°	80°
C	D	E	H	K	R	S	T	V	W

3 Approach angle

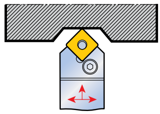
Symbol	Shape	Offset	Symbol	Shape	Offset	Symbol	Shape	Offset
A	90°	×	J	93°	○	V	72.5°	×
			K	75°	○	W	60°	○
B	75°	×	L	95°	○	X	Special angle	
			M	50°	×	C*	90°	×
D	45°	×	N	62.5°	×	H*	107.5°	○
E	60°	×	R	75°	○	Q*	45°	○
F	91°	○	S	45°	○			
G	91°	○	T	60°	○			
			U	93°	○			

* TaeguTec standard

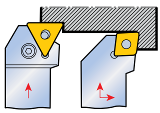
5 Hand of tool



R: Right hand



N: Neutral



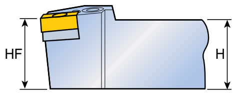
L: Left hand

4 Insert clearance angle

0°	5°	7°	11°
N	B	C	P

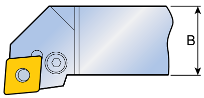
25	25	M	12	-		
6	7	8	9		10	11

6 Shank height



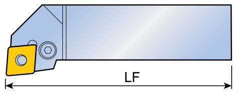
Integers to be preceded by 0
e.g.: H=8mm indicated by 08

7 Shank width



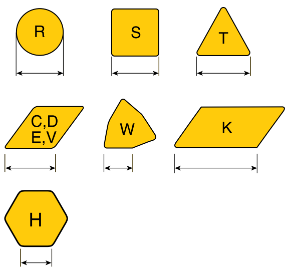
Integers to be preceded by 0
e.g.: B=8mm indicated by 08

8 Tool length



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

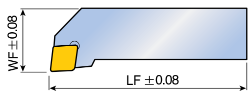
9 Cutting edge length



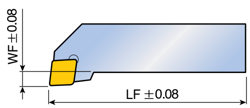
See page A249

10 Qualified tool

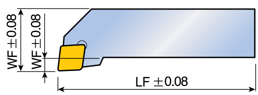
Q



F



B



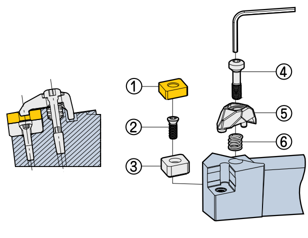
11 Manufacturer's type designation

Unique to manufacturer

Toolholder Clamping System

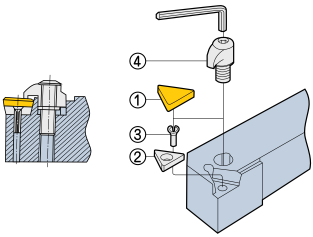
T-TURN

T-holder type — T



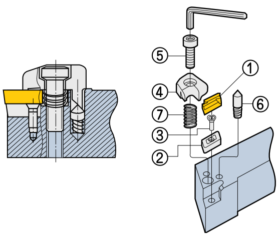

① Insert
② Shim screw
③ Shim
④ Clamp screw
⑤ Clamp
⑥ Spring

Top clamp type — C



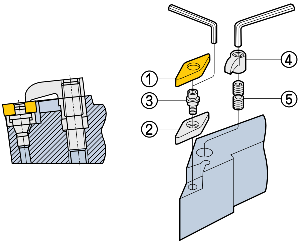

① Insert
② Shim
③ Shim pin
④ Clamp set

Top clamp type — C



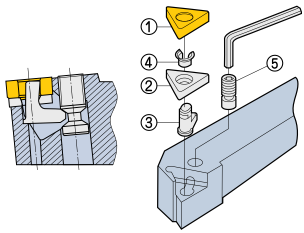

① Insert
② Shim
③ Shim screw
④ Clamp
⑤ Clamp screw
⑥ Pin and spring
⑦ Clamp spring

Multi lock type — M



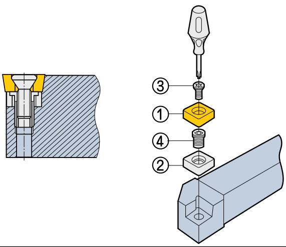

① Insert
② Shim
③ Lock pin
④ Clamp
⑤ Clamp screw

Lever lock type — P



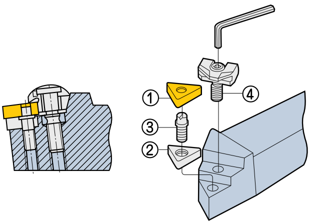

① Insert
② Shim
③ Lever
④ Shim pin
⑤ Screw

Screw clamp type — S



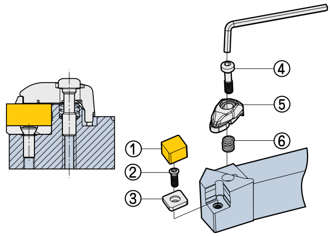

① Insert
② Shim
③ Screw
④ Shim screw

Wedge clamp type — W



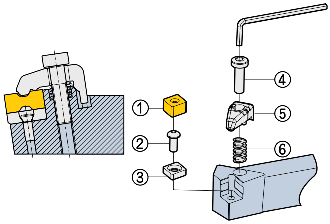
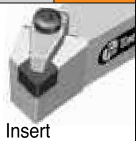

① Insert
② Shim
③ Pin screw
④ Wedge set

Ceramic T-holder — T



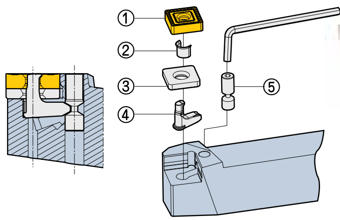

① Insert
② Shim screw
③ Shim
④ Clamp screw
⑤ Clamp
⑥ Spring

Ceramic dimple holder — T

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

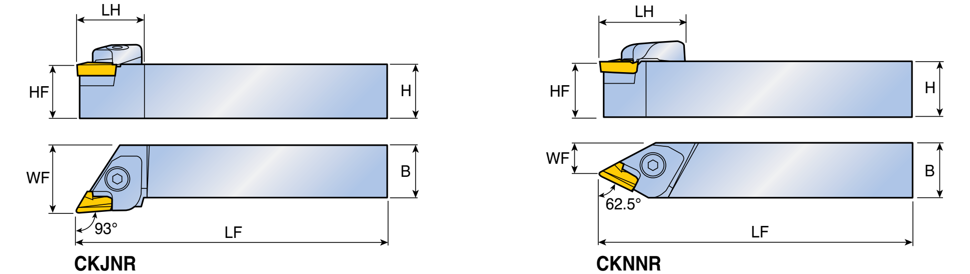
Hook lever type — H

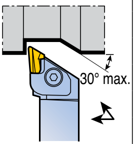
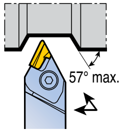



① Insert
② Shim pin
③ Shim
④ Hook lever
⑤ Screw

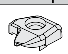
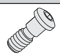
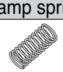
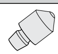
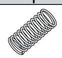
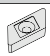
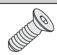
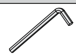
CKJNR/L CKNNR/L

Top clamp type holders



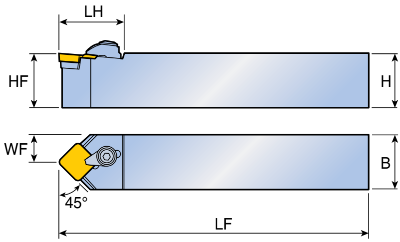
Approach angle	Designation		H	HF	B	LF	LH	WF	Insert
			Dimension (mm)						
93°	**CKJNR/L**	**2020 K16**	20	20	20	125	35	25	KNUX 1604...R/L 11 KNUX 1604...R/L 12 A266
		**2020 M16**	20	20	20	150	35	25	
		2525 M16	25	25	25	150	32	32	
		3225 P16	32	32	25	170	33.3	32	
		3232 M16	32	32	32	150	33.3	40	
		3232 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

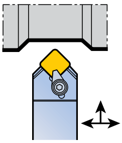
Designation	Clamp	Screw	Clamp spring	Pin	Pin spring	Shim	Shim screw	Wrench
								
...16	CL 16KR/L	CLS 16K	KSP 90	KP 48S	KSP 48	CSK 1604R/L	FH M3×0.5×10	L-W 4 L-W 2

CSDPN

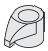
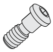
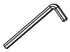
Top clamp type holders



CSDPN

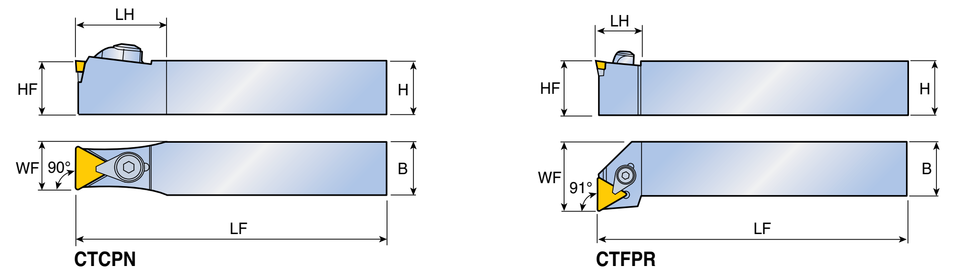
Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
45°	**CSDPN**	**1616 H09**	16	16	16	100	24	8.0	SPMR,SP...N 0903...	A305, A335
		**2020 K12**	20	20	20	125	29	10	SPMR,SP...N 1203...	
		2525 M12	25	25	25	150	29	12.5		

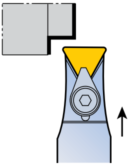
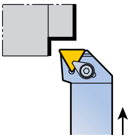
Spare parts

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		

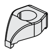
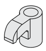
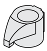
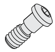
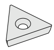
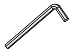
CTCPN CTFPR/L

Top clamp type holders



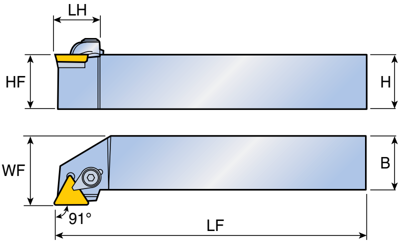
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
90° 	**CTCPN**	**2009 K11**	20	20	9	125	20	9.4	TPMR,TP...N 1103...	A310-A312, A335, A347, A348
		2513 Q16	25	25	13	180	30	14.1	TPMR,TP...N 1603...	
		2525 M22	25	25	25	150	50	19.4	TPMR,TP...N 2204...	
91° 	**CTFPR/L**	**1616 H11**	16	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

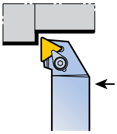
Designation	Clamp			Screw		Shim	Shim pin	Snap ring	Wrench
									
CTCPN ...11	CL 2C	-	-	CLS 2C	-	-	-	CSR 2C	L-W 2.5
CTCPN ...16	CL 3C	-	-	CLS 3C	-	CST 32	CSP 3	CSR 2	L-W 3
CTCPN ...22	-	CLM 12	-	-	XNSM 0825	CST 43	CSP 16K	CSR 4	L-W 4
CTFPR/L...11	-	-	CL 2	CLS 2	-	-	-	CSR 2	L-W 2.5
CTFPR/L...16	-	-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

CTGPR/L

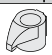
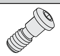
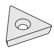
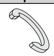
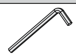
Top clamp type holders



CTGPR

Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
91°	**CTGPR/L**	**1212 F11**	12	12	12	80	19	16	TPMR,TP...N 1103...	A310-A312, A335, A347, A348
		**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		

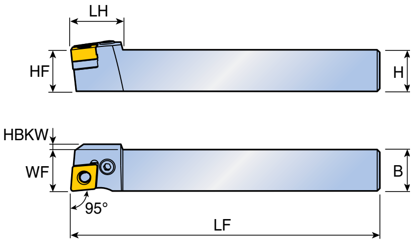
Spare parts

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

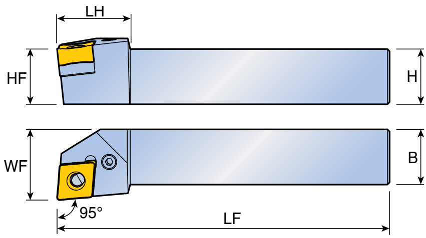
HCLNR/L-RS HCLNR/L

T-TURN

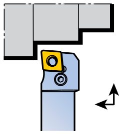
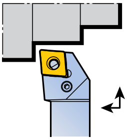
Hook lever type holders



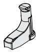
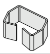
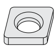
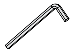
HCLNR-RS



HCLNR

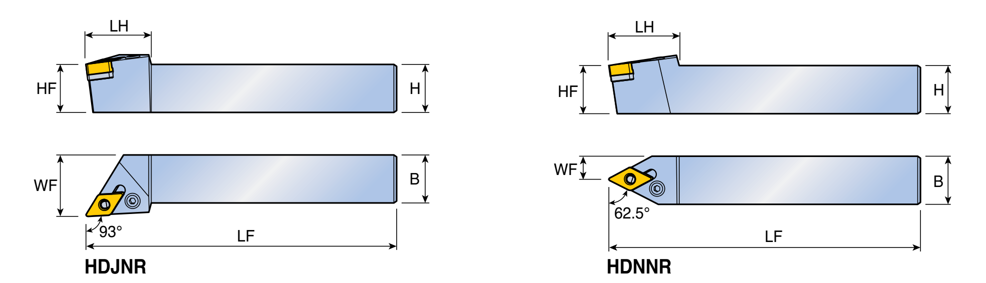
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
95°	**HCLNR/L**	**1212 K0904-RS**	12	12	16	125	18	12	2	CN... 0904... RHINO TURN A250-A257
		**1616 K0904-RS**	16	16	16	125	20	16	-	
95°	**HCLNR/L**	**1616 H0904**	16	16	16	100	22	20	-	CN... 0904... RHINO TURN
		**2020 H0904**	20	20	20	100	22	25	-	
		2020 K0904	20	20	20	125	22	25	-	
		2525 M0904	25	25	25	150	22	32	-	

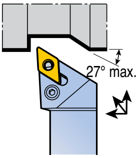
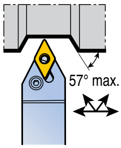
Spare parts

Designation	Lever	Screw	Snap ring	Shim	Shim pin	Wrench	
							
...1212...0904	LCL 09B-NX	LCS 3B	LSR 3B	-	-	L-W 2	
...0904	LCL 09-NX	LCS 3	-	LSC 32A	LSP 3A	L-W 2.5	

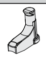
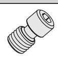
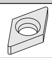
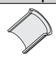
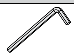
HDJNR/L HDNNR/L

Hook lever type holders



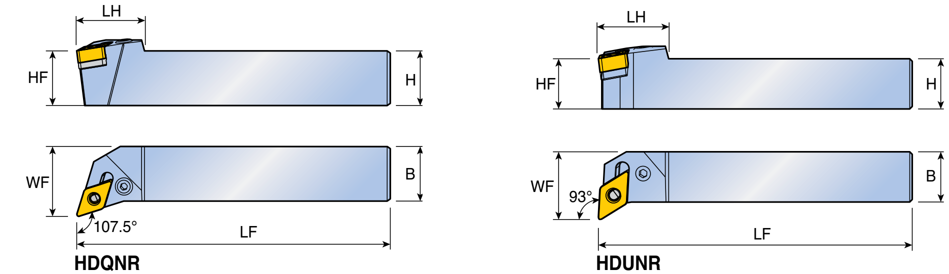
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
93° 	**HDJNR/L**	**2020 H1305**	20	20	20	100	34	25	DN... 1305... A260-A265
		2020 K1305	20	20	20	125	34	25	
		2525 M1305	25	25	25	150	34	32	
62.5° 	**HDNNR/L**	**2020 K1305**	20	20	20	125	36.5	10	
		2525 M1305	25	25	25	150	36.5	12	

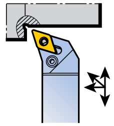
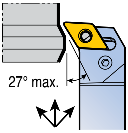
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Wrench		
							
...1305	LCL 11-NX	LCS 4	LSD 3.52	LSP 4	L-W 3		

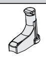
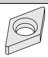
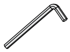
HDQNR/L HDUNR/L

Hook lever type holders



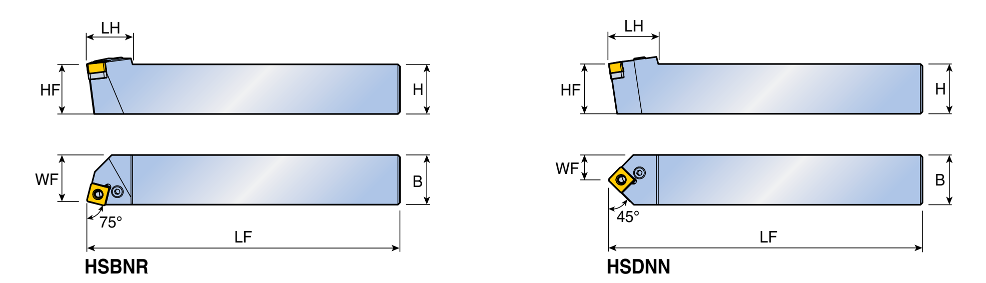
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
107.5° 	**HDQNR/L**	**2020 K1305**	20	20	20	125	31	25	DN... 1305... RHINOTURN A260-A265
		2525 M1305	25	25	25	150	31	32	
93° 	**HDUNR/L**	**2020 K1305**	20	20	20	125	28	27	

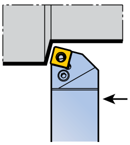
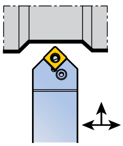
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Wrench		
							
...1305	LCL 11-NX	LCS 4	LSD 3.52	LSP 4	L-W 3		

HSBNR/L HSDNN

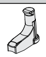
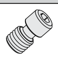
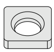
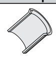
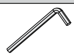
Hook lever type holders



Approach angle	Designation		H	HF	B	LF	LH	WF		Insert
75°	**HSBNR/L**	**4040 S3109**	40	40	40	250	55	35		SNMD 3109... A268, A269
		**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		

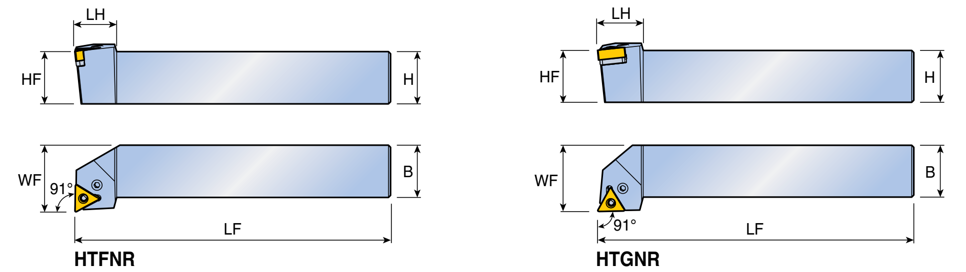
Dimension (mm): H, HF, B, LF, LH, WF

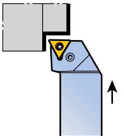
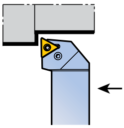
Spare parts

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

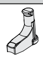
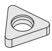
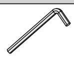
HTFNR/L HTGNR/L

Hook lever type holders



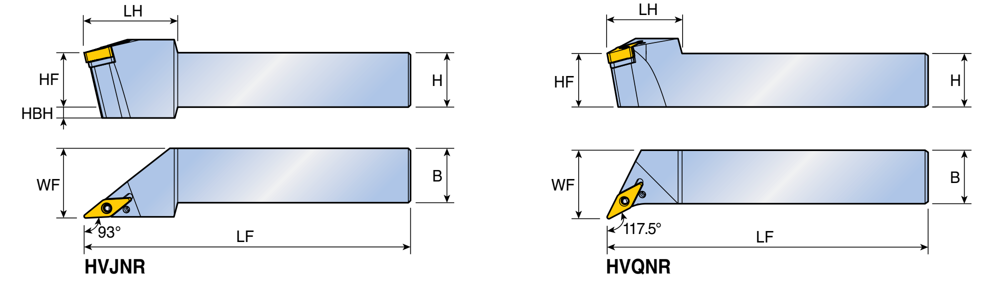
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
91° 	**HTFNR/L**	**2020 K1304**	20	20	20	125	20	25	TN... 1304... A275-A280
		2525 M1304	25	25	25	150	20	32	
91° 	**HTGNR/L**	**1616 H1304**	16	16	16	100	22	20	
		2020 H1304	20	20	20	100	22	25	
		2020 K1304	20	20	20	125	22	25	
		2525 M1304	25	25	25	150	22	32	

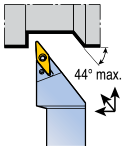
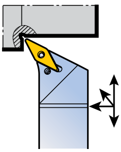
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Wrench		
							
...1304	LCL 08-NX	LCS 3-NX	LST 2.51.8	LSP 3B	L-W 2.5		

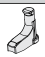
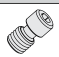
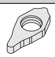
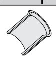
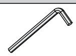
HVJNR/L HVQNR/L

Hook lever type holders



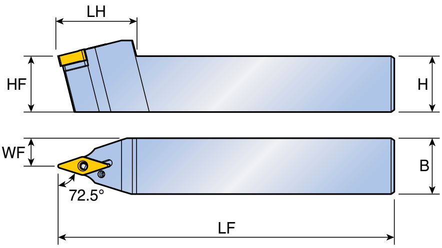
Approach angle	Designation		H	HF	B	LF	LH	WF	HBH	Insert
			Dimension (mm)							
93°  44° max.	**HVJNR/L**	**1616 H1304**	16	16	16	100	30	20	5	VN...X 1304... YNMG 1304... A281, A283, A289
		2020 K1304	20	20	20	125	35	25	-	
		2525 M1304	25	25	25	150	43	32	-	
117.5° 	**HVQNR/L**	**2020 K1304**	20	20	20	125	35	25	-	
		2525 M1304	25	25	25	150	35	32	-	

Spare parts

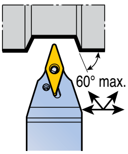
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...1304	LCL 08-NX	LCS 4-DH	LSV 2.51.8H	LSP 3B	L-W 2.5			

HVVNN

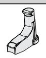
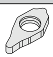
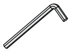
Hook lever type holders



HVVNN

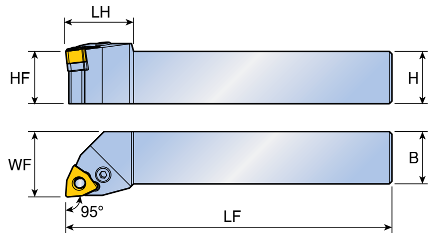
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
72.5°	**HVVNN**	**2020 K1304**	20	20	20	125	35	10	VN...X 1304... YNMG 1304... RHINO TURN A281, A283, A289
		**2525 M1304**	25	25	25	150	35	12.5	

Spare parts

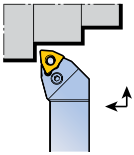
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...1304	LCL 08-NX	LCS 4-DH	LSV 2.51.8H	LSP 3B	L-W 2.5			

HWLNR/L

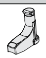
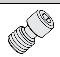
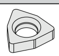
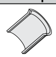
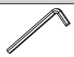
Hook lever type holders



HWLNR

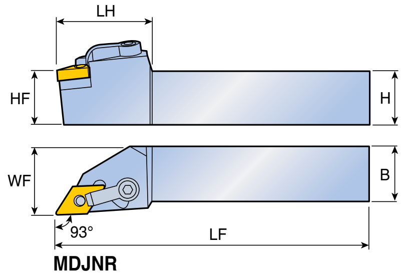
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95° 	**HWLNR/L**	**1616 H0604**	16	16	16	100	26	20	WN...X 0604... RHINOTURN A287, A288
		2020 K0604	20	20	20	125	26	25	
		2525 M0604	25	25	25	150	26	32	

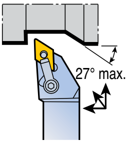
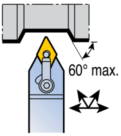
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Wrench
					
...0604	LCL 09-NX	LCS 3	LSW 32A	LSP 3A	L-W 2.5

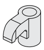
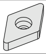
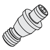
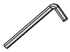
MDJNR/L MDNNN

Multi lock type holders



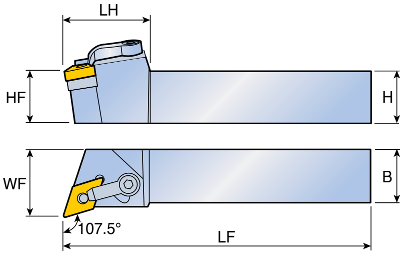
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
93°	**MDJNR/L**	**2020 K15**	20	20	20	125	45	25	DN... 1504...	A260-A265, A326, A337
		**2525 M15**	25	25	25	150	45	32		
		2020 K15A	20	20	20	125	45	25	DN... 1506...	
		2525 M15A	25	25	25	150	45	32		
		3232 P15A	32	32	32	170	45	40		
62.5°	**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

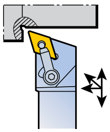
Designation	Clamp	Screw	Shim	Lock pin	Wrench
					
...15	CLM 30	XNSM 0825	S 45	MLP 4	L-W 2.5, L-W 4
...15A	CLM 30	XNSM 0825	MSD 43	MLP 4-06	L-W 2.5, L-W 4

MDQNR/L

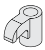
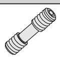
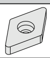
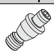
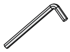
Multi lock type holders



MDQNR

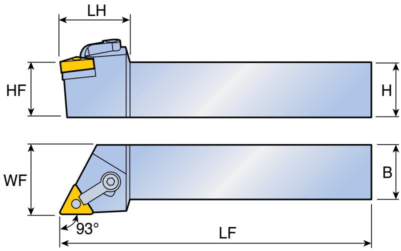
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
107.5°	MDQNR/L	2020 K15	20	20	20	125	40	25	DN... 1504...
		2525 M15	25	25	25	150	40	32	 A260-A265, A326, A337
		2525 M15A	25	25	25	150	40	32	DN... 1506...

Spare parts

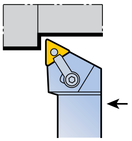
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
								
...15	CLM 30	XNSM 0825	S 45	MLP 4	L-W 2.5, L-W 4			
...15A	CLM 30	XNSM 0825	MSD 43	MLP 4-06	L-W 2.5, L-W 4			

MTJNR/L

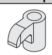
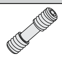
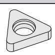
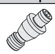
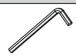
Multi lock type holders



MTJNR

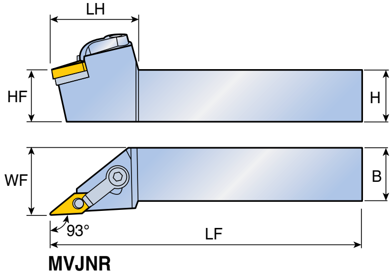
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
93°	**MTJNR/L**	**2020 K16**	20	20	20	125	28	25	TN... 1603...	A275-A280, A332, A340
		**2525 M16**	25	25	25	150	28	32		
		2525 M1604	25	25	25	150	28	32	TN... 1604...	

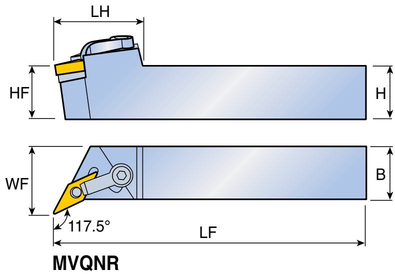
Spare parts

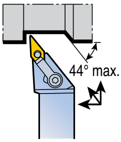
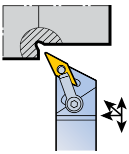
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
								
...16	CLM 6	XNSM 0520	S 3	MLP 3	L-W 2, L-W 2.5			
...1604	CLM 6	XNSM 0520	S 31	MLP 3	L-W 2, L-W 2.5			

MVJNR/L MVQNR/L

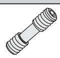
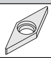
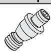
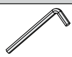
Multi lock type holders





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... A281, A282, A333, A341
		**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	

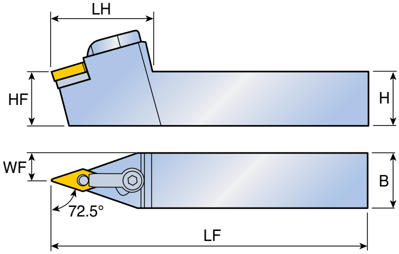
Spare parts

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

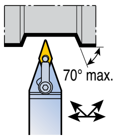
MVVNN

T-TURN

Multi lock type holders



MVVNN

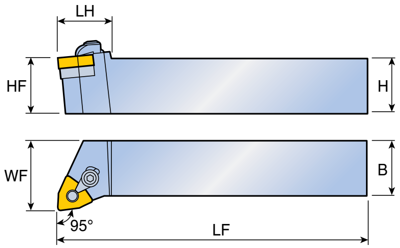
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
72.5°	**MVVNN**	**2020 K16**	20	20	20	125	46	10.0	VN... 1604... A281, A282, A333, A341
		**2525 M16**	25	25	25	150	46	12.5	

Spare parts

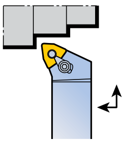
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
...16	CLM 30	XNSM 0825	IVSN 324	MLP 3	L-W 2, L-W 4			

MWLNR/L

Multi lock type holders

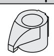
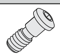
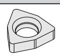
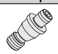
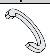
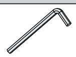


MWLNR

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...
	2525 M08	25	25	25	150	25	32	

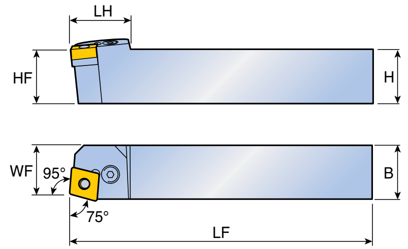
A284-A287, A333-A342

Spare parts

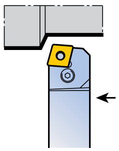
Designation	Clamp	Screw	Shim	Lock pin	Snap ring	Wrench		
								
...06	CL 2	CLS 2	MSW 32	MLP 3	CSR 2	L-W 2, L-W 2.5		
...08	CL 2	CLS 2	MSW 43	MLP 4	CSR 2	L-W 2.5		

PCBNR/L

Lever lock type holders

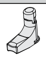
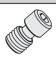
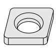
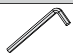


PCBNR

Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
75°	**PCBNR/L**	**2020 K12**	20	20	20	125	28	17.5	CN... 1204...	A250-A259, A324, A325, A336
		**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		

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

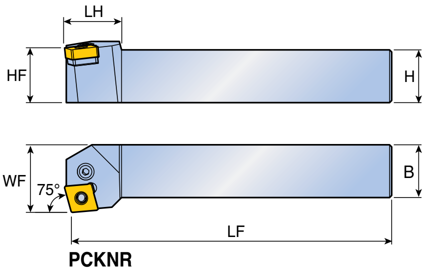
Spare parts

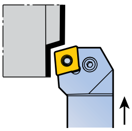
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...12	LCL 4	LCS 4	LSC 42	LSP 4	L-W 3			
...16	LCL 5	LCS 5	LSC 53	LSP 5	L-W 3			
...1906	LCL 6D	LCS 25C	LSC 64D	LSP 6	L-W 4			
...2509	LCL 8	LCS 8	LSC 84D	LSP 8	L-W 5			

• LSC 85D Shim can be used for CN...2507... insert

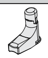
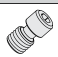
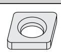
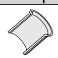
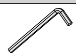
PCKNR/L

Lever lock type holders



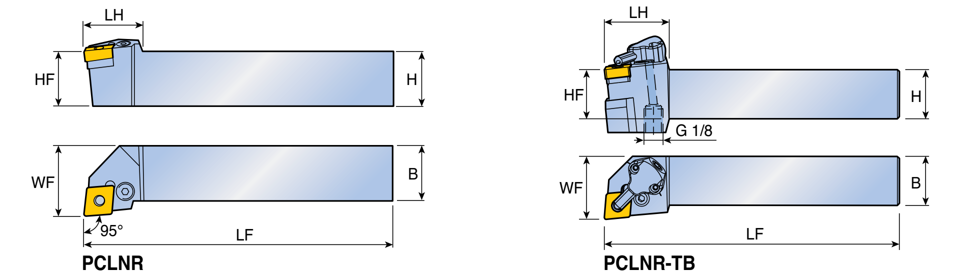
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
75°	PCKNR/L	2020 K12	20	20	20	125	27	25	CN... 1204... A250-A259, A324, A325, A336
		2525 M12	25	25	25	150	24	32	

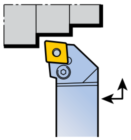
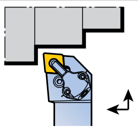
Spare parts

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

PCLNR/L PCLNR/L-TB

Lever lock type holders



Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
95° 	**PCLNR/L**	**1616 H12**	16	16	16	100	27	20	CN... 1204...	A250-A259, A324, A325, A336
		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	Plug	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	SS M4x0.7x4-NL	T 8	L-W 2, L-W 3

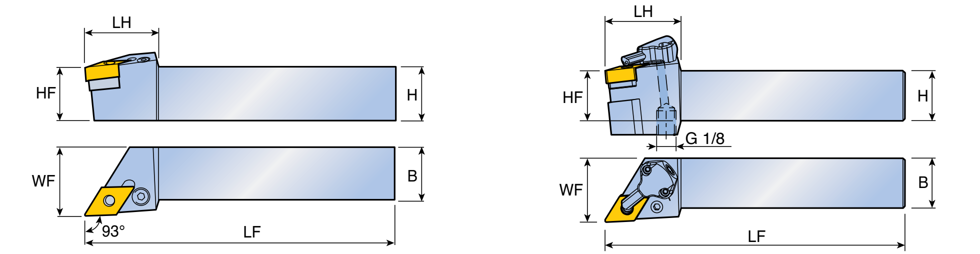
• LSC 85D Shim can be used for CN...2507... insert

• Please refer to A160 page for COOL-BURST accessories

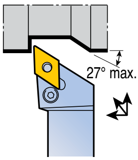
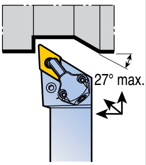
PDJNR/L PDJNR/L-TB

T-TURN

Lever lock type holders



PDJNR **PDJNR-TB**

Approach angle	Designation	Dimension (mm) H	HF	B	LF	LH	WF	Insert	
93°	**PDJNR/L 1616 H11**	16	16	16	100	30	20	DN... 1104...	A260-A265, A326, A337
	**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...	
 COOLBURST	**2525 M1506-TB**	25	25	25	150	37	32	DN... 1506...	

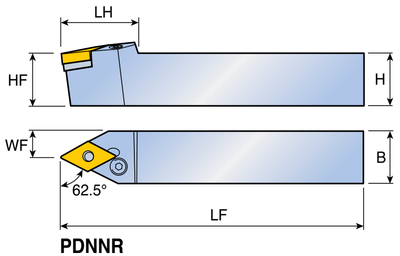
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Cooling unit	O-ring	Plug	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	SS M4x0.7x4-NL	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	SS M4x0.7x4-NL	T 8	L-W 2, L-W 3

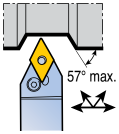
• Please refer to A160 page for COOL-BURST accessories

PDNNR/L

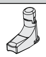
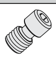
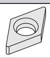
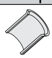
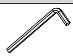
Lever lock type holders



PDNNR

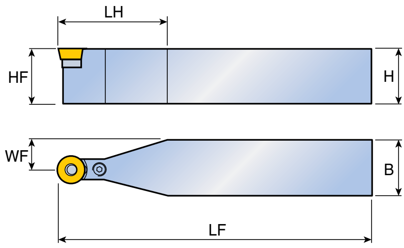
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
62.5°	**PDNNR/L**	**2020 K15**	20	20	20	125	36.5	10	DN... 1506... A260-A265, A326, A337
 57° max.		**2525 M15**	25	25	25	150	36.5	12	
		3232 P15	32	32	32	170	36.5	16.8	

Spare parts

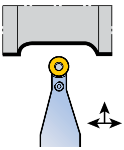
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...15	LCL 4A	LCS 4	LSD 42	LSP 4	L-W 3			

PRDCN

Lever lock type holders

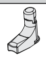
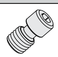
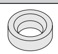
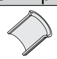
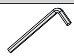


PRDCN

Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
45° 	**PRDCN**	**2020 M10**	20	20	20	150	50	10.0	RC...X 1003...	A303
		2525 M10	25	25	25	150	50	12.5		
		2020 K12	20	20	20	125	50	10.0	RC...X 1204...	
		2525 M12	25	25	25	150	50	12.5		
		3225 Q12	32	32	25	180	50	12.5		
		2525 Q16	25	25	25	180	50	12.5	RC...X 1606...	
		3225 Q16	32	32	25	180	50	12.5		
		3232 Q16	32	32	32	180	50	16.0		
		3232 S20	32	32	32	250	60	16.0	RC...X 2006...	
		4040 S20	40	40	40	250	70	20.0		
		4040 S25	40	40	40	250	80	20.0	RC...X 2507...	
		4040 T25	40	40	40	300	80	20.0		
		5050 U32	50	50	50	350	90	25.0	RC...X 3209...	

Dimension (mm): H, HF, B, LF, LH, WF

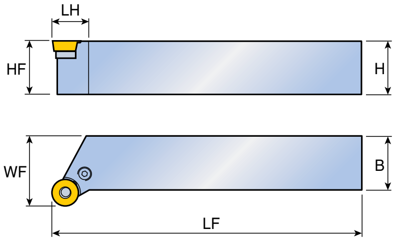
Spare parts

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			

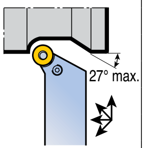
PRGCR/L

T-TURN

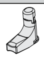
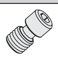
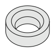
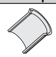
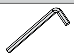
Lever lock type holders



PRGCR

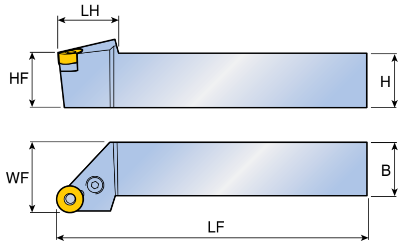
Approach angle	Designation		Dimension (mm)							Insert	
			H	HF	B	LF	LH	WF			
90°	**PRGCR/L**	**2020 K10**	20	20	20	125	14.5	25		RC...X 1003...	A303
		**2525 M10**	25	25	25	150	17.5	32			
		3225 P10	32	32	25	170	17	32			
		2020 K12	20	20	20	125	18	25		RC...X 1204...	
		2525 M12	25	25	25	150	18	32			
		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...	

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			

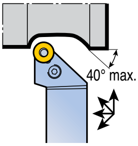
PRGNR/L

Lever lock type holders



PRGNR

Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
90°	**PRGNR/L**	**2525 M12**	25	25	25	150	28	32	RNMG 120400	A267
		3225 P15	32	32	25	170	35	32	RNMG 150600	
		3232 P19	32	32	32	170	38	40	RNMG 190600	

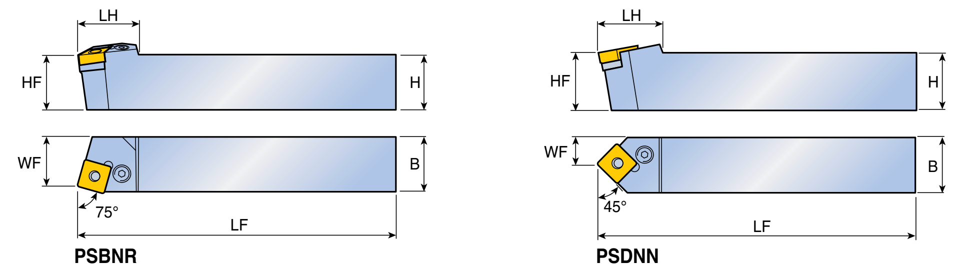


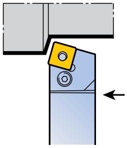
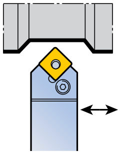
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Wrench			
...09	LCL 3	LCS 3	LSR 32	LSP 3A	L-W 2.5			
...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

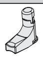
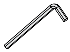
Lever lock type holders



Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
75°	**PSBNR/L**	**2020 K12**	20	20	20	125	28	17	SN... 1204...	A268-A274, A329, A330, A339
		**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

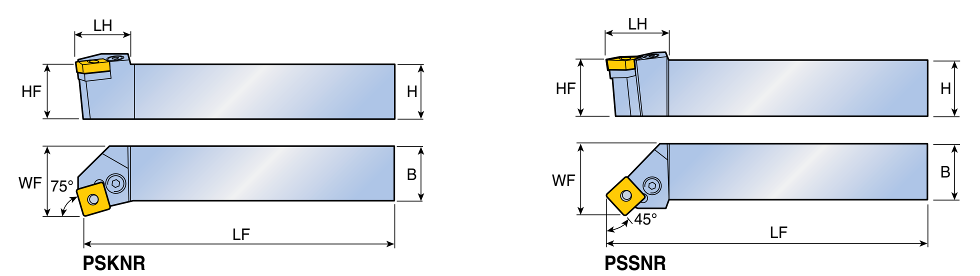
Spare parts

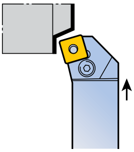
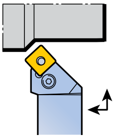
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...12	LCL 4	LCS 4	LSS 42	LSP 4	L-W 3			
...15	LCL 5	LCS 5	LSS 53	LSP 5	L-W 3			
...1906	LCL 6D	LCS 25C	LSS 64D	LSP 6	L-W 4			
...2509	LCL 8	LCS 8	LSS 84D	LSP 8	L-W 5			

• LSS 85D Shim can be used for SN... 2507... insert

PSKNR/L PSSNR/L

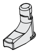
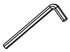
Lever lock type holders



Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
75°	**PSKNR/L**	**2020 K12**	20	20	20	125	25	25	SN... 1204...	A268-A274, A329, A330, A339
		**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...	

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

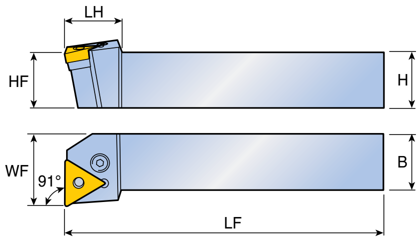
Spare parts

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

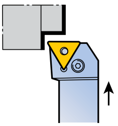
• LSS 85D Shim can be used for SN... 2507... insert

PTFNR/L

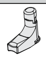
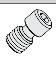
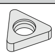
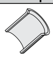
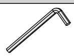
Lever lock type holders



PTFNR

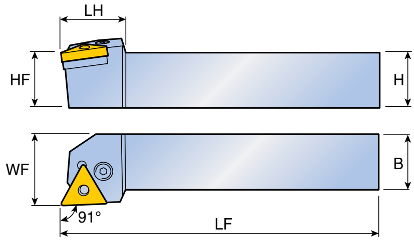
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
91°	**PTFNR/L**	**2020 K16**	20	20	20	125	20	25	TN... 1604... A275-A280, A332, A340
		**2525 M16**	25	25	25	150	20	32	

Spare parts

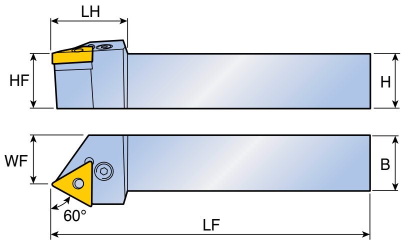
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...16	LCL 3	LCS 3	LST 31.8	LSP 3A	L-W 2.5			

PTGNR/L PTTNR/L

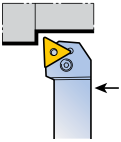
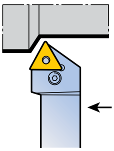
Lever lock type holders



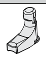
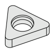
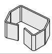
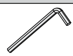
PTGNR



PTTNR

Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
91° 	**PTGNR/L**	**1010 E11**	10	10	10	70	15	12	TN... 1103...	A275-A280, A332, A340
		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		

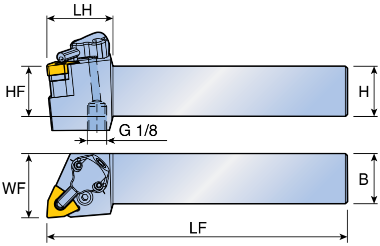
Spare parts

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		

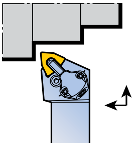
PWLNR/L-TB

T-TURN

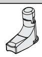
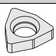
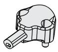
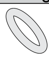
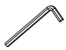
Lever lock type holders



PWLNR-TB

Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95°  COOL BURST	**PWLNR/L**	**2525 M08-TB**	25	25	25	150	33	32	WN... 0804... A284-A287, A333, A342
		3232 P08-TB	32	32	32	170	33	40	

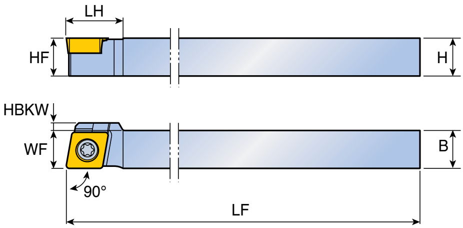
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Cooling unit	O-ring	Plug	Wrench	
									
PWLNR/L...TB	LCL 4	LCS 4	TWN 423(T)	LSP 4	CU-CW-TB	ID 6.4x0.9	SS M4x0.7x4-NL	T 8	L-W 2, L-W 3

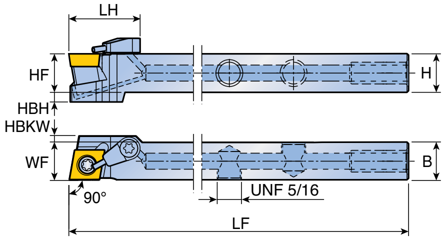
• Please refer to A160 page for COOL-BURST accessories

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

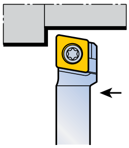
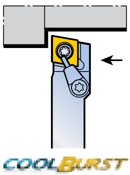
Screw type holders



SCACR-SH

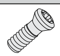
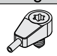
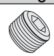
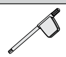
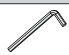


SCACR-SH-TB

Approach angle	Designation	Dimension (mm)								Insert
		H	HF	HBH	B	LF	LH	WF	HBKW	
90° 	# SCACR/L 1010 K06-SH	10	10	-	10	125	10	10	-	CC...T 0602...
	1010 K09-SH	10	10	-	10	125	15	10	2	CC...T 09T3...
	1212 K09-SH	12	12	-	12	125	15	12	-	A292-A295, A343
	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	-	

• # Marked: TOP-MINI holders

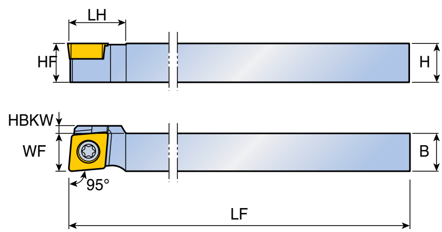
Spare parts

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		

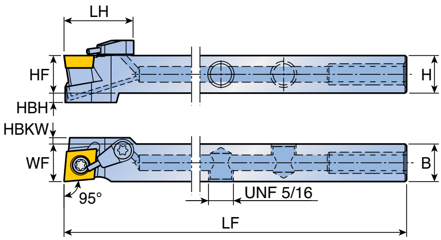
• Please refer to A160 page for COOL-BURST accessories

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

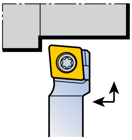
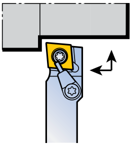
Screw type holders



SCLCR-SH

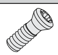
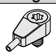
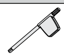
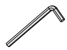


SCLCR-SH-TB

Approach angle	Designation	Dimension (mm) H	HF	HBH	B	LF	LH	WF	HBKW	Insert
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	-	 A292-A295, A343
	1616 K09-SH	16	16	-	16	125	16	16	-	
95°	# **SCLCR/L 1212 K09-SH-TB**	12	12	3	12	125	23	12	2	
 COOL BURST	**1616 K09-SH-TB**	16	16	-	16	125	23	16	-	

• # Marked: TOP-MINI holders

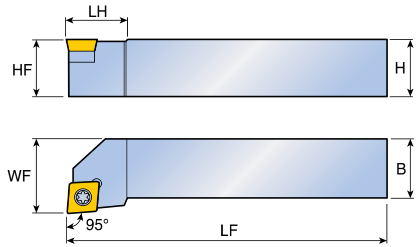
Spare parts

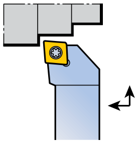
Designation	Screw	Cooling unit	Plug	Wrench			
							
...06-SH	SO 25065I	-	-	T 7	-		
...09-SH	SO 35080I	-	-	T 15	-		
SCLCR/L-SH-TB	SO 35080I	S-CU-TB	PLG 5/16 UNF	T 15	L-W 5/32		

• Please refer to A160 page for COOL-BURST accessories

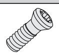
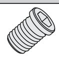
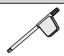
SCLCR/L

Screw type holders



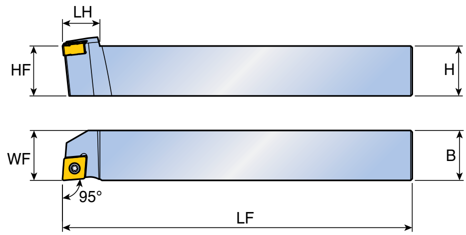
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
95°	**SCLCR/L**	**0808 F06**	8	8	8	80	10	10	CC... 0602...	A292-A295, A343
		**1010 F06**	10	10	10	80	10	12		
		1212 F09	12	12	12	80	16	16	CC... 09T3...	
		1616 H09	16	16	16	100	16	20		
		2020 K09	20	20	20	125	20	25		
		2525 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

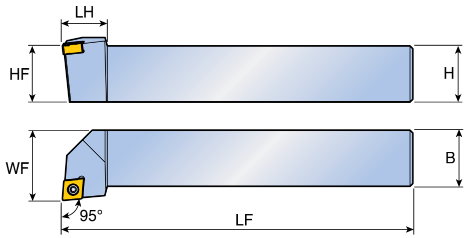
Designation	Screw	Shim	Shim screw	Wrench			
							
...06	SO 25065I	-	-	T 7			
...F09	SO 35080I	-	-	T 15			
...09	SO 35124I	SSC 32	SO 50090S	T 15			
...12	SO 45130I	SSC 43N	SO 60105S	T 20			

SCLNR/L-RS SCLNR/L

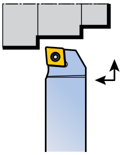
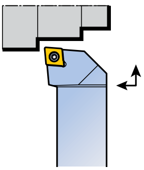
Screw type holders



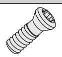
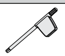
SCLNR-RS



SCLNR

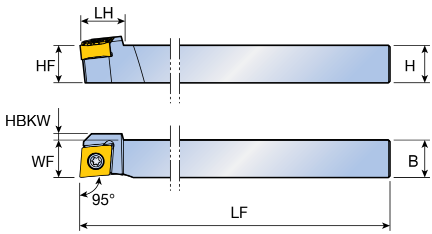
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95° 	SCLNR/L	1212 K0703-RS	12	12	12	125	12	12	CNMX 0703... RHINOMTURN A259
		1616 K0703-RS	16	16	16	125	12	16	
95° 	SCLNR/L	1616 H0703	16	16	16	100	12	20	
		2020 K0703	20	20	20	125	16	25	

Spare parts

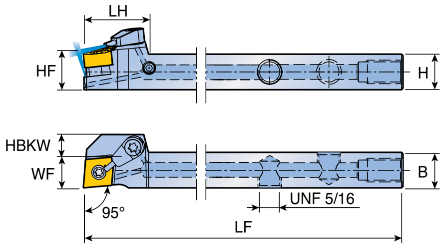
Designation	Screw	Wrench					
							
...0703...	TS 25D060/HG-P	T 7P					

SCLNR-RS SCLNR-RS-TB

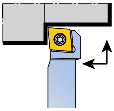
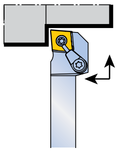
Screw type holders



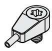
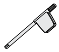
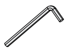
SCLNR-RS



SCLNR-RS-TB

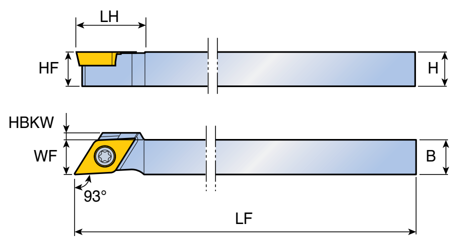
Approach angle	Designation	H	HF	B	LF	LH	WF	HBKW	Insert
		Dimension (mm)							
95° 	**SCLNR 1212 K0904-RS**	12	12	12	125	14	12	2	CN... 0904 A250-A257
	1616 K0904-RS	16	16	16	125	14	16	-	
	2020 K0904-RS	20	20	20	125	14	20	-	
95° 	**SCLNR 1212 K0904-RS-TB**	12	12	12	125	22	12	19	
	1616 K0904-RS-TB	16	16	16	125	22	16	18	
	2020 K0904-RS-TB	20	20	20	125	22	20	-	

Spare parts

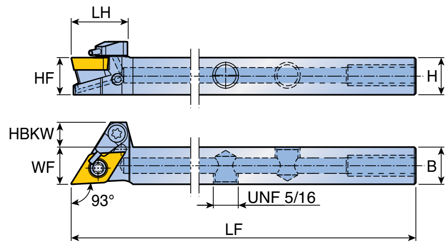
Designation	Screw	Cooling unit	Plug	Wrench			
							
SCLNR-RS	TS 35083I/HG	-	-	T 10	-		
SCLNR-RS-TB	TS 35083I/HG	S-CU-TB	PLG 5/16 UNF	T 10	L-W 5/32		

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

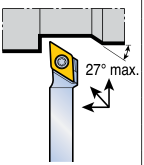
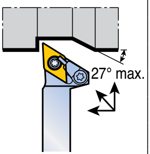
Screw type holders



SDJCR-SH



SDJCR-SH-TB

Approach angle	Designation	Dimension (mm) H	HF	B	LF	LH	WF	HBKW	Insert
93°	# **SDJCR/L 0808 K07-SH**	8	8	8	125	12.7	8	-	DC... 0702...
 27° max.	**1010 K07-SH**	10	10	10	125	15	10	-	A297-A300, A344
	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	
 27° max. COOLBURST	**1616 K11-SH-TB**	16	16	16	125	19	16	4	
	2020 K11-SH-TB	20	20	20	125	20	20	-	

• # Marked: TOP-MINI holders

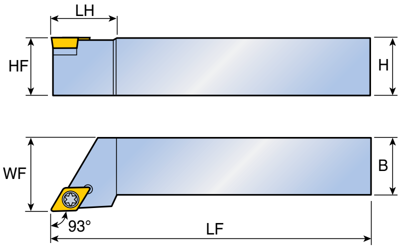
Spare parts

Designation	Screw	Cooling unit	Plug	Wrench	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		

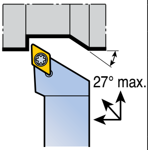
• Please refer to A160 page for COOL-BURST accessories

SDJCR/L

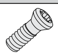
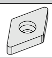
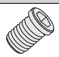
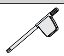
Screw type holders



SDJCR

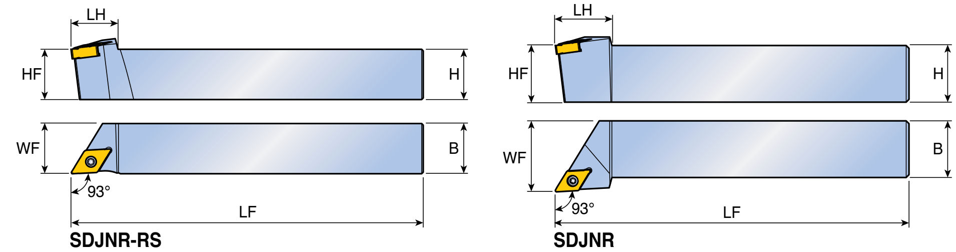
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF		
93°	**SDJCR/L**	**1212 F07**	12	12	12	80	15	16		DC... 0702...
		**1616 H07**	16	16	16	100	15	20		A297-A300,
		2020 K07	20	20	20	125	20	25		A344
		1616 H11	16	16	16	100	24	20		DC... 11T3...
		2020 K11	20	20	20	125	24	25		
		2525 M11	25	25	25	150	28	32		

Spare parts

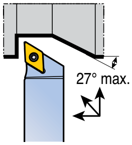
Designation	Screw	Shim	Shim screw	Wrench				
								
...07	SO 25065I	-	-	T 7				
...11	SO 35124I	SSD 32	SO 50090S	T 15				

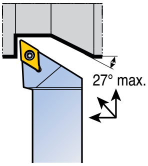
SDJNR/L-RS SDJNR/L

Screw type holders



Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
93°	**SDJNR/L**	**1212 K0803-RS**	12	12	12	125	15	12	DN...X 0803... RHINO TURN A265
		1616 K0803-RS	16	16	16	125	15	16	
93°	**SDJNR/L**	**1616 H0803**	16	16	16	100	16	20	
		2020 K0803	20	20	20	125	20	25	
	SDJNR/L	**1616 H11**	16	16	16	100	25	20	DN... 1104... A260-A265
		2020 K11	20	20	20	125	25	25	
		2525 M11	25	25	25	150	25	32	



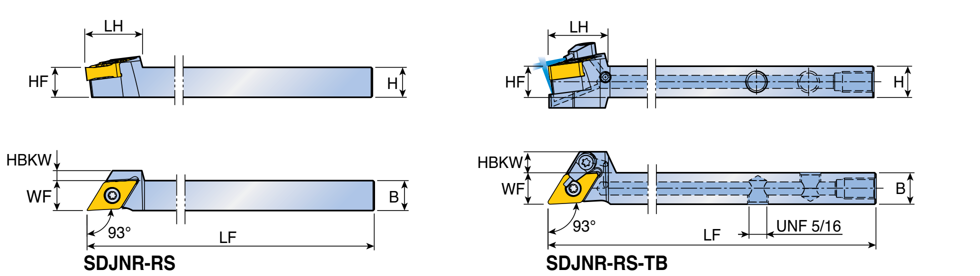


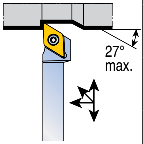
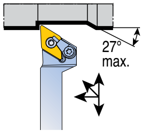
Spare parts

Designation	Screw	Shim	Shim screw	Wrench
...0803...	TS 25D060/HG-P	-	-	T 7P
...1104...	SO 35120I	SSD 32	SO 50090S	T 10

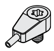
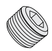
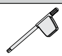
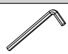
SDJNR-RS SDJNR-RS-TB

Screw type holders



Approach angle	Designation	Dimension (mm) H	HF	B	LF	LH	WF	HBKW	Insert
93°	**SDJNR 1212 K1305-RS**	12	12	12	125	23	12	4	DN... 1305...
 27° max.	**1616 K1305-RS**	16	16	16	125	23	16	-	RHINO TURN
	2020 K1305-RS	20	20	20	125	23	20	-	A260-A265
93°	**SDJNR 1212 K1305-RS-TB**	12	12	12	125	23	12	8	
 27° max. COOL BURST	**1616 K1305-RS-TB**	16	16	16	125	23	16	4	

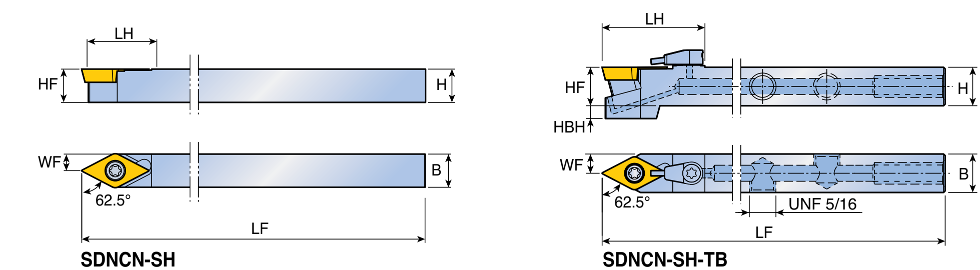
Spare parts

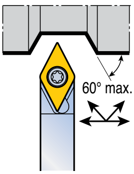
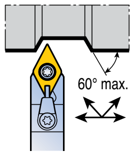
Designation	Screw	Cooling unit	Plug	Wrench				
								
SDJNR-RS	TS 40G110I	-	-	T 15	-			
SDJNR-RS-TB	TS 40G110I	S-CU-TB	PLG 5/16 UNF	T 15	L-W 5/32			

• Please refer to A160 page for COOL-BURST accessories

SDNCN-SH SDNCN-SH-TB

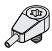
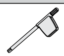
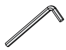
Screw type holders



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...
 60° max.	**1010 K07-SH**	10	10	-	10	125	15	5	A297-A300, A344
	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	
 60° max. COOL BURST	**1616 K11-SH-TB**	16	16	-	16	125	32	8	

• # Marked: TOP-MINI holders

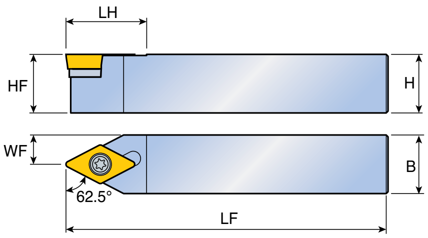
Spare parts

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			

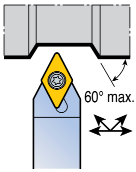
• Please refer to A160 page for COOL-BURST accessories

SDNCN

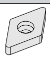
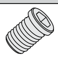
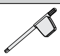
Screw type holders



SDNCN

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...	A297-A300, A344
		**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		

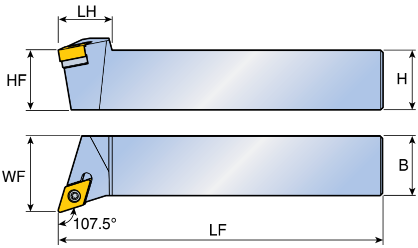
Spare parts

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

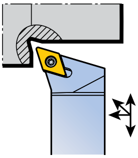
SDQNR/L

T-TURN

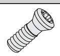
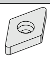
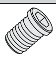
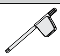
Screw type holders



SDQNR

Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
107.5°	**SDQNR/L**	**1616 H11**	16	16	16	100	22	20	DN... 1104... A260-A265
		**2020 K11**	20	20	20	125	22	25	
		2525 M11	25	25	25	150	22	32	

Spare parts

Designation	Screw	Shim	Shim screw	Wrench
				
...11	SO 35120I	SSD 32	SO 50090S	T 10

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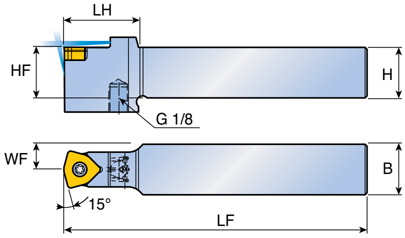
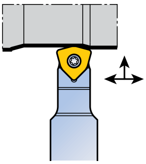
SFXCN

Screw type holders for FCMX high feed inserts

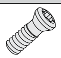
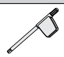


SFXCN

Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
15°	**SFXCN**	**2525 M1006**	25	25	25	150	37	12.5	FCMX 1006...
		3232 P1006	32	32	32	170	37	16	A302

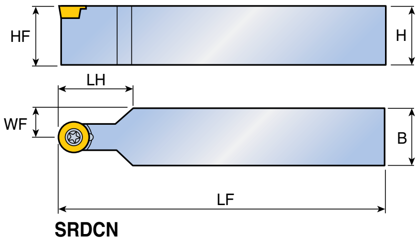


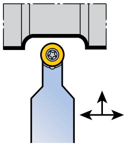
Spare parts

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

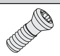
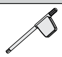
SRDCN

Screw type holders



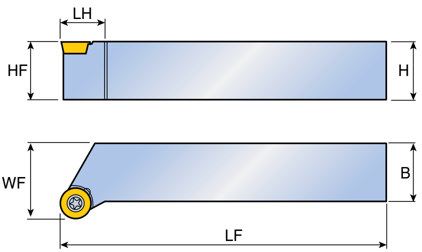
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
45°	**SRDCN**	**1616 H10**	16	16	16	100	17.2	8	RC...T 10T3...	A303
		**2020 K10**	20	20	20	125	22.5	10		
		2525 M10	25	25	25	150	27.5	12.5		
		2525 M12	25	25	25	150	27.5	12.5	RC...T 1204...	

Spare parts

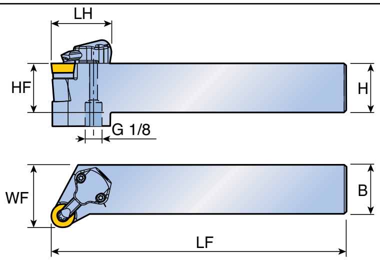
Designation	Screw	Wrench						
								
...10	TS 40097I	T 15						
...12	SO 40050I	T 15						

SRGCR/L SRGCR/L-TB

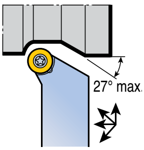
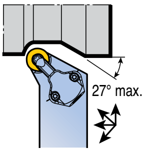
Screw type holders



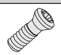
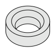
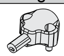
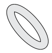
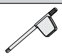
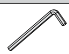
SRGCR



SRGCR-TB

Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
90°	**SRGCR/L**	**1616 H10**	16	16	16	100	16.7	20	RC...T 10T3... A303
		**2020 K10**	20	20	20	125	15	25	
		2525 M10	25	25	25	150	15	32	
90°	**SRGCR/L**	**2525 M12-TB**	25	25	25	150	30	32	RC...T 1204...
 COOLBURST									

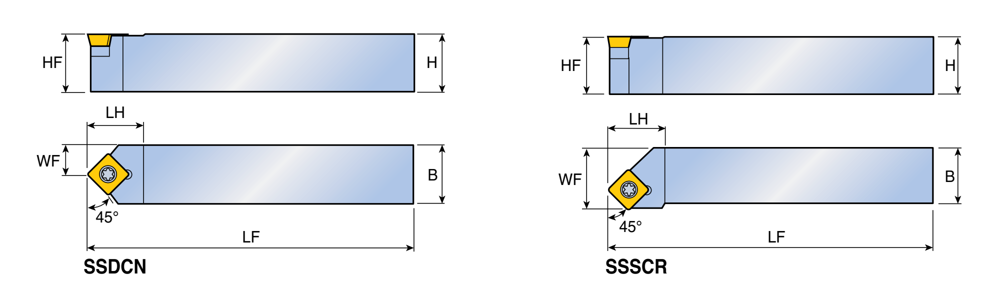
Spare parts

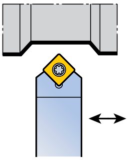
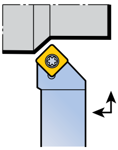
Designation	Screw	Shim	Shim screw	Cooling unit	O-ring	Plug	Wrench	
								
...10	TS 40097I	-	-	-	-	-	T 15	-
SRGCR/L...TB	TS 35110I	SSR 32	TS 5035062S	CU-R-TB	ID 6.4x0.9	SS M4x0.7x4-NL	T 8, T 15	L-W 2, L-W 3.5

• Please refer to A160 page for COOL-BURST accessories

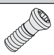
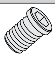
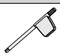
SSDCN SSSCR/L

Screw type holders



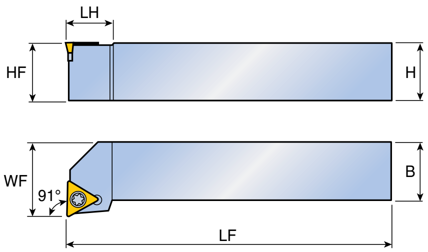
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
45° 	**SSDCN**	**1212 F09**	12	12	12	80	15.5	6	SC... 09T3... A304, A346
		1616 H09	16	16	16	100	15.5	8	
45° 	**SSSCR/L**	**1212 F09**	12	12	12	80	15.5	14	SC... 09T3...
		1616 H09	16	16	16	100	15.5	17	
		2020 K12	20	20	20	125	24	22	SC...T 1204... A304
		2525 M12	25	25	25	150	24	27	

Spare parts

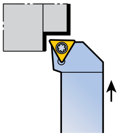
Designation	Screw 	Shim 	Shim screw 	Wrench 
...F09	SO 35080I	-	-	T 15
...H09	SO 35124I	SSS 32	SO 50090S	T 15
...12	SO 45130I	SSS 43N	SO 60105S	T 20

STFCR/L

Screw type holders

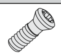
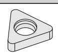
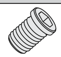
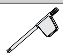


STFCR

Approach angle	Designation		H	HF	B	LF	LH	WF		Insert	
91°	**STFCR/L**	**1212 F11**	12	12	12	80	14	16		TC... 1102...	A307, A308, A347, A348
		**1616 H11**	16	16	16	100	14	20			
		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			

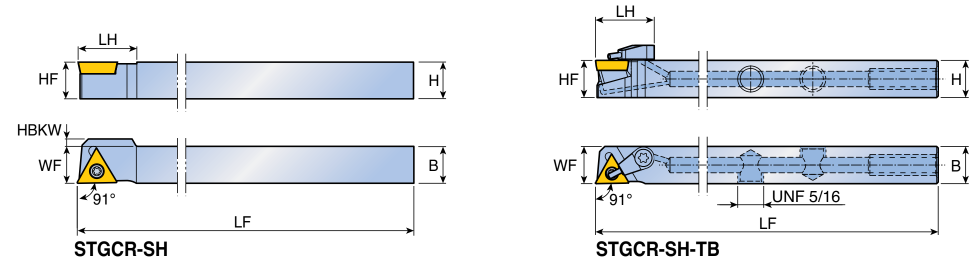
Dimension (mm)

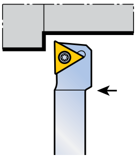
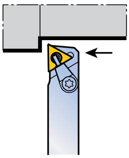
Spare parts

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

STGCR/L-SH STGCR/L-SH-TB

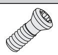
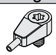
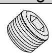
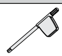
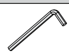
Screw type holders



Approach angle	Designation	Dimension (mm) H	HF	B	LF	LH	WF	HBKW	Insert
91° 	# **STGCR/L 0808 E08-SH**	8	8	8	70	11	8	2	TC...T 0802...
	1010 F08-SH	10	10	10	80	11	10	-	A307, A308, A347, A348
	1010 K11-SH	10	10	10	125	16	10	2	TC... 1103...
	1212 K11-SH	12	12	12	125	16	12	-	
	1616 K11-SH	16	16	16	125	16	16	-	
91°  COOL BURST	# **STGCR/L 1212 K11-SH-TB**	12	12	12	125	20	12	-	
	1616 K11-SH-TB	16	16	16	125	20	16	-	

• # Marked: TOP-MINI holders

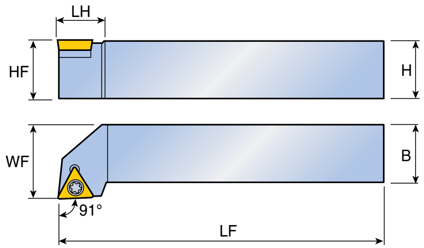
Spare parts

Designation	Screw	Cooling unit	Plug	Wrench			
							
...08-SH	TS 20043I/HG-P	-	-	T 6P	-		
...11-SH	SO 25065I	-	-	T 7	-		
STGCR/L-SH-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32		

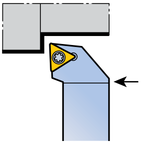
• Please refer to A160 page for COOL-BURST accessories

STGCR/L

Screw type holders

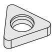


STGCR

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	
		1010 E09	10	10	10	70	11	12	TC...T 0902...
		1212 F11	12	12	12	80	14.3	16	TC...T 1102...
		1616 H11	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	

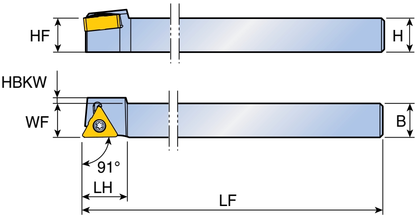
A307, A308, A347, A348

Spare parts

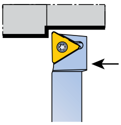
Designation	Screw	Shim	Shim screw	Wrench			
							
...09	SO 22050I	-	-	T 7			
...11	SO 25065I	-	-	T 7			
...16	SO 35124I	SST 32	SO 50090S	T 15			

STGNR-RS

Screw type holders



STGNR-RS

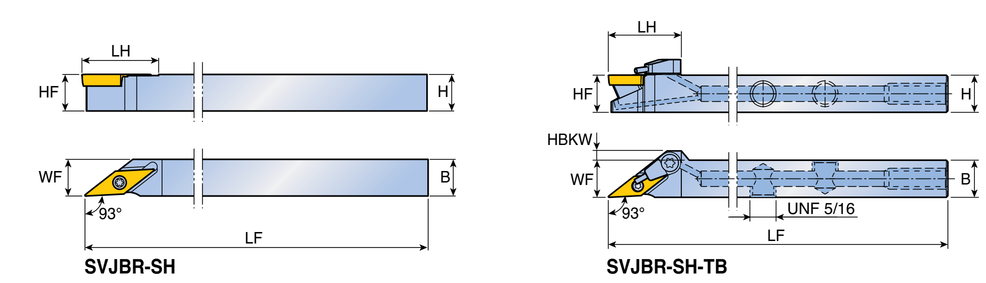
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
91° 	**STGNR**	**1212 K1304-RS**	12	12	12	125	16	12	2	TN... 1304... RHINOTURN A275-A280
		1616 K1304-RS	16	16	16	125	16	16	-	
		2020 K1304-RS	20	20	20	125	16	20	-	

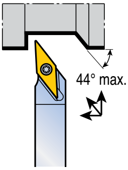
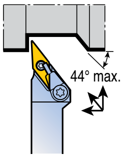
Spare parts

Designation	Screw	Wrench					
							
STGNR-RS	TS 30080I/HG	T 9					

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

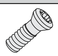
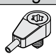
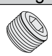
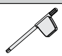
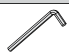
Screw type holders



Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
93°  44° max.	# SVJBR/L	1010 K11-SH	10	10	10	125	21	10	-	VB... 1103... A313, A314, A349
		1212 K11-SH	12	12	12	125	21	12	-	
		1616 K11-SH	16	16	16	125	21	16	-	
93°  44° max. COOL BURST	# 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	-	

• # Marked: TOP-MINI holders

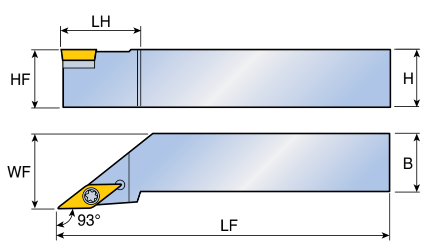
Spare parts

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		

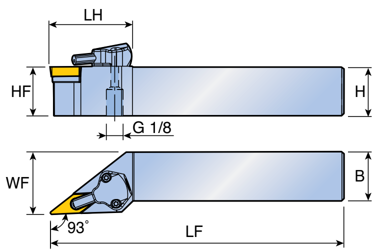
• Please refer to A160 page for COOL-BURST accessories

SVJBR/L SVJBR/L-TB

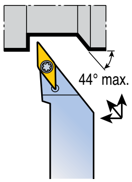
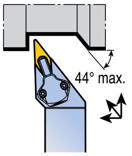
Screw type holders



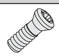
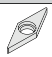
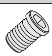
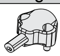
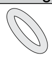
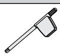
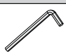
SVJBR



SVJBR-TB

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... A313, A314, A349
 44° max.		**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	37	32	
 44° max. COOLBURST									

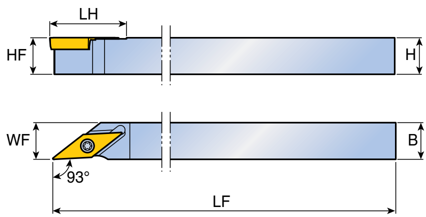
Spare parts

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

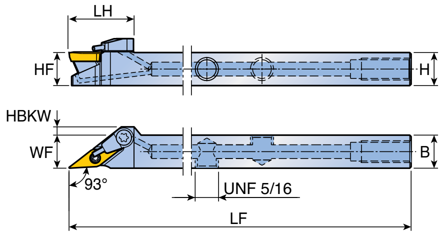
• Please refer to A160 page for COOL-BURST accessories

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

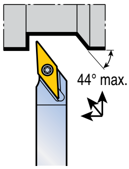
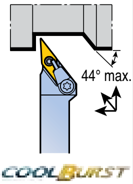
Screw type holders



SVJCR-SH

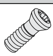
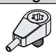
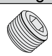
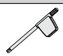
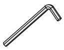


SVJCR-SH-TB

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... A315, A316, A349
	**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	-	

- # Marked: TOP-MINI holders

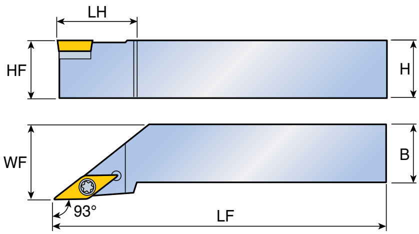
Spare parts

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		

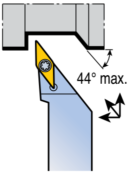
- Please refer to A160 page for COOL-BURST accessories

SVJCR/L

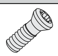
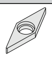
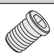
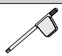
Screw type holders



SVJCR

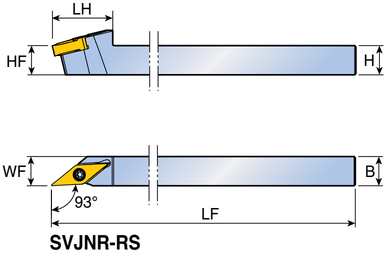
Approach angle	Designation		Dimension (mm)						Inserts
			H	HF	B	LF	LH	WF	
93°	**SVJCR/L**	**2020 K16**	20	20	20	125	35	25	VC... 1604... A315, A316, A349
		**2525 M16**	25	25	25	150	35	32	
		3225 P16	32	32	25	170	35	32	
		3232 P16	32	32	32	170	47	40	

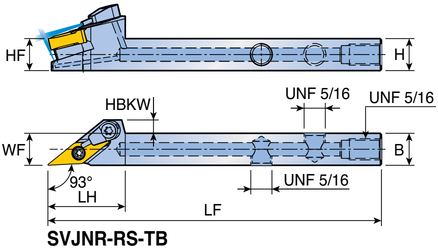
Spare parts

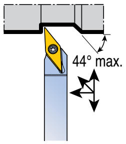
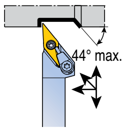
Designation	Screw	Shim	Shim screw	Wrench			
							
...16	SO 35124I	SSV 32	SO 50090S	T 10			

SVJNR-RS SVJNR-RS-TB

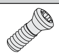
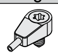
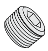
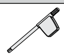
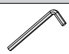
Screw type holders





Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBKW	
93°	**SVJNR**	**1212 K1304-RS**	12	12	12	125	25	12	-	VN...X 1304...
 44° max.		**1616 K1304-RS**	16	16	16	125	25	16	-	YNMG 1304...
		2020 K1304-RS	20	20	20	125	25	20	-	RHINO TURN A281, A283, A289
93°	**SVJNR**	**1212 K1305-RS-TB**	12	12	12	125	29	12	5	
 44° max. COOL BURST		**1616 K1305-RS-TB**	16	16	16	125	29	16	1	

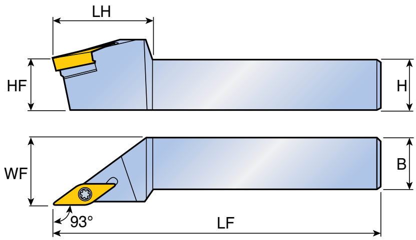
Spare parts

Designation	Screw	Cooling unit	Plug	Wrench			
							
SVJNR-RS	TS 30080I/HG	-	-	T 9	-		
SVJNR-RS-TB	TS 30080I/HG	S-CU-TB	PLG 5/16 UNF	T 9	L-W 5/32		

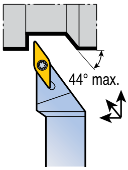
• Please refer to A160 page for COOL-BURST accessories

SVJNR/L

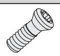
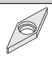
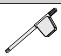
Screw type holders



SVJNR

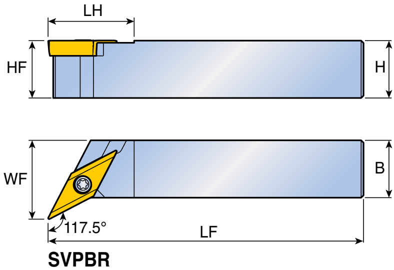
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF		
93°	**SVJNR/L**	**1616 H13**	16	16	16	100	30	20		VN... 1304...
		**2020 K13**	20	20	20	125	35	25		A281, A282, A333, A341
		2525 M13	25	25	25	150	43	32		

Spare parts

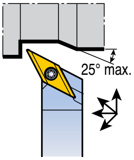
Designation	Screw	Shim	Shim screw	Wrench				
								
...13	SO 35120I	SSVN 2.522	SO 50090S	T 10				

SVPBR/L

Screw type holders



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... A313, A314, A349
	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	

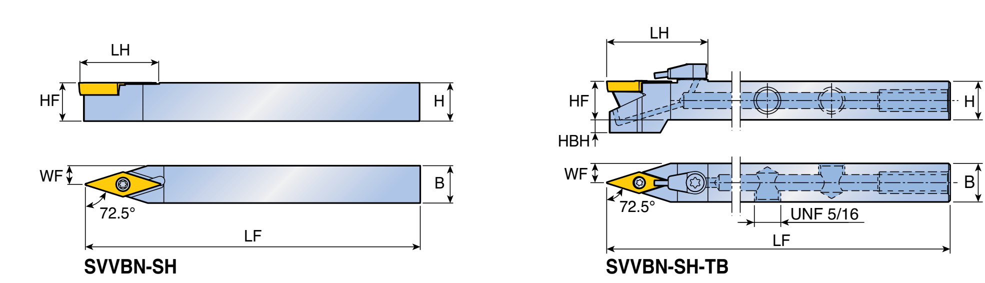


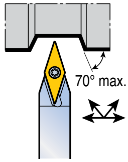
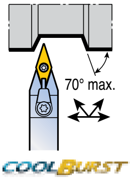
Spare parts

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

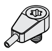
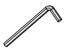
Screw type holders



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... A313, A314, A349
		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	

• # Marked: TOP-MINI holders

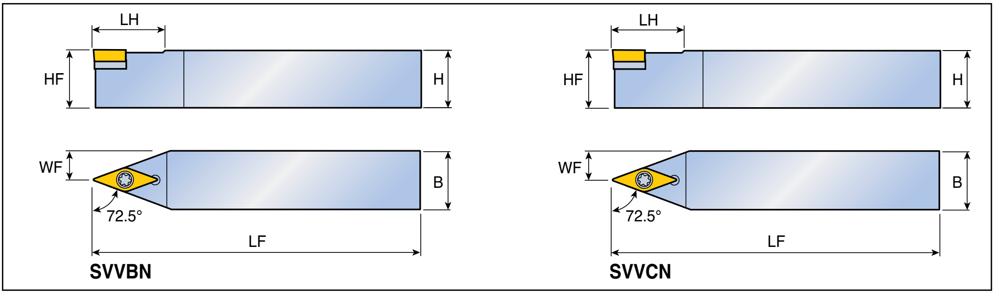
Spare parts

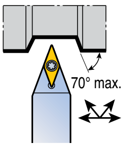
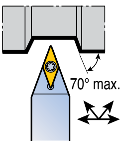
Designation	Screw	Cooling unit	Plug	Wrench				
								
...11	SO 25065I	-	-	T 7	-			
SVVBN-SH-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32			

• Please refer to A160 page for COOL-BURST accessories

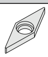
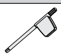
SVVBN SVVCN

Screw type holders



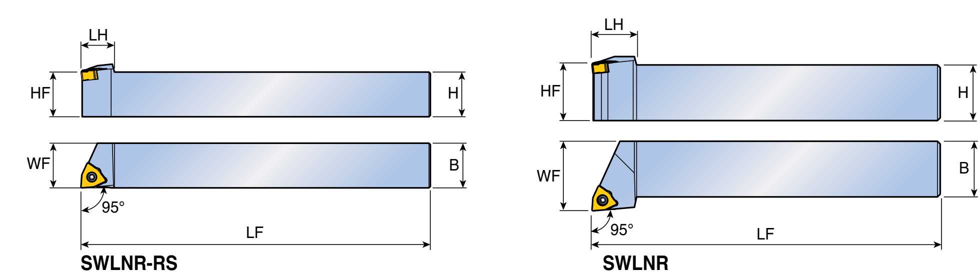
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
72.5° 	**SVVBN**	**2020 K16**	20	20	20	125	31.5	10.0	VB... 1604... A313, A314, A349
		2525 M16	25	25	25	150	31.5	12.5	
		3225 P16	32	32	25	170	31.5	12.5	
72.5° 	**SVVCN**	**2020 K16**	20	20	20	125	31.5	10.0	VC...T 1604...
		2525 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	

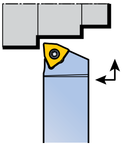
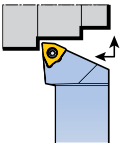
Spare parts

Designation	Screw	Shim	Shim screw	Wrench
				
...16	SO 35124I	SSV 32	SO 50090S	T 15

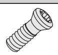
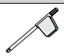
SWLNR/L-RS SWLNR/L

Screw type holders



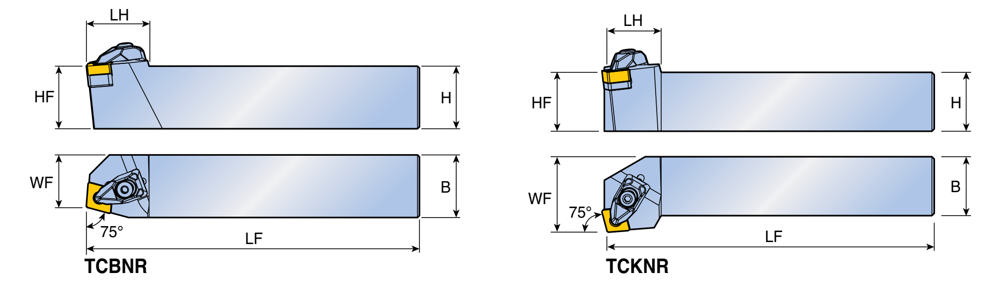
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
95° 	**SWLNR/L**	**1212 K0403-RS**	12	12	12	125	12	12	WNMX 0403... RHINOMTURN A287, A288
		1616 K0403-RS	16	16	16	125	12	16	
95° 	**SWLNR/L**	**1616 H0403**	16	16	16	100	16	20	
		2020 K0403	20	20	20	125	16	25	

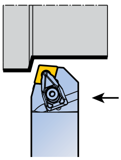
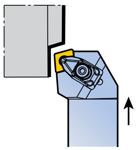
Spare parts

Designation	Screw 	Wrench 
...0403...	TS 25D060/HG-P	T 7P

TCBNR/L TCKNR/L

T-holders



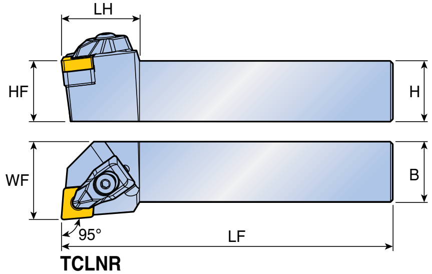
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
75° 	**TCBNR/L**	**2525 M12**	25	25	25	150	32	22.5	CN... 1204...	A250-A257, A324, A325, A336
		3232 P19	32	32	32	170	42	27	CN... 1906...	
75° 	**TCKNR/L**	**2525 M12**	25	25	25	150	25	32	CN... 1204...	

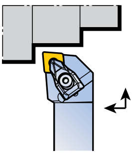
Spare parts

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	-

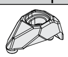
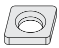
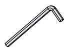
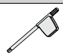
TCLNR/L

T-holders



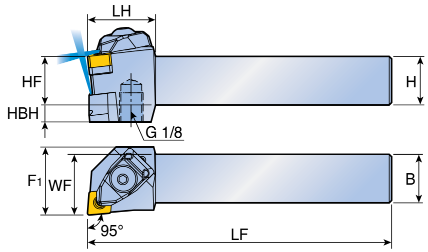
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
95°	**TCLNR/L**	**2020 H0904**	20	20	20	100	25	25	CN... 0904...	A250-A257, A324, A325, A336
		**2020 K0904**	20	20	20	125	25	25	RHINO TURN	
		2525 M0904	25	25	25	150	25	32		
	TCLNR/L	**2020 K12**	20	20	20	125	32	25	CN... 1204...	
		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

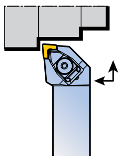
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw		Wrench	
								
...0904	DLM 3-NX	DLS 3	DSP 3	LSC 32A	SO 40085I	-	L-W 2.5	T 15
...12	DLM 4	DLS 4	DSP 4	TSC 44	SO 40050I	-	L-W 3	T 15
...16	DLM 5	DLS 5	DSP 5	TSC 54	SO 50090I	-	L-W 4	T 20
...19	DLM 6	DLS 5	DSP 5	LSC 63	-	SO 80180I	L-W 4	-

TCLNR/L-TB

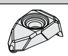
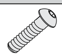
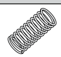
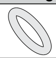
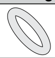
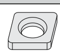
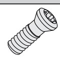
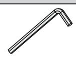
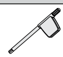
T-holders with high pressure coolant



TCLNR-TB

Approach angle	Designation		Dimension (mm)								Insert
			H	HF	B	LF	LH	WF	HBH	F1	
95°	**TCLNR/L**	**2020 K0904-TB**	20	20	20	125	28	25	7	28	CN... 0904... RHINO TURN A250-A257
 COOL BURST		**2525 M0904-TB**	25	25	25	150	28	32	7	32	

Spare parts

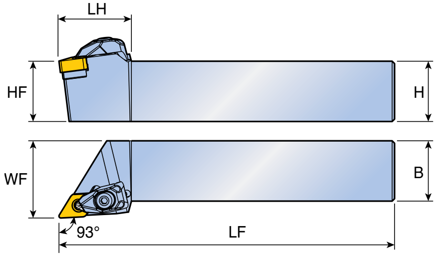
Designation	Clamp	Clamp screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim screw	Wrench	
									
TCLNR/L-TB	DLM 3-NX-TB	BH M4x0.7x 16-TB	DSP 3	O-RING ID4.47x 1.78	O-RING ID6.07x 1.78	LSC 32A	SO 40085I	L-W 3	T 15

• Please refer to A160 page for COOL-BURST accessories

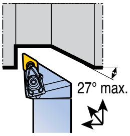
TDJNR/L

T-TURN

T-holders



TDJNR

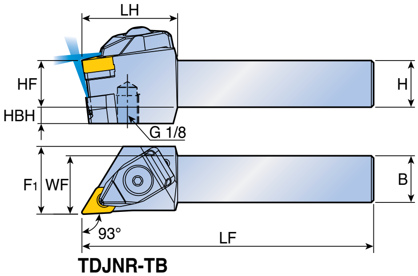
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
93°	**TDJNR/L**	**2020 K11**	20	20	20	125	30	25	DN... 1104...	A260-A265, A326, A337
		**2525 M11**	25	25	25	150	30	32		
	TDJNR/L	**2020 H1305**	20	20	20	100	33	25	DN... 1305...	
		2020 K1305	20	20	20	125	33	25	RHINO TURN	
		2525 M1305	25	25	25	150	36	32		
	TDJNR/L	**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		

Spare parts

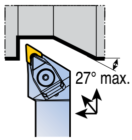
Designation	Clamp	Clamp screw	Spring	Shim		Shim screw	Wrench	
...11	DLM 3	DLS 3	DSP 3	LSD 32	-	SO 40085I	L-W 2.5	T 15
...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52	-	SO 50090I	L-W 3	T 20
...15	DLM 4	DLS 4	DSP 4	-	TSD 43	SO 40050I	L-W 3	T 15
...1504	DLM 4	DLS 4	DSP 4	-	TSD 44	SO 40050I	L-W 3	T 15

TDJNR/L-TB

T-holders with high pressure coolant



TDJNR-TB

Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	HBH	F1	Insert
93°	**TDJNR/L**	**2020 K1305-TB**	20	20	20	125	41	25	7	29	DN... 1305…
 COOL BURST		**2525 M1305-TB**	25	25	25	150	41	32	7	32	RHINO TURN A260-A265

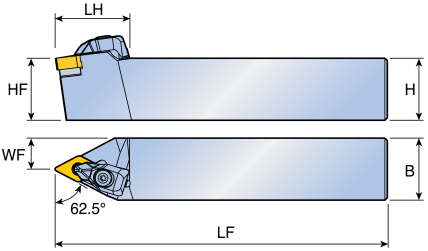
Spare parts

Designation	Clamp	Clamp screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim screw	Wrench	
...2020-TB	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	LSD 3.52	SO 50090I-MO	L-W 3	T 20
...2525-TB	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	LSD 3.52	SO 50090I	L-W 3	T 20

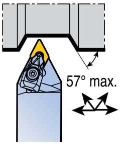
• Please refer to A160 page for COOL-BURST accessories

TDNNR/L

T-holders

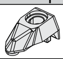
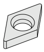
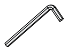


TDNNR

Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
62.5°	**TDNNR/L**	**2525 M11**	25	25	25	150	30	12.5	DN... 1104...
	**TDNNR/L**	**2020 K1305**	20	20	20	125	34	10	DN... 1305...
		2525 M1305	25	25	25	150	34	12.5	RHINO TURN

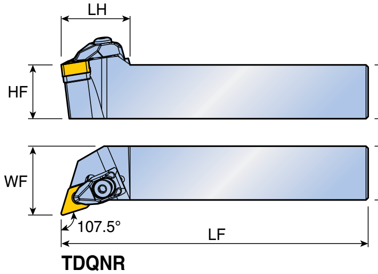
A260-A265

Spare parts

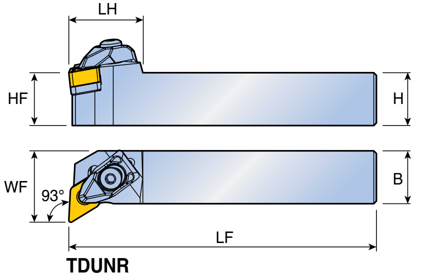
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...11	DLM 3	DLS 3	DSP 3	LSD 32	SO 40085I	L-W 2.5	T 15	
...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52	SO 50090I	L-W 3	T 20	

TDQNR/L TDUNR/L

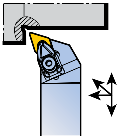
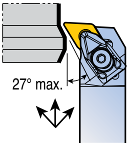
T-holders



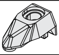
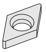
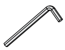
TDQNR



TDUNR

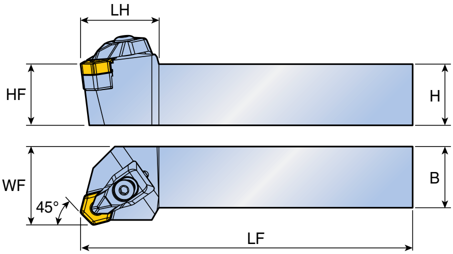
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF		Insert
107.5°	**TDQNR/L**	**2020 K1305**	20	20	20	125	32	25		DN... 1305...
		**2525 M1305**	25	25	25	150	32	32		RHINOTURN A260-A265
93°	**TDUNR/L**	**2020 K1305**	20	20	20	125	28	27		
		**2525 M1305**	25	25	25	150	28	32		

Spare parts

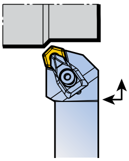
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52	SO 50090I	L-W 3	T 20	

THSNR/L

T-holders

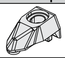
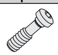
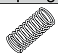
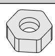
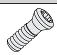
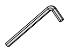
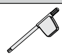


THSNR

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	

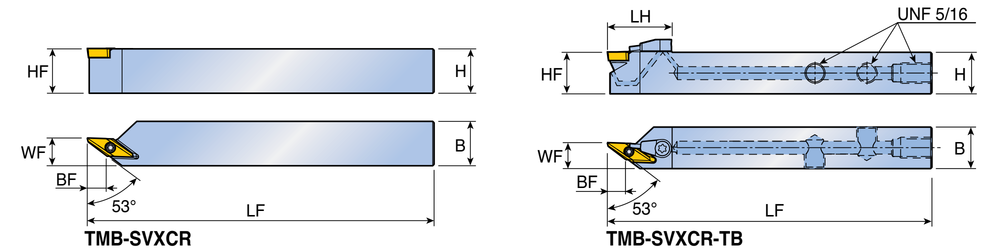
A266

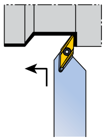
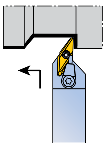
Spare parts

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	

TMB-SVXCR TMB-SVXCR-TB

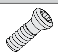
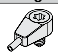
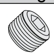
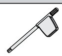
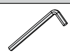
Screw type back turning holders



Approach angle	Designation	Dimension (mm) H	HF	B	LF	LH	WF	BF	Insert
53° 	# **TMB-SVXCR 1212 K11**	12	12	12	125	-	10	7.2	BTVC 1103… A291
	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	

• # Marked: TOP-MINI holders

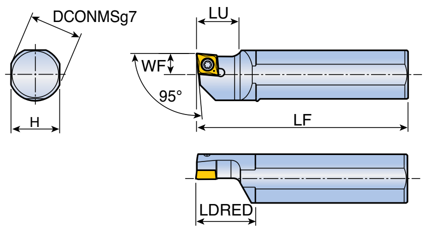
Spare parts

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	

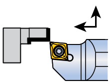
• Please refer to A160 page for COOL-BURST accessories

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	A292-A295
	22H SCLCL 09	22	20	100	20	28	10	A343
	25H SCLCL 09	25	23	100	20	28	10	

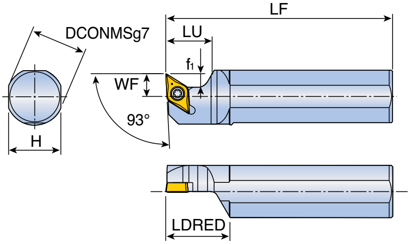
• # Marked: TOP-MINI holders

Spare parts

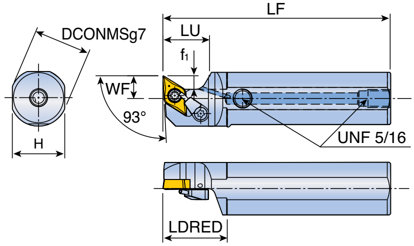
Designation	Screw	Wrench				
						
TMS-SCLCL	SO 35080I	T 15				

TMS-SDUCL TMS-SDUCR/L-TB

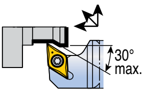
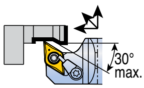
Sleeve holders



TMS-SDUCL



TMS-SDUCL-TB

Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	f_1	LU	LDRED	WF	
93°  30° max.	**#TMS-16X SDUCL 11**	16	15	85	6	20	28	10	DC… 11T3… A297-A300, A344
	19.05H SDUCL 11	19.05	17	100	6	20	28	10	
	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°  30° max. COOL BURST	**#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	

- # Marked: TOP-MINI holders

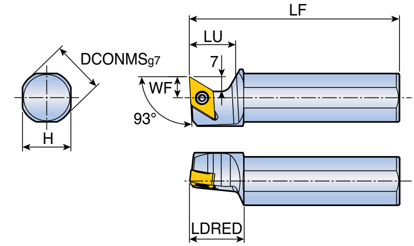
Spare parts

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	

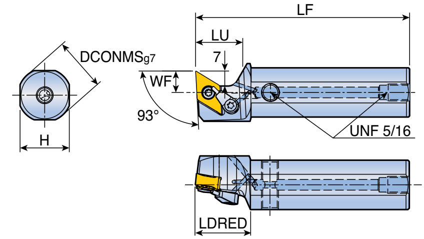
- Please refer to A160 page for COOL-BURST accessories

TMS-SDUNL TMS-SDUNL-TB

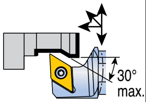
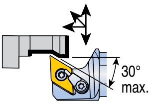
Sleeve holders



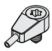
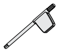
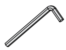
TMS-SDUNL



TMS-SDUNL-TB

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	WF	LU	LDRED	
93°	**TMS-16X SDUNL 1305**	16	15	85	10	22	26	DN...1305...
 30° max.	**19.05H SDUNL 1305**	19.05	17	100	10	22	26	RHINO TURN
	20H SDUNL 1305	20	18	100	10	22	26	A260-A265
	22H SDUNL 1305	22	20	100	10	22	26	
	25H SDUNL 1305	25	23	100	10	22	26	
93°	**TMS-25H SDUNL 1305-TB**	25	23	100	10	22	26	
 30° max. COOL BURST								

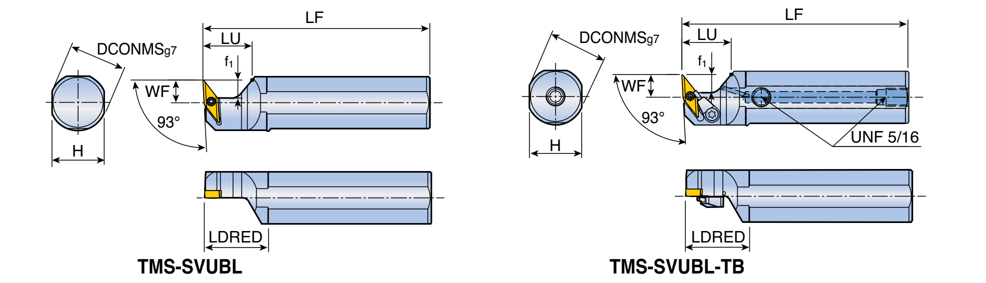
Spare parts

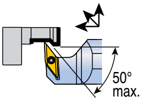
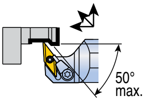
Designation	Screw	Cooling unit	Plug	Wrench		
						
TMS-SDUNL	TS 40G110I	-	-	T 15	-	
TMS-SDUNL-TB	TS 40G110I	S-CU-TB	PLG 5/16 UNF	T 15	L-W 5/32	

• Please refer to A160 page for COOL-BURST accessories

TMS-SVUBL TMS-SVUBR/L-TB

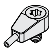
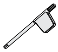
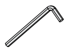
Sleeve holders



Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	f_1	LU	LDRED	WF	
93°  50° max.	# **TMS- 19.05H SVUBL 11**	19.05	17	100	8	21	25	10	VB… 1103… A313, A314, A349
	20H SVUBL 11	20	18	100	8	21	25	10	
	22H SVUBL 11	22	20	100	8	21	25	10	
	25H SVUBL 11	25	23	100	8	21	25	10	
93°  50° max. COOL BURST	# **TMS- 16X SVUBR 11-TB**	16	15	85	8	21	25	10	
	19.05H SVUBL 11-TB	19.05	17	100	8	21	25	10	
	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	25	10	

• # Marked: TOP-MINI holders

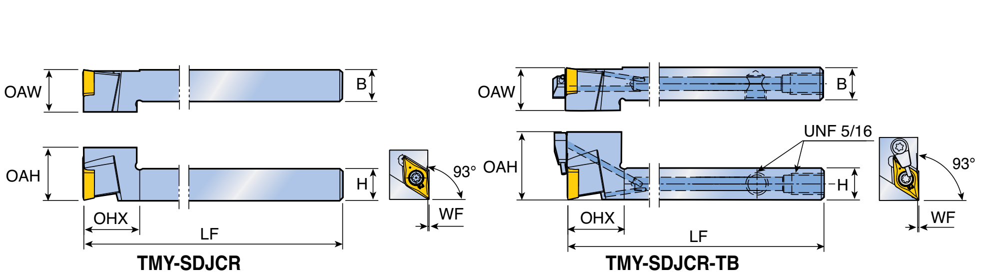
Spare parts

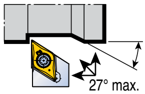
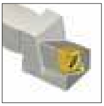
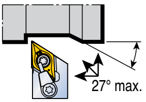
Designation	Screw	Cooling unit	Plug	Wrench		
						
TMS-SVUBL	SO 25065I	-	-	T 7	-	
TMS-SVUBR/L-TB	SO 25065I	S-CU-TB	PLG 5/16 UNF	T 7	L-W 5/32	

• Please refer to A160 page for COOL-BURST accessories

TMY-SDJCR TMY-SDJCR-TB

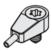
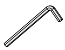
Y-axis holders



Approach angle	Designation	H	B	LF	OHX	OAH	OAW	WF	Insert
		Dimension (mm)							
93°	# **TMY- SDJCR 1212 K11**	12	12	125	21	20	16	0	DC... 11T3...
 27° max. 	**SDJCR 1616 K11**	16	16	125	21	20	16	0	A297-A300, A344
93°	# **TMY- SDJCR 1212 K11-TB**	12	12	125	21	20	16	0	
 27° max. COOL BURST 	**SDJCR 1616 K11-TB**	16	16	125	21	20	16	0	

• # Marked: TOP-MINI holders

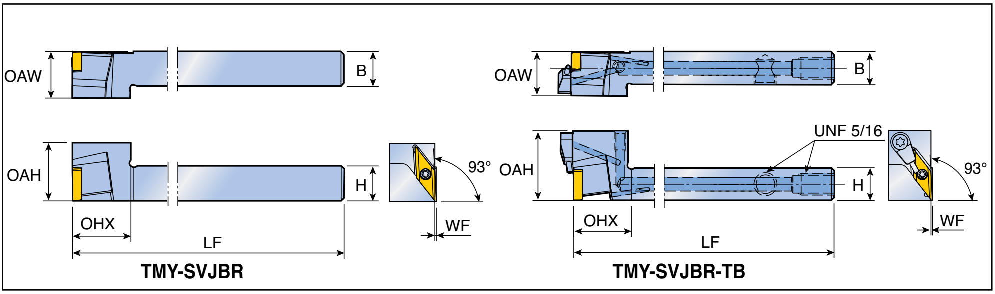
Spare parts

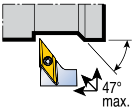
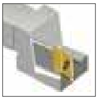
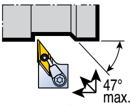
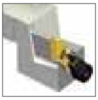
Designation	Screw	Cooling unit	Plug	Wrench		
						
TMY-SDJCR	SO 35080I	-	-	T 15	-	
TMY-SDJCR-TB	SO 35080I	S-CU-TB	PLG 5/16 UNF	T 15	L-W 5/32	

• Please refer to A160 page for COOL-BURST accessories

TMY-SVJBR TMY-SVJBR-TB

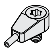
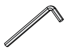
Y-axis holders



Approach angle	Designation	Dimension (mm)							Insert
		H	B	LF	OHX	OAH	OAW	WF	
93°  	# **TMY- SVJBR 1212 K11**	12	12	125	21	20	16	0	VB... 1103... A313, A314, A349
	SVJBR 1616 K11	16	16	125	21	20	16	0	
93°  COOL BURST 	# **TMY- SVJBR 1212 K11-TB**	12	12	125	21	25.5	16	0	
	SVJBR 1616 K11-TB	16	16	125	21	25.5	16	0	

- # Marked: TOP-MINI holders

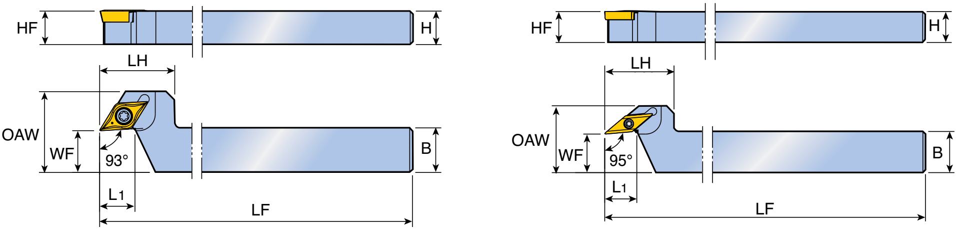
Spare parts

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	

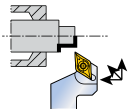
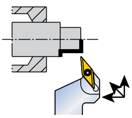
- Please refer to A160 page for COOL-BURST accessories

TMZ-SDJCR TMZ-SVLBR

Shift holders

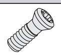
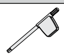


TMZ-SDJCR **TMZ-SVLBR**

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... A297-A300, A344
	SDJCR 1620 K11-F15	16	16	20	125	16.3	29	30	15	
95° 	# **TMZ- SVLBR 1216 K11-F15**	12	12	16	125	12.3	26	27	15	VB... 1103... A313, A314, A349
	SVLBR 1620 K11-F15	16	16	20	125	16.2	26	30	15	

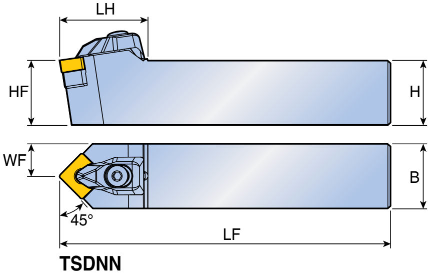
• # Marked: TOP-MINI holders

Spare parts

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

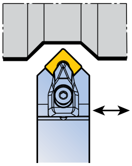
TSDNN

T-holders



TSDNN

Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
45°	**TSDNN**	**2020 K0904**	20	20	20	125	28	10	SN... 0904...	A268, A270-A274
		2525 M0904	25	25	25	150	28	12.5	RHINO TURN	
	TSDNN	**2525 M12**	25	25	25	150	34	12.5	SN... 1204...	
		3232 P19	32	32	32	170	44	16	SN... 1906...	A329, A330, A339

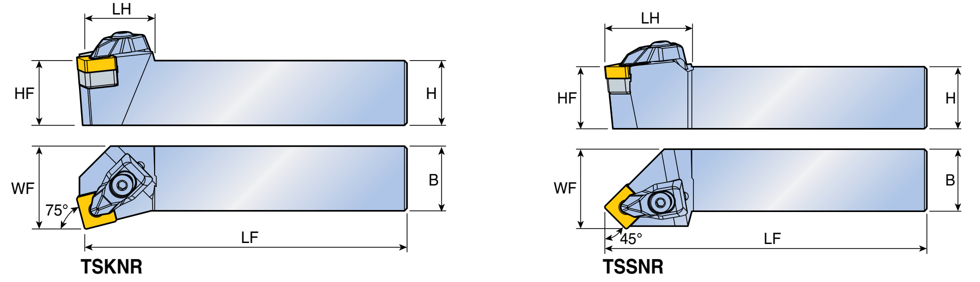


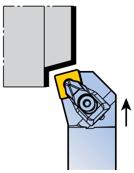
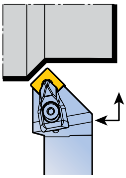
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw		Wrench	
...0904	DLM 3-NX	DLS 3	DSP 3	LSS 32A	SO 40085I	-	L-W 2.5	T 15
...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	-

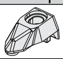
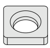
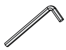
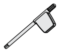
TSKNR/L TSSNR/L

T-holders



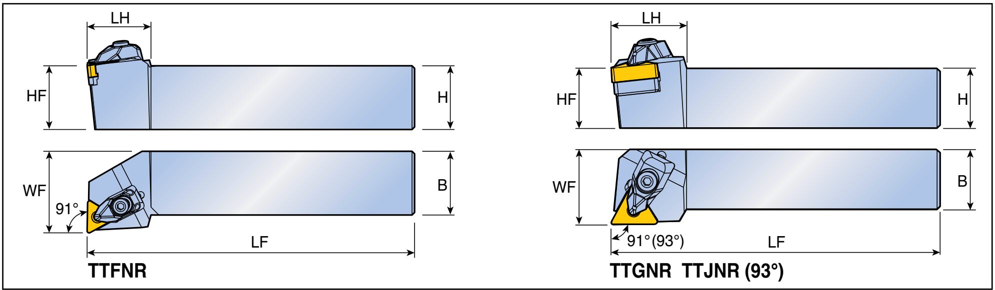
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
75°	**TSKNR/L**	**2525 M12**	25	25	25	150	27	32	SN... 1204... A268, A270-A274 A329, A330, A339
									
45°	**TSSNR/L**	**2020 K0904**	20	20	20	125	29	25	SN... 0904...
		2525 M0904	25	25	25	150	29	32	
	TSSNR/L	**2525 M12**	25	25	25	150	35	32	SN... 1204...
									

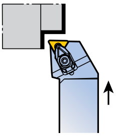
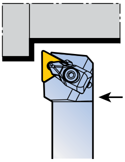
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...0904	DLM 3-NX	DLS 3	DSP 3	LSS 32A	SO 40085I	L-W 2.5	T 15	
...12	DLM 4	DLS 4	DSP 4	TSS 44	SO 40050I	L-W 3	T 15	

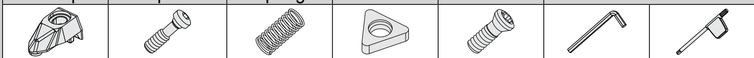
TTFNR/L TTGNR/L TTJNR/L

T-holders



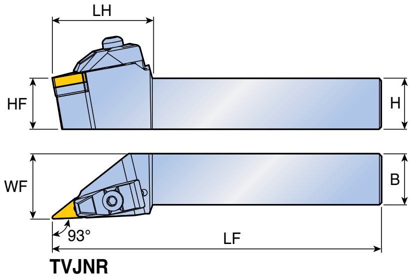
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF		Insert	
91° 	**TTFNR/L**	**2020 K1304**	20	20	20	125	25	25		TN... 1304... RHINO TURN	A275-A280, A332, A340
		2525 M1304	25	25	25	150	25	32			
91°(93°) 	**TTGNR/L**	**2020 H1304**	20	20	20	100	25	25		TN... 1304... RHINO TURN	
		2020 K1304	20	20	20	125	25	25			
		2525 M1304	25	25	25	150	25	32			
	TTJNR/L	**2525 M1304**	25	25	25	150	25	32			
	TTGNR/L	**2525 M16**	25	25	25	150	25	32		TN... 1604...	
	TTJNR/L	**2020 K16**	20	20	20	125	25	25			
		2525 M16	25	25	25	150	25	32			

Spare parts

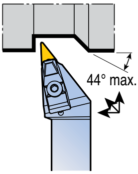
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52	SO 40085I	L-W 2.5	T 15	
...16	DLM 3	DLS 3	DSP 3	TST 33	SO 35080I	L-W 2.5	T 15	

TVJNR/L

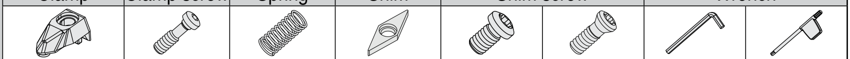
T-holders



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...	A281-A283, A289, A333, A341
		2525 M13	25	25	25	150	49	32		
		2020 K16	20	20	20	125	49	25	VN... 1604...	
		2525 M16	25	25	25	150	49	32		
	TVJNR/L	**2020 K1304**	20	20	20	125	42	25	VN...X 1304...	
		2525 M1304	25	25	25	150	42	32	YNMG 1304... RHINO TURN	



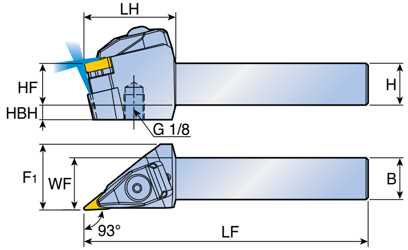
Spare parts



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
...1304	DLM 2.5V-NX	DLS 4	DSP 4	MSVI 2.522	-	SO 40085I	L-W 3	T 15

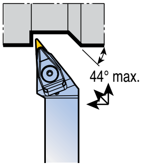
TVJNR/L-TB

T-Holders with high pressure coolant



TVJNR-TB

Approach angle	Designation		Dimension (mm)								Insert
			H	HF	B	LF	LH	WF	HBH	F1	
93°	**TVJNR/L**	**2020 K1304-TB**	20	20	20	125	44	25	7	31.5	VN...X 1304…
		2525 M1304-TB	25	25	25	150	44	32	7	32.0	YNMG 1304…



COOLBURST

RHINOTURN

A281, A283, A289

Spare parts

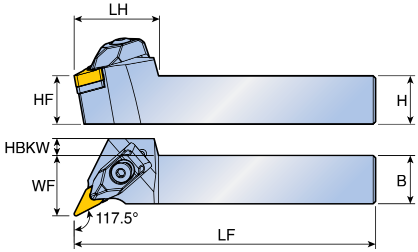
Designation	Clamp	Clamp screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim screw	Wrench	
TVJNR/L-TB	DLM 2.5V-NX-TB	BH M5X-0.8X21-MO-TB	DSP 4	O-RING ID5.28x 1.78	O-RING ID7.59x 2.62	MSVI 2.522	SO 40085I	L-W 3	T 15

• Please refer to A160 page for COOL-BURST accessories

TVQNR/L

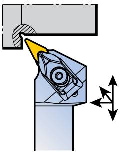
T-TURN

T-holders



TVQNR

Approach angle	Designation		Dimension (mm)							Insert	
			H	HF	B	LF	LH	WF	HBKW		
117.5°	**TVQNR/L**	**2020 K16**	20	20	20	125	42	25	8	VN... 1604...	A281, A282, A283, A289, A333, A341
		2525 M16	25	25	25	150	42	32	2		
	TVQNR/L	**2020 K1304**	20	20	20	125	35	25	7	VN...X 1304...	
		2525 M1304	25	25	25	150	35	32	-	YNMG 1304... RHINO TURN	

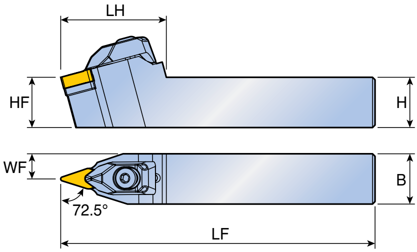


Spare parts

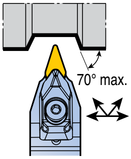
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
...16	DLM 3V	DLS 5	DSP 5	TSV 33	SO 35080I	L-W 4	T 15
...1304	DLM 2.5V-NX	DLS 4	DSP 4	MSVI 2.522	SO 40085I	L-W 3	T 15

TVVNN

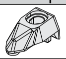
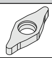
T-holders



TVVNN

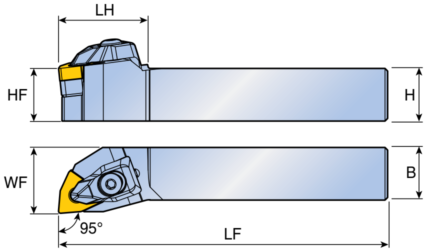
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF		
72.5°	**TVVNN**	**2020 K1304**	20	20	20	125	42	10		VN...X 1304... YNMG 1304... RHINO T URN A281, A283, A289
		**2525 M1304**	25	25	25	150	42	12.5		

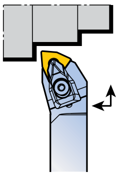
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...1304	DLM 2.5V-NX	DLS 4	DSP 4	MSVI 2.522	SO 40085I	L-W 3	T 15

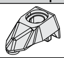
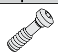
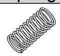
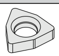
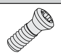
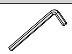
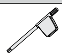
TWLNR/L

T-holders



Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
95° 	**TWLNR/L**	**2020 K0604**	20	20	20	125	26	25	WN...X 0604...	A284-A288, A333, A342
		2525 M0604	25	25	25	150	26	32		
	TWLNR/L	**2020 K06**	20	20	20	125	26	25	WN...G 0604...	
		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		

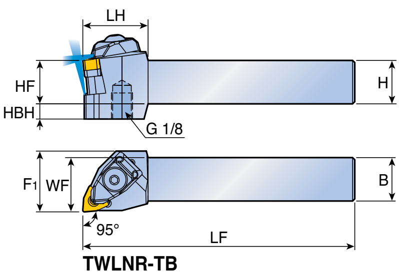
Spare parts

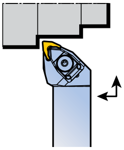
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...0604	DLM 3-NX	DLS 3	DSP 3	LSW 32A	SO 40085I	L-W 2.5	T 15
...06	DLM 3	DLS 3	DSP 3	PSW 32	SO 40090I	L-W 2.5	T 15
...08	DLM 4	DLS 4	DSP 4	TSW 44	SO 40050I	L-W 3	T 15

TWLNR/L-TB

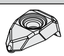
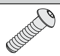
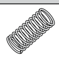
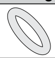
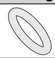
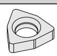
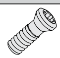
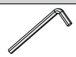
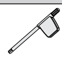
T-TURN

T-holders with high pressure coolant



Approach angle	Designation		Dimension (mm)								Insert
			H	HF	B	LF	LH	WF	HBH	F1	
95°	**TWLNR/L**	**2020 K0604-TB**	20	20	20	125	30	25	7	28	WN...X 0604…
 COOL BURST		**2525 M0604-TB**	25	25	25	150	30	32	7	32	RHINO TURN A287, A288

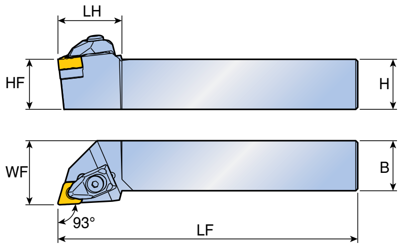
Spare parts

Designation	Clamp	Clamp screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim screw	Wrench	
									
TWLNR/L-TB	DLM 3-NX-TB	BH M4x0.7x 16-TB	DSP 3	O-RING ID4.47x 1.78	O-RING ID6.07x 1.78	LSW 32A	SO 40085I	L-W 3	T 15

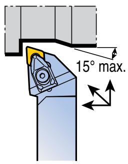
• Please refer to A160 page for COOL-BURST accessories

TXJNR/L

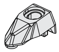
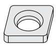
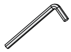
T-holders



TXJNR

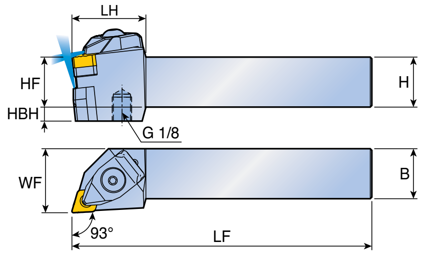
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
93°	**TXJNR/L**	**2020 K0904**	20	20	20	125	25	25	XNMG 0904... RHINOXTURN
 15° max.		**2525 M0904**	25	25	25	150	25	32	A289
		2020 K1105	20	20	20	125	32	25	XNMG 1105... RHINOXTURN
		2525 M1105	25	25	25	150	32	32	

Spare parts

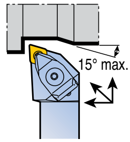
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...0904	DLM 2.5-NX	DLS 3	DSP 3	TSX 2.73	SO 40085I	L-W 2.5	T 15
...1105	DLM 3.5-NX	DLS 4	DSP 4	TSX 3.53	SO 50090I	L-W 3	T 20

TXJNR/L-TB

T-holders with high pressure coolant



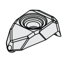
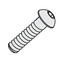
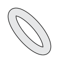
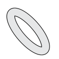
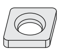
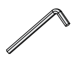
TXJNR-TB



Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF	HBH	
93°	**TXJNR/L**	**2525 M0904-TB**	25	25	25	150	30	32	7	XNMG 0904...
		2525 M1105-TB	25	25	25	150	37	32	7	XNMG 1105...

A289

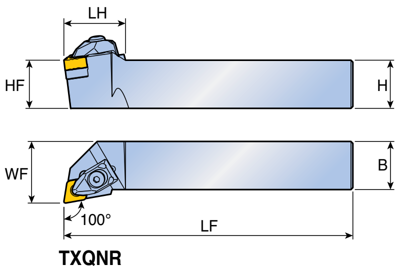
Spare parts

Designation	Clamp	Clamp screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim screw	Wrench	
									
...0904	DLM 3-NX-TB	BH M4x 0.7x16-TB	DSP 3	O-RING ID4.47x 1.78	O-RING ID6.07x 1.78	TSX 2.73	SO 40085I	L-W 3	T 15
...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

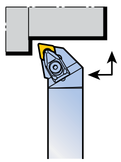
• Please refer to A160 page for COOL-BURST accessories

TXQNR/L

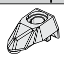
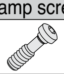
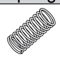
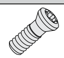
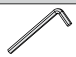
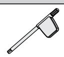
T-holders



TXQNR

Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
100° 	**TXQNR/L**	**2020 K0904**	20	20	20	125	25	25	XNMG 0904... RHINOXTURN	A289
		2525 M0904	25	25	25	150	25	32		
		2020 K1105	20	20	20	125	30	25	XNMG 1105... RHINOXTURN	
		2525 M1105	25	25	25	150	32	32		

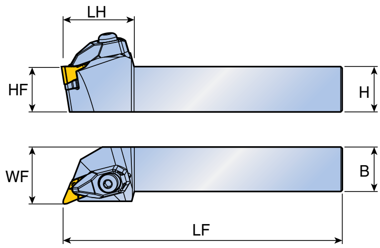
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...0904	DLM 2.5-NX	DLS 3	DSP 3	TSX 2.73	SO 40085I	L-W 2.5	T 15
...1105	DLM 3.5-NX	DLS 4	DSP 4	TSX 3.53	SO 50090I	L-W 3	T 20

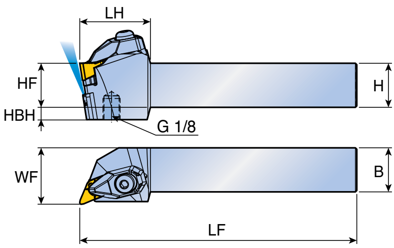
TZQNR/L TZQNR-TB

POSSTURN

T-holders for ZNMV Inserts

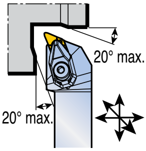
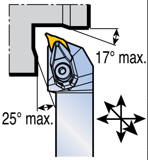
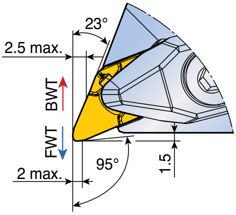
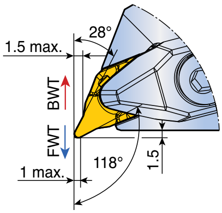


TZQNR



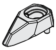
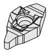
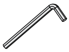
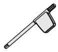
TZQNR-TB

COOLBURST

Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	HBH	Insert
ZNMV 23°(BWT) 95°(FWT)	**TZQNR/L**	**2525 M1410**	25	25	25	150	40	32	-	ZNMV 1410… A290
		3232 P1410	32	32	32	170	40	40	-	
	**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

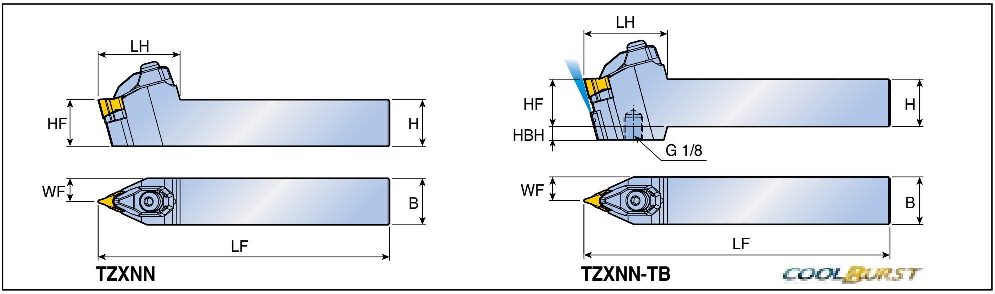
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...1410	DLM 3.3Z-NV	DLS 5	DSP 5	TSZ 140310	TS 35083I/HG	L-W 4	T 10
...1410-TB	DLM 3.3Z-NV	DLS 5	DSP 5	TSZ 140310	TS 35083I/HG	L-W 4	T 10

- Please refer to A160 page for COOL-BURST accessories

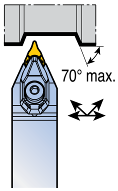
TZXNN TZXNN-TB

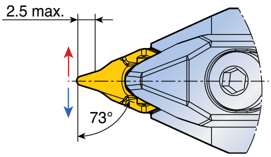
POSSTURN

T-holders for ZNMV Y-BF Inserts



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	-	A290
	TZXNN	2525 M1410-TB	25	25	25	150	44	12.5	7	
		3232 P1410-TB	32	32	32	170	44	16	-	





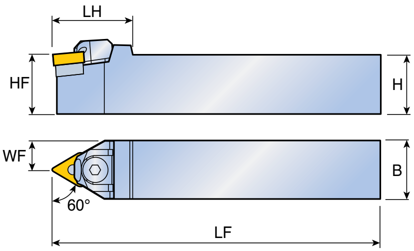
Spare parts

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

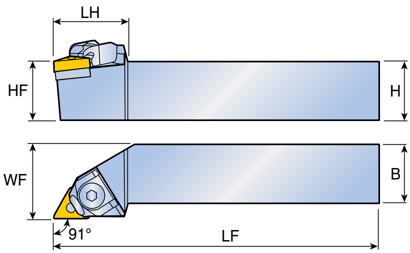
• Please refer to A160 page for COOL-BURST accessories

WTENN WTGNR/L

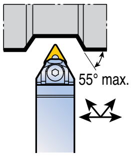
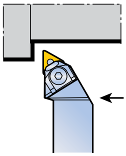
Wedge clamp type holders



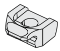
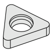
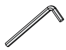
WTENN



WTGNR

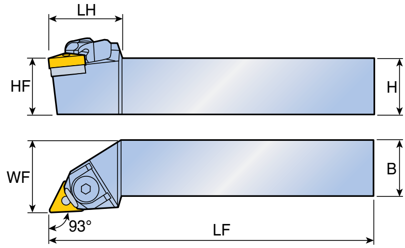
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
60° 	**WTENN**	**2020 K1304**	20	20	20	125	28	10.0	TN... 1304... RHINO TURN	A275-A280, A332, A340
		2525 M1304	25	25	25	150	28	12.5		
	WTENN	**2020 K16**	20	20	20	125	35	10.0	TN... 1604...	
		2525 M16	25	25	25	150	35	12.5		
		2525 M22	25	25	25	150	38	12.5	TN... 2204...	
		3225 P22	32	32	25	170	38	12.5		
		3232 P22	32	32	32	170	38	16.0		
91° 	**WTGNR/L**	**2020 K1304**	20	20	20	125	27	25	TN... 1304... RHINO TURN	
		2525 M1304	25	25	25	150	27	32		
	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

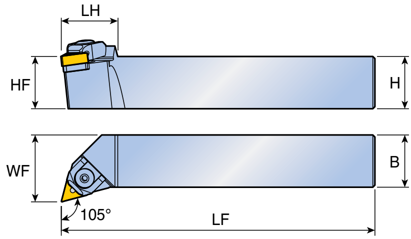
Designation	Wedge clamp	Screw	Snap ring	Shim	Pin screw	Wrench	
							
...1304	WC 2.53	WCS 2.5	CSR 2	WST 2.52	WSS 2.52	L-W 2.5	
...16	WC 33	WCS 4	WSR 4	WST 33	WSS 33	L-W 3, L-W 2.5	
...22	WC 43	WCS 4	WSR 4	WST 43	WSS 43	L-W 3	

WTJNR/L WTQNR/L

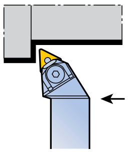
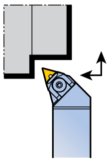
Wedge clamp type holders



WTJNR

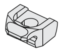
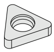
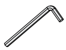


WTQNR

Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
93°	**WTJNR/L**	**2020 K1304**	20	20	20	125	27	25	TN... 1304...
		**2525 M1304**	25	25	25	150	27	32	
	WTJNR/L	**2020 K16**	20	20	20	125	32	25	TN... 1604...
		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	
105°	**WTQNR/L**	**2020 K1304**	20	20	20	125	27	25	TN... 1304...
		**2525 M1304**	25	25	25	150	27	32	

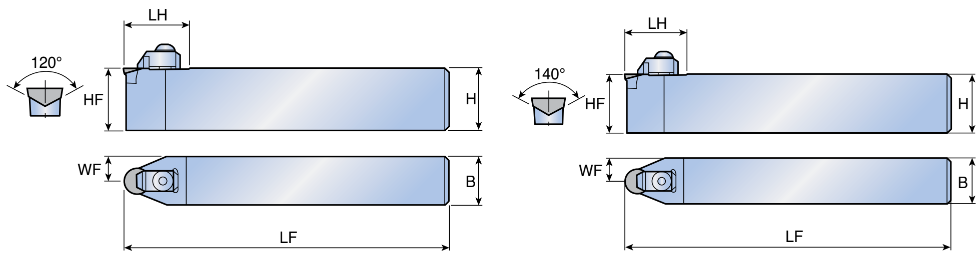
A275-A280, A332, A340

Spare parts

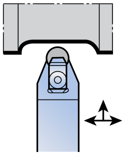
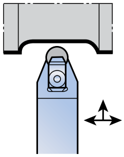
Designation	Wedge clamp	Screw	Snap ring	Shim	Pin screw	Wrench
						
...1304	WC 2.53	WCS 2.5	CSR 2	WST 2.52	WSS 2.52	L-W 2.5
...16	WC 33	WCS 4	WSR 4	WST 33	WSS 33	L-W 3, L-W 2.5
...22	WC 43	WCS 4	WSR 4	WST 43	WSS 43	L-W 3

CRDCN

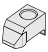
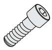
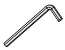
Top clamp type holders for V bottom insert



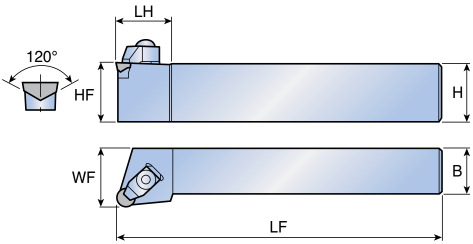
CRDCN-120 CRDCN-140

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...	A334
		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	A345
		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	

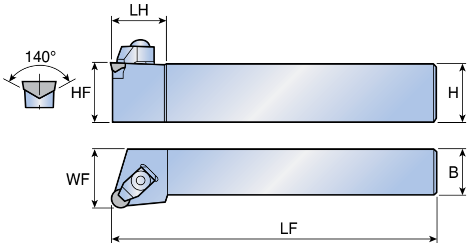
Spare parts

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	-

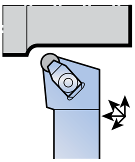
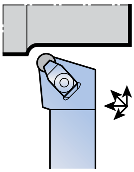
Top clamp type holders for V bottom insert



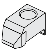
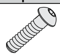
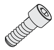
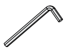
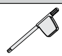
CRGCR-120



CRGCR-140

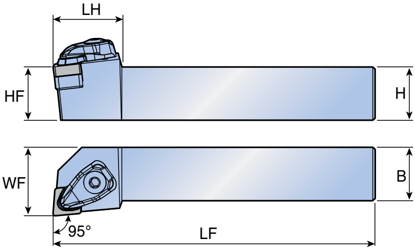
Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
90° 	**CRGCR/L**	**2525 M06-120**	25	25	25	150	28	32	RCGX 0606...	A334
		3225 P06-120	32	32	25	170	28	32		
		3225 P09-120	32	32	25	170	30	32	RCGX 0907...	
		3225 P12-120	32	32	25	170	32	32	RCGX 1207...	
90° 	**CRGCR/L**	**3225 P06-140**	32	32	25	170	28	32	RCGX 0603...FT	A345
		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	
							
...06-120	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	-

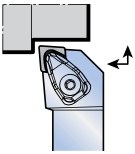
CCLNR/L-F

Top clamp type holders for Flat type insert

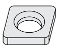
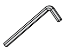
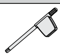


CCLNR-F

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... A324, A325

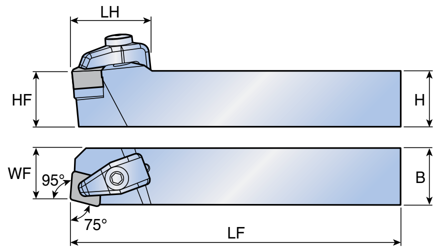


Spare parts

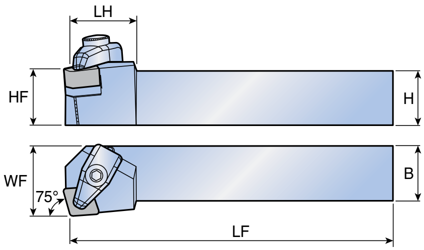
Designation	Clamp set	Shim	Shim screw	Wrench			
							
CCLNR/L	CCL S-4F	TSC 44	SO 40050I	L-W 4	T 15		

TCBNR/L-CH TCKNR/L-CH

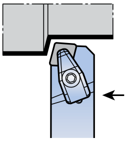
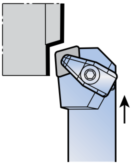
T-holders for CH dimple insert



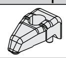
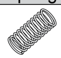
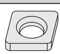
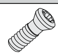
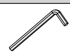
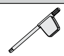
TCBNR-CH



TCKNR-CH

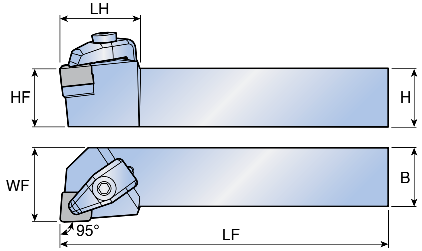
Approach angle	Designation		Dimension (mm)							Insert
			H	HF	B	LF	LH	WF		
75°	TCBNR/L	2525 M12-CH	25	25	25	150	34.4	22		CNGX 1207...CH A325
		3225 P12-CH	32	32	25	170	34	22		
75°	TCKNR/L	2525 M12-CH	25	25	25	150	28	32		
										

Spare parts

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

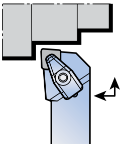
TCLNR/L-CH

T-holders for CH dimple insert

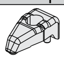
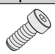
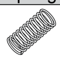
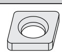
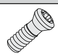
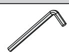
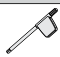


TCLNR-CH

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 A325
		3225 P12-CH	32	32	25	170	33	32	

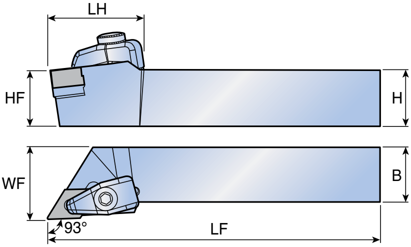


Spare parts

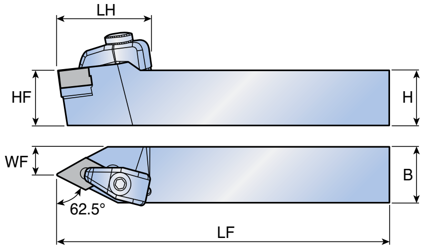
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...12	CCL-4	CSC 4	DSP 5	TSC 43	SO 40050I	L-W 4	T 15

TDJNR/L-CH TDNNN-CH

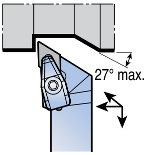
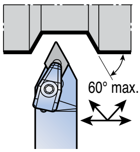
T-holders for CH dimple insert



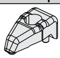
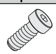
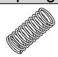
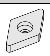
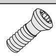
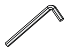
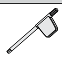
TDJNR-CH



TDNNN-CH

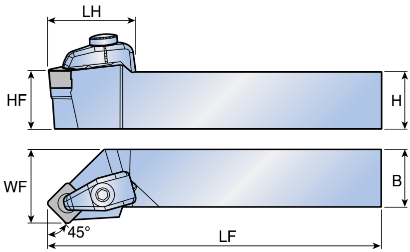
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert
93°	**TDJNR/L**	**2525 M15-CH**	25	25	25	150	38	32	DNGX 1507...CH A326
 27° max.		**3225 P15-CH**	32	32	25	170	38	32	
62.5°	**TDNNN**	**2525 M15-CH**	25	25	25	150	40	12.5	
 60° max.									

Spare parts

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

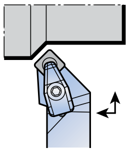
TSSNR/L-CH

T-holders for CH dimple insert



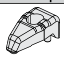
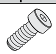
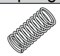
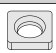
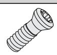
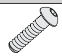
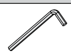
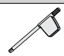
TSSNR-CH

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



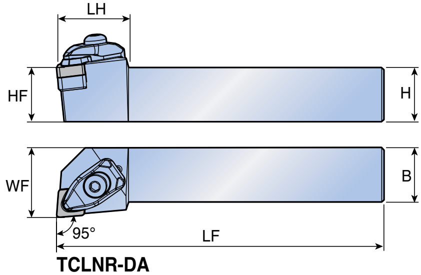
A330

Spare parts

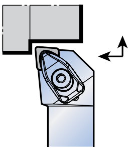
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw		Wrench	
								
...12	CCL-4	CSC 4	DSP 5	TSS 43	SO 40050I	-	L-W 4	T 15
...15	CCL-4	CSC 4	DSP 5	S 50	-	BH M5x0.8x10	L-W 4, L-W 3	-

TCLNR/L-DA

T-holders for DA dimple insert



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 A336

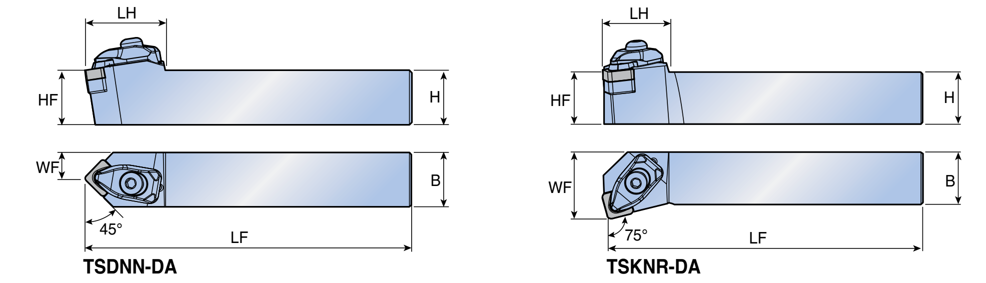


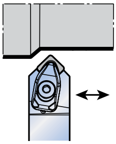
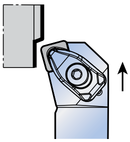
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
TCLNR/L	DCL S-4DA	DLS 5	DSP 5	TSC 44	SO 40050I	L-W 4	T 15

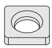
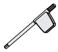
TSDNN-DA TSKNR-DA

T-holders for DA dimple insert



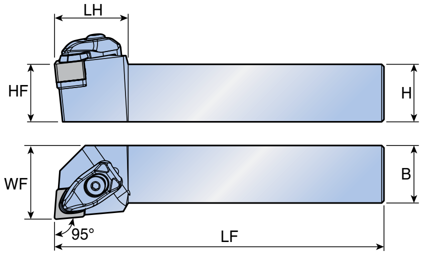
Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF		Insert
45° 	**TSDNN**	**2525 M1204-DA**	25	25	25	150	37	12.5		SNGX 1204…DA A339
75° 	**TSKNR/L**	**2525 M1204-DA**	25	25	25	150	29	32		

Spare parts

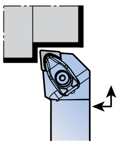
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...1204	DCL S-4DA	DLS 5	DSP 5	TSS 44	SO 40050I	L-W 4	T 15	

TCLNR/L-F

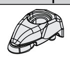
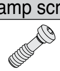
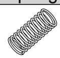
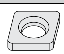
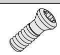
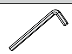
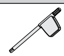
T-holders for Flat type insert



TCLNR -F

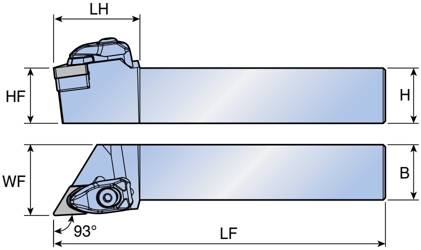
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	LH	WF	
95° 	**TCLNR/L**	**2525 M0903-F**	25	25	25	150	25	32	CN...N 0903...
		2020 K1204-F	20	20	20	125	32	25	CN...N 1204... A324, A325
		2525 M1204-F	25	25	25	150	32	32	
		2020 K1207-F	20	20	20	125	32	25	CN...N 1207...
		2525 M1207-F	25	25	25	150	32	32	
		3232 P1207-F	32	32	32	170	32	40	

Spare parts

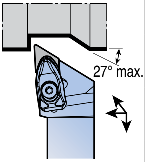
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...0903	DCL S-3F	DLS 3	DSP 3	LSC 32	SO 40085I	L-W 2.5	T 15	
...1204	DCL S-4F	DLS 4	DSP 4	TSC 44	SO 40050I	L-W 3	T 15	
...1207	DCL S-4F	DLS 4	DSP 4	TSC 42	SO 40050I	L-W 3	T 15	

TDJNR/L-F

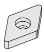
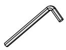
T-holders for Flat type insert



TDJNR-F

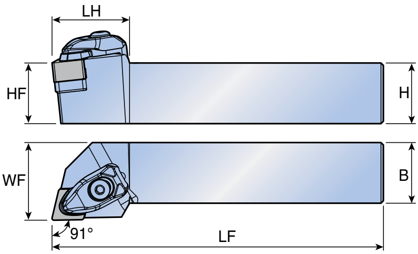
Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
93°	**TDJNR/L**	**2525 M1504-F**	25	25	25	150	39	32	DN...N 1504...	A326
		**2525 M1507-F**	25	25	25	150	39	32	DN...N 1507...	
		3232 P1507-F	32	32	32	170	39	40		

Spare parts

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

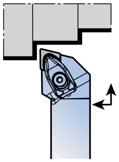
TEGNR/L-F

T-holders for Flat type insert

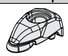
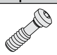
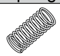
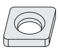
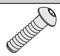
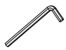


TEGNR-F

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... A327

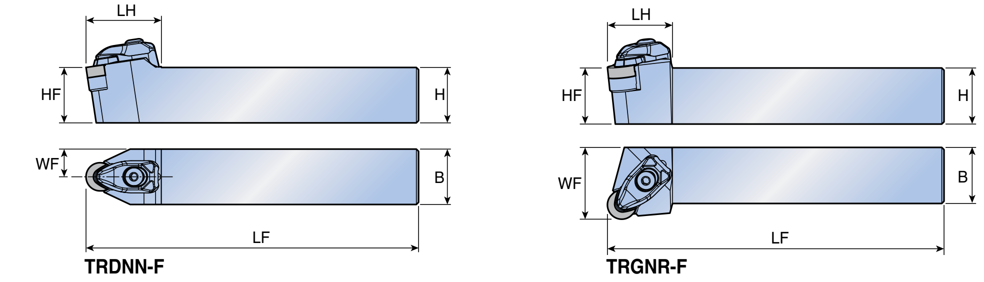


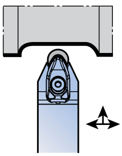
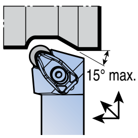
Spare parts

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

TRDNN-F TRGNR/L-F

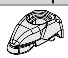
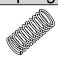
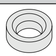
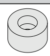
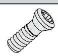
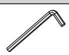
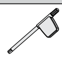
T-holders for Flat type insert



Approach angle	Designation		H	HF	B	LF	LH	WF	Insert	
			Dimension (mm)							
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...	A328, A338
		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		

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

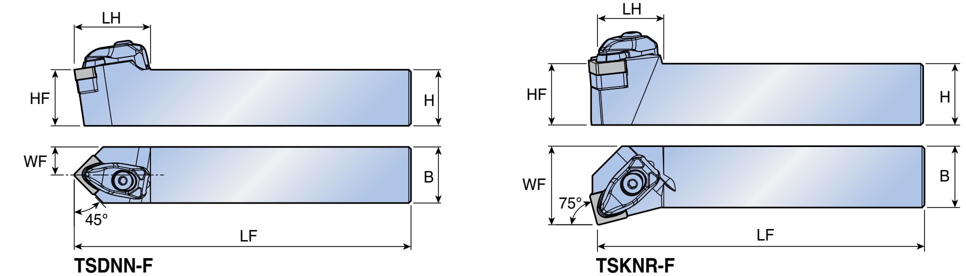
Spare parts

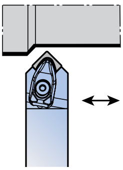
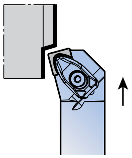
Designation	Clamp	Clamp screw	Spring	Shim		Shim screw	Wrench	
								
...0903	DCL S-3F	DLS 3	DSP 3	LSR 32	-	SO 40085I	L-W 2.5	T 15
...1204	DCL S-4F	DLS 4	DSP 4	-	TSR 45	SO 40050I	L-W 3	T 15
...1207	DCL S-4F	DLS 4	DSP 4	-	TSR 43	SO 40050I	L-W 3	T 15

TSDNN-F TSKNR/L-F

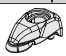
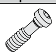
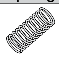
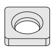
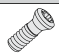
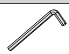
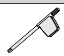
T-TURN

T-holders for Flat type insert



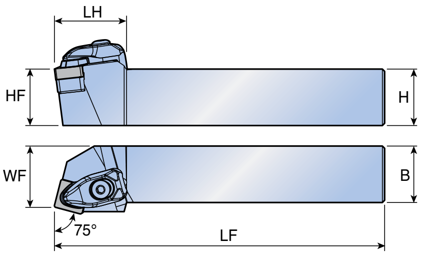
Approach angle	Designation		Dimension (mm)						Insert	
			H	HF	B	LF	LH	WF		
45°	TSDNN	2020 K1204-F	20	20	20	125	34	10	SN...N 1204...	A339
		2525 M1204-F	25	25	25	150	34	12.5		
		2525 M1207-F	25	25	25	150	34	12.5	SN...N 1207...	
		3225 P1207-F	32	32	25	170	34	12.5		
		3232 P1207-F	32	32	32	170	34	16		
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

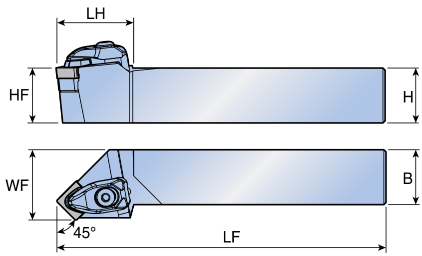
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
...1204	DCL S-4F	DLS 4	DSP 4	TSS 44	SO 40050I	L-W 3	T 15	
...1207	DCL S-4F	DLS 4	DSP 4	TSS 42	SO 40050I	L-W 3	T 15	

TSRNR/L-F TSSNR/L-F

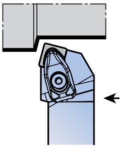
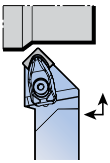
T-holders for Flat type insert



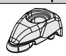
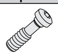
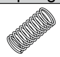
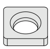
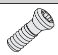
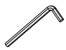
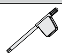
TSRNR-F



TSSNR-F

Approach angle	Designation		Dimension (mm) H	HF	B	LF	LH	WF	Insert	
75°	**TSRNR/L**	**2525 M1204-F**	25	25	25	150	32	27	SN...N 1204...	A339
		**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		

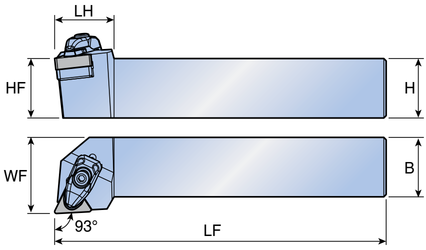
Spare parts

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

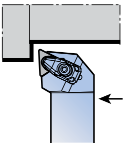
TTJNR/L-F

T-TURN

T-holders for Flat type insert

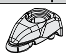
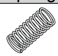
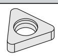
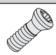
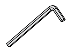
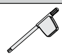


TTJNR-F

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...	A332
		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		

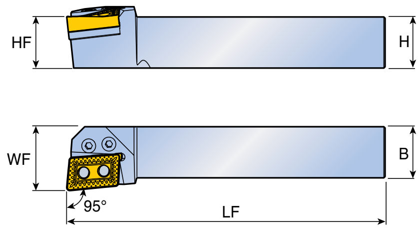
• TNGN 1604/1607 Inserts are not exchangable on same holder

Spare parts

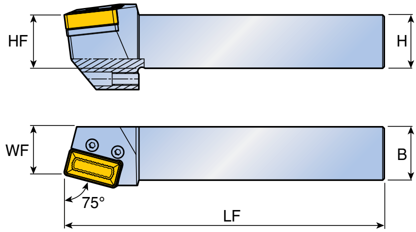
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
							
...16	DCL S-3F	DLS 3	DSP 3	TST 33	SO 40050I	L-W 3	T 15

2PLLNR/L 2PLBNR/L

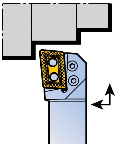
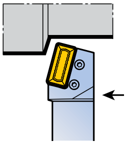
Lever lock type holders with two pins



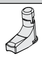
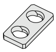
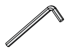
2PLLNR



2PLBNR

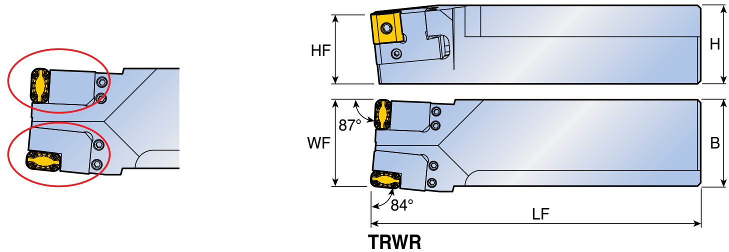
Approach angle	Designation		Dimension (mm)						Insert
			H	HF	B	LF	WF		
95° 	**2PLLNR/L**	**4040 S4012**	40	40	40	250	50		LNMM 4012...HX A320
		5050 T4012	50	50	50	300	60		
75° 	**2PLBNR/L**	**5050 T5014**	50	50	50	300	45		LNMX 5014... A320

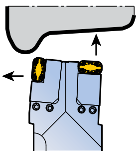
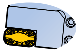
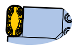
Spare parts

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

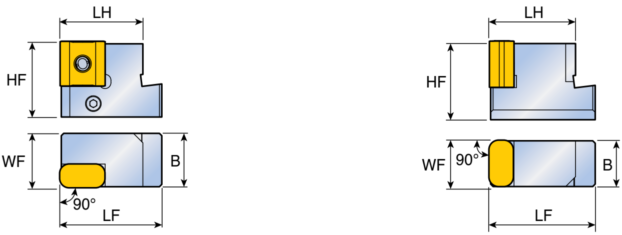
TOP-RAIL holders



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 

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

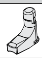
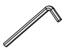
TOP-RAIL cartridges



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...

A321

Spare parts

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

Hose

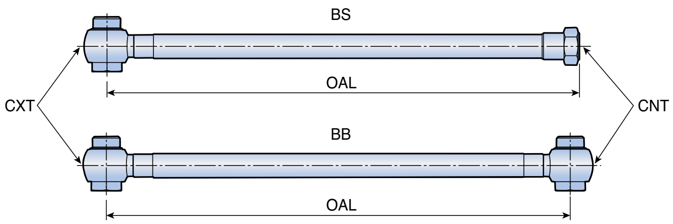


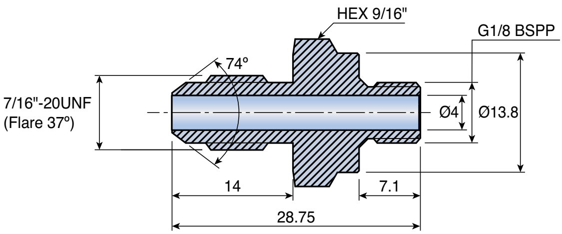
Fig.1

Fig.2

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

• Hose is ordered separately

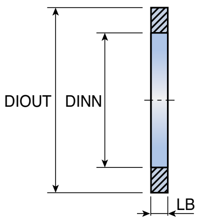
Adapter



Designation
TB NIPPLE G1/8-7/16 UNF

• Adapter is ordered separately

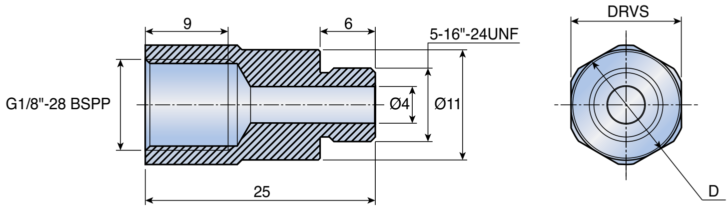
Seal washer



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

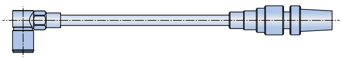
Connector



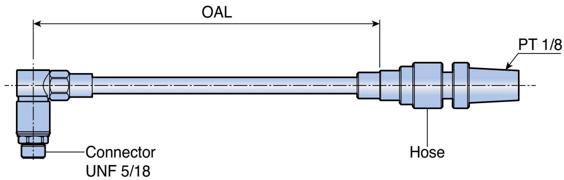
Designation		Dimension (mm)	
		D	DRVS
TB CONECTOR	**5/16"-G1/8"**	13	12
	5/16"-G1/8"-12	12	11

• Connector is ordered separately

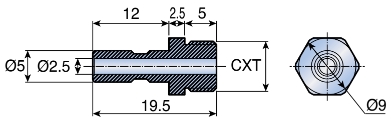
Coupling system



Hose



Hose set



Connector

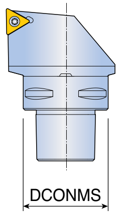
Components	Designation		Dimension		
			OAL (mm)	CXT	Maximum pressure (Bar)
Hose set	**S-TB HOSE**	**R1/8-COUPLE-100**	100	-	140
		R1/8-COUPLE-200	200	-	140
		R1/8-COUPLE-300	300	-	140
Hose	**TB HOSE**	**R1/8-COUPLE-200**	200	-	140
		R1/8-COUPLE-300	300	-	140
Connector	**TB CONECTOR**	**5/16-COUPLE**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

• Hose set, hose and connector are ordered separately

C-ADAPTER Designation System

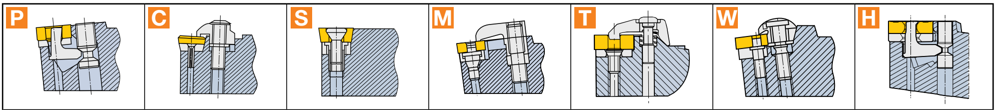
C4 -	T	C	L	N	R
1	2	3	4	5	6

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

80°	55°	75°	120°	55°		90°	60°	35°	80°
C	D	E	H	K	R	S	T	V	W

4 Approach angle

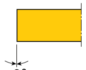
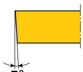
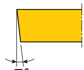
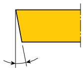
Symbol	Shape	Offset	Symbol	Shape	Offset	Symbol	Shape	Offset
A	90°	×	J	93°	○	V	72.5°	×
			K	75°	○	W	60°	○
B	75°	×	L	95°	○	X	Special angle	
			M	50°	×	C*	90°	×
D	45°	×	N	62.5°	×	H*	107.5°	○
E	60°	×	R	75°	○	Q*	45°	○
F	90°	○	S	45°	○			
G	91°	○	T	60°	○			
			U	93°	○			

* TaeguTec standard

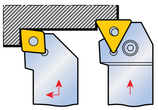
C-ADAPTER Designation System

27	055	- 09	
7	8	9	10

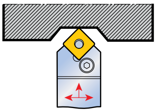
5 Insert clearance angle

			
N	B	C	P

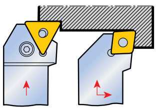
6 Hand of tool



R: Right hand

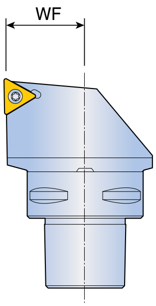


N: Neutral

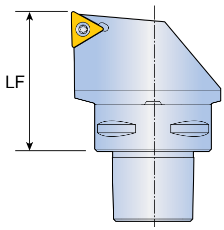


L: Left hand

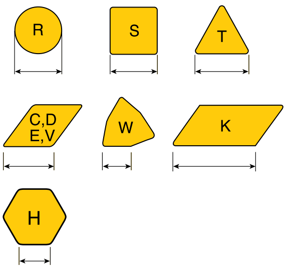
7 WF dimension (mm)



8 Tool length (mm)



9 Cutting edge length



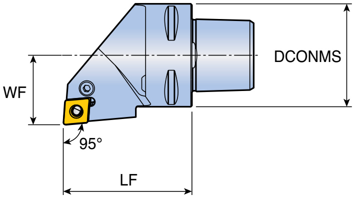
See page A249

10 Manufacturer's type designation

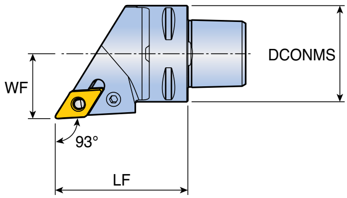
Unique to manufacturer

HCLNR/L HDJNR/L

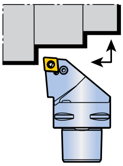
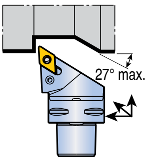
Hook lever type holders with C-ADAPTER



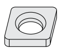
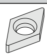
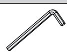
HCLNR



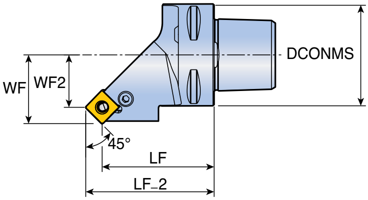
HDJNR

Approach angle	Designation	Dimension (mm)			Insert
		DCONMS	WF	LF	
95°	**C4-HCLNR/L 27050-0904**	40	27	50	CN... 0904... A250-A257
					
93°	**C4-HDJNR/L 27055-1305**	40	27	55	DN... 1305... A260-A265
					

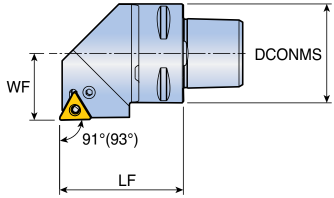
Spare parts

Designation	Lever	Screw	Shim		Shim pin	Shim pin punch	Nozzle	Wrench
								
C4...HCLNR/L	LCL 09-NX	LCS 3	LSC 32	-	LSP 3A	SPP 3-4	NZ 83	L-W 2.5
C4...HDJNR/L	LCL 11-NX	LCS 4	-	LSD 3.52	LSP 4	SPP 3-4	NZ 83	L-W 3

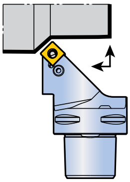
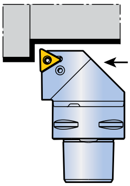
Hook lever type holders with C-ADAPTER



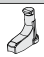
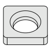
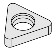
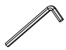
HSSNR



HTGNR HTJNR (93°)

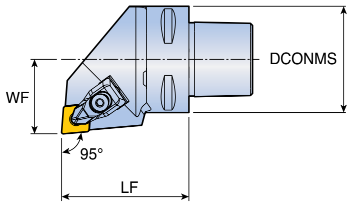
Approach angle	Designation	Dimension (mm)					Insert
		DCONMS	WF	WF2	LF	LF_2	
45°	**C4-HSSNR/L 27042-0904**	40	27	20.6	44	50.3	SN... 0904... A270-A273
							
91°(93°)	**C4-HTGNR/L 27050-1304**	40	27	-	50	-	TN... 1304... A275-A280
	C4-HTJNR/L 27050-1304	40	27	-	50	-	
							

Spare parts

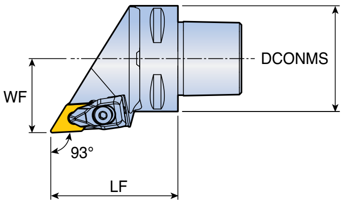
Designation	Lever	Screw	Shim		Shim pin	Shim pin punch	Nozzle	Wrench
								
C4...0904	LCL 09-NX	LCS 3	LSS 32A	-	LSP 3A	SPP 3-4	NZ 83	L-W 2.5
C4...1304	LCL 08-NX	LCS 3-NX	-	LST 2.51.8	LSP 3B	SPP 3-3L	NZ 83	L-W 2.5

TCLNR/L TDJNR/L

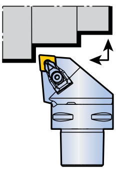
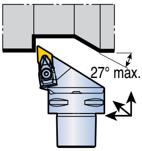
T-holders with C-ADAPTER



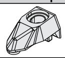
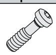
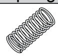
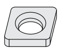
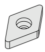
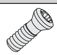
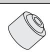
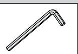
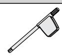
TCLNR



TDJNR

Approach angle	Designation	Dimension (mm)			Insert	
		DCONMS	WF	LF		
95°	**C4-TCLNR/L 27050-12**	40	27	50	CN...1204...	A250-A257, A324, A325, A336
	**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 27055-1504**	40	27	55	DN...1504...	A260-A265, A326, A337
 27° max.	**C4-TDJNR/L 27055-1506**	40	27	55	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...	

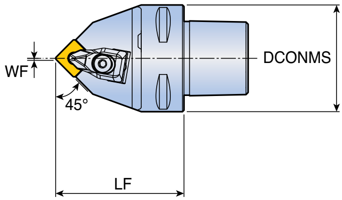
Spare parts

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

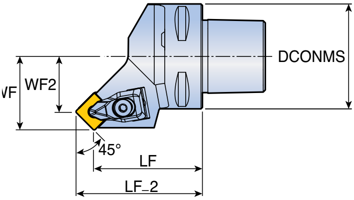
TSDNN TSSNR/L

C-ADAPTER

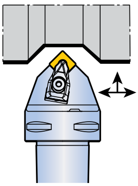
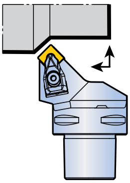
T-holders with C-ADAPTER



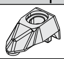
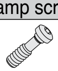
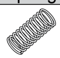
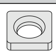
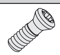
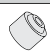
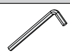
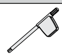
TSDNN



TSSNR

Approach angle	Designation	Dimension (mm)					Insert
		DCONMS	WF	WF2	LF	LF_2	
45°	**C4-TSDNN 00050-12**	40	0.3	-	50	-	SN...1204... A268 A270-A274, A329, A330, A339
	**C5-TSDNN 00060-12**	50	0.3	-	60	-	
	C6-TSDNN 00065-12	63	0.3	-	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	

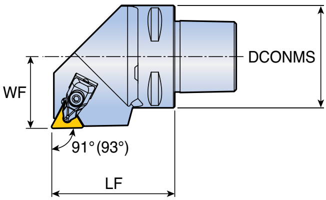
Spare parts

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

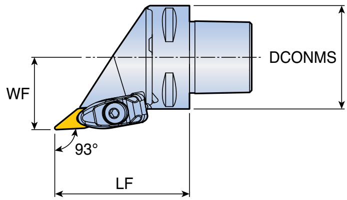
TTGNR/L TTJNR/L TVJNR/L

CADAPTER

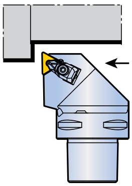
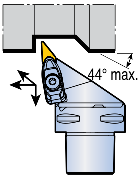
T-holders with C-ADAPTER



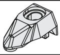
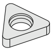
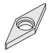
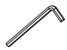
TTGNR TTJNR(93°)



TVJNR

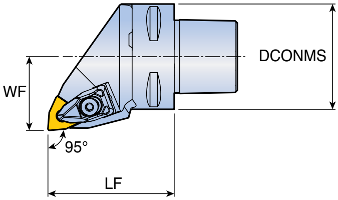
Approach angle	Designation	Dimension (mm)			Insert
		DCONMS	WF	LF	
91°(93°) 	**C4-TTGNR/L 27050-16**	40	27	50	TN...1604... A275-A280, A332, A340
	C5-TTGNR/L 35060-16	50	35	60	
	C6-TTGNR/L 45065-16	63	45	65	
	C4-TTJNR/L 27050-16	40	27	50	
	C5-TTJNR/L 35060-16	50	35	60	
	C6-TTJNR/L 45065-16	63	45	65	
93°  44° max.	**C4-TVJNR/L 27062-16**	40	27	62	VN...1604... A281, A282, A333, A341
	C5-TVJNR/L 35065-16	50	35	65	
	C6-TVJNR/L 45068-16	63	45	68	

Spare parts

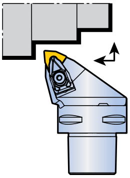
Designation	Clamp	Clamp screw	Spring	Shim		Shim screw	Nozzle	Wrench	
									
C4...TT...16	DLM 3	DLS 3	DSP 3	TST 33	-	SO 35080I	NZ 83	L-W 2.5	T 15
...TT...16	DLM 3	DLS 3	DSP 3	TST 33	-	SO 35080I	NZ 104	L-W 2.5	T 15
C4...TV...16	DLM 3V	DLS 5	DSP 5	-	TSV 33	SO 35080I	NZ 83	L-W 4	T 15
...TV...16	DLM 3V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

TWLNR/L

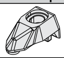
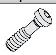
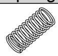
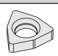
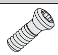
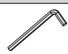
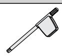
T-holders with C-ADAPTER



TWLNR

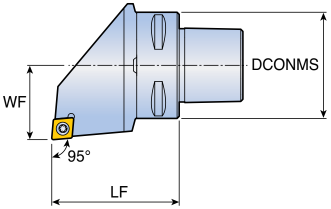
Approach angle	Designation	Dimension (mm)			Insert
		DCONMS	WF	LF	
95°	**C4-TWLNR/L 27050-06**	40	27	50	WN...G 0604...
	**C4-TWLNR/L 27050-08**	40	27	50	WN... 0804... A284-A287, A333, A342
	C5-TWLNR/L 35060-08	50	35	60	
	C6-TWLNR/L 45065-08	63	45	65	

Spare parts

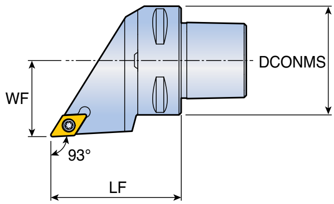
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
								
...06	DLM 3	DLS 3	DSP 3	PSW 32	SO 40090I	NZ 83	L-W 2.5	T 15
C4...08	DLM 4	DLS 4	DSP 4	TSW 44	SO 40050I	NZ 83	L-W 3	T 15
...08	DLM 4	DLS 4	DSP 4	TSW 44	SO 40050I	NZ 104	L-W 3	T 15

SCLCR/L SDJCR/L

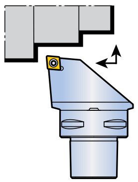
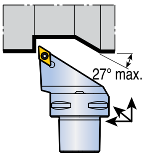
Screw type holders with C-ADAPTER



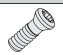
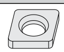
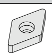
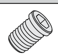
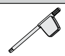
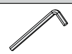
SCLCR



SDJCR

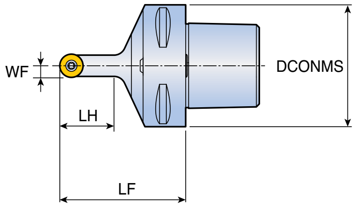
Approach angle	Designation	Dimension (mm) DCONMS	WF	LF		Insert
95°	**C4-SCLCR/L 27050-09**	40	27	50		CC... 09T3... A292-A295, A343
	**C5-SCLCR/L 35060-09**	50	35	60		
	C6-SCLCR/L 45065-09	63	45	65		
	C4-SCLCR/L 27050-12	40	27	50		CC... 1204...
	C5-SCLCR/L 35060-12	50	35	60		
	C6-SCLCR/L 45065-12	63	45	65		
93°	**C4-SDJCR/L 27050-11**	40	27	50		DC... 11T3... A297-A300, A344
	**C5-SDJCR/L 35060-11**	50	35	60		
	C6-SDJCR/L 45065-11	63	45	65		

Spare parts

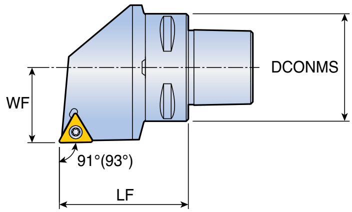
Designation	Screw	Shim		Shim screw	Nozzle	Wrench		
								
C4...09	SO 35124I	SSC 32	-	SO 50090S	NZ 83	T 15	L-W 3.5	
...09	SO 35124I	SSC 32	-	SO 50090S	NZ 104	T 15	L-W 3.5	
C4...11	SO 35124I	-	SSD 32	SO 50090S	NZ 83	T 15	L-W 3.5	
...11	SO 35124I	-	SSD 32	SO 50090S	NZ 104	T 15	L-W 3.5	
C4...12	SO 45130I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

SRDCN STGCR/L STJCR/L

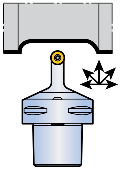
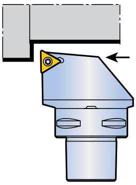
Screw type holders with C-ADAPTER



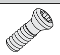
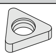
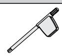
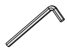
SRDCN



STGCR STJCR (93°)

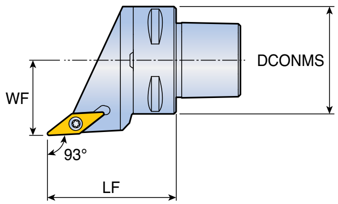
Approach angle	Designation	Dimension (mm)				Insert	
		DCONMS	WF	LF	LH		
45°	**C4-SRDCN 00050-10A**	40	5	50	25	RC...T 10T300	A303
	**C5-SRDCN 00060-10A**	50	5	60	25		
	C6-SRDCN 00065-10A	63	5	65	25		
	C4-SRDCN 00050-12A	40	6	50	28	RC...T 120400	
	C5-SRDCN 00060-12A	50	6	60	28		
	C6-SRDCN 00065-12A	63	6	65	28		
91°(93°)	**C4-STGCR/L 27050-16**	40	27	50	-	TC... 16T3...	A307, A308, A347, A348
	**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

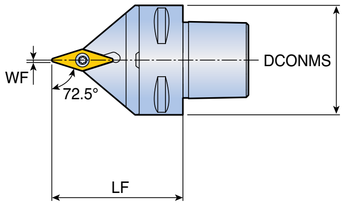
Designation	Screw	Shim		Shim screw	Nozzle	Wrench		
								
C4...10A	TS 40097I	TRC 3-0	-	SR TC-3	NZ 62	T 15	-	
...10A	TS 40097I	TRC 3-0	-	SR TC-3	NZ 62	T 15	-	
C4...12A	SO 40050I	TRC 4-0	-	SR TC-4S	NZ 62	T 15	-	
...12A	SO 40050I	TRC 4-0	-	SR TC-4S	NZ 62	T 15	-	
C4...16	SO 35124I	-	SST 32	SO 50090S	NZ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

SVJBR/L SVVBN

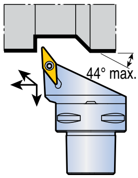
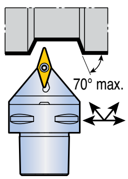
Screw type holders with C-ADAPTER



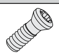
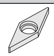
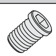
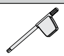
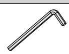
SVJBR



SVVBN

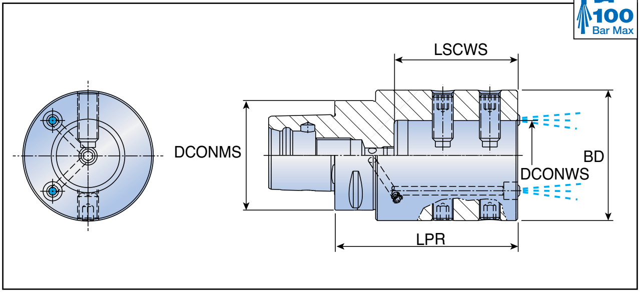
Approach angle	Designation	Dimension (mm)				Insert
		DCONMS	WF	LF		
93°	**C4-SVJBR/L 27050-16**	40	27	50		VB...T 1604... A313, A314, A349
	**C5-SVJBR/L 35060-16**	50	35	60		
	C6-SVJBR/L 45065-16	63	45	65		
72.5°	**C4-SVVBN 00050-16**	40	0.6	50		
	**C5-SVVBN 00060-16**	50	0.6	60		
	C6-SVVBN 00065-16	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...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*

- *Marked: 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

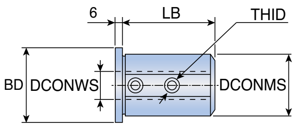


Fig.1

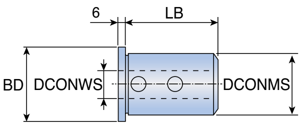
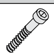
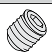
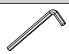


Fig.2

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

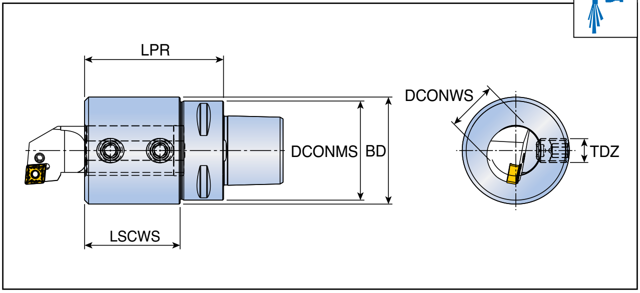
Spare parts

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*		

- *Marked: Optional, should be ordered separately

C...ADI

Holders for boring bars with C-ADAPTER exchangeable shanks

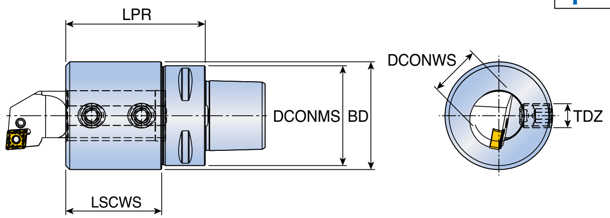


Designation		Dimension (mm)					
		DCONMS	LPR	LSCWS	DCONWS	BD	TDZ
C3	**ADI 10**	32	50	20	10	36	M6
	ADI 12	32	50	21.5	12	36	M8
	ADI 16	32	50	29.5	16	36	M8
C4	**ADI 10**	40	50	20	10	36	M6
	ADI 12	40	50	24	12	36	M8
	ADI 16	40	50	32	16	36	M8
	ADI 20	40	70	49	20	55	M12
	ADI 25	40	70	45	25	54	M12
C5	**ADI 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

• Use the tools with "AD" suffix. Regular tools should be shortened.

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

• Use the tools with "AD" suffix. Regular tools should be shortened.

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*

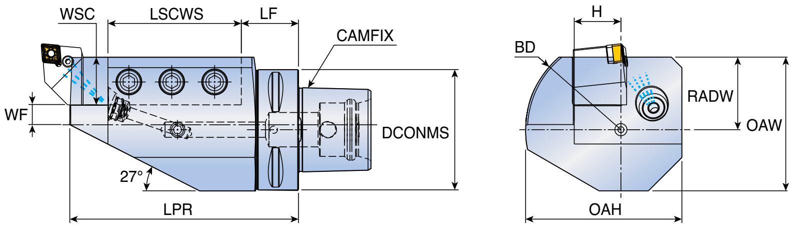
• *Marked: Optional, should be ordered separately

C...ASHR/L

CADAPTER

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

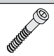
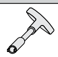
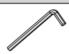
100 Bar Max



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*

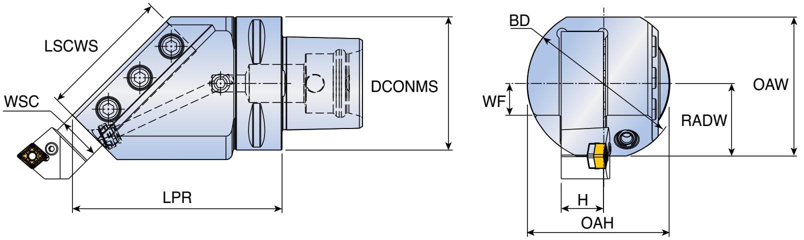
- *Marked: Optional, should be ordered separately

C...ASHR/L-45

CADAPTER

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

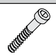
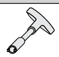
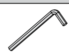
100 Bar Max



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

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

Spare parts

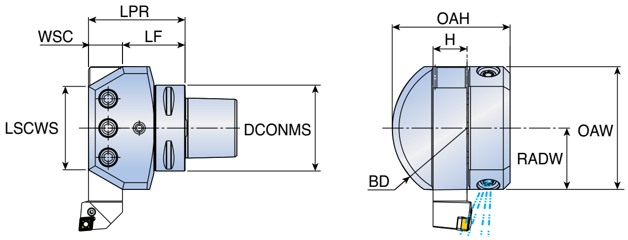
Designation	Screw	Nozzle	Wrench	
				
...20-45	SR M10x25 DIN915	SATZ-M10x1-M5	HP M10*	L-W 5*
...25-45	SR M12x30 DIN915	SATZ-M10x1-M5	HP M10*	L-W 6*
...32-45	SR M12x30 DIN915	SATZ-M12x1-M6	HP M12*	L-W 6*

• *Marked: Optional, should be ordered separately

C...ASHA

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

100 Bar Max



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

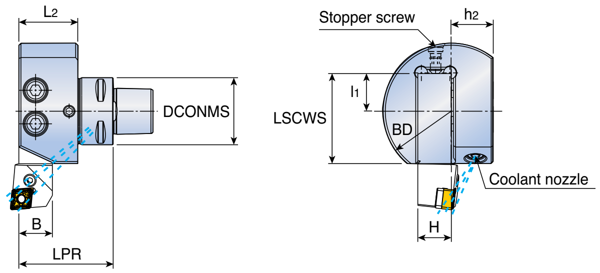
Spare parts

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*

• *Marked: Optional, should be ordered separately

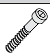
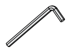
C...ADE

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*

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

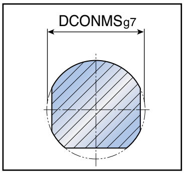
Boring Bar Designation System

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

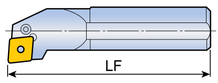
1 Boring bar

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

2 Bar diameter

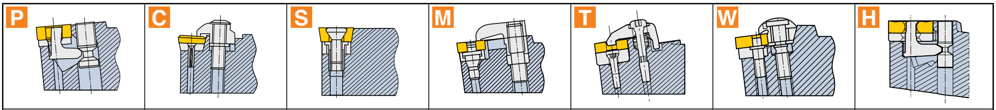


3 Tool length



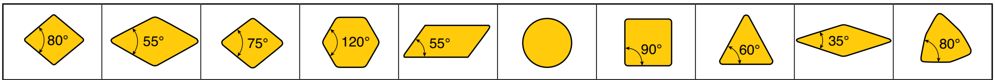
K	125	U	350
M	150	V	400
Q	180	W	450
R	200	Y	500
S	250	X	Special
T	300		

4 Clamping system



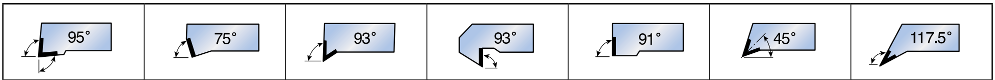
P	C	S	M	T	W	H
Lever lock	Top clamp	Screw clamp	Multi lock	T-holder	Wedge clamp	Hook lever

5 Insert shape



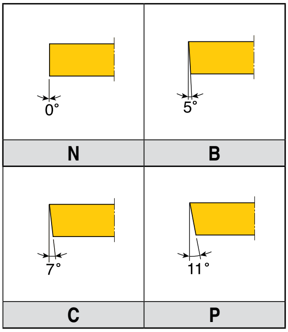
C	D	E	H	K	R	S	T	V	W

6 Approach angle



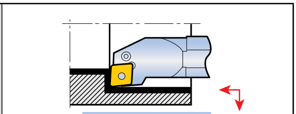
L	K	U	Z	F	Q	P

7 Insert clearance angle



8 Hand of tool

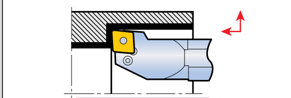
R



Right hand

*Left handed insert used

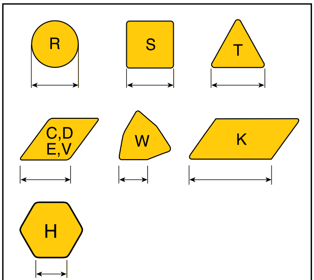
L



Left hand

*Right handed insert used

9 Cutting edge length



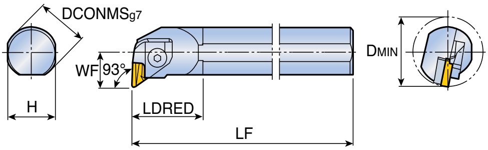
See page A249

10 Manufacturer's type designation

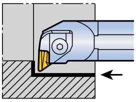
Unique to manufacturer

S-CKUNR/L

Top clamp type boring bars

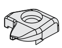
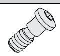
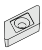
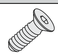
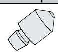
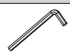


S-CKUNR



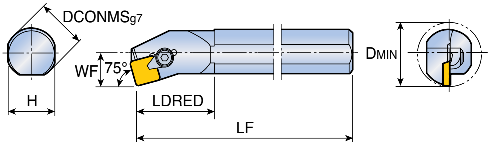
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S32T CKUNR/L16**	32	30	300	45	22	44	KNUX 1604...R/L A266
	S40T CKUNR/L16	40	37	300	55	27	54	
	S40V CKUNR/L16	40	37	400	55	27	54	
	S50U CKUNR/L16	50	47	350	60	35	67.2	

Spare parts

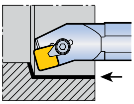
Designation	Clamp	Screw	Clamp spring	Shim	Shim screw	Pin & spring	Wrench	
								
...16	CL 16KR/L	CLS 16K	KSP 90	CSK 1604R/L	FH M3x0.5 x10	KSP 48 KP 48S	L-W 4	

S-CSKPR/L

Top clamp type boring bars



S-CSKPR

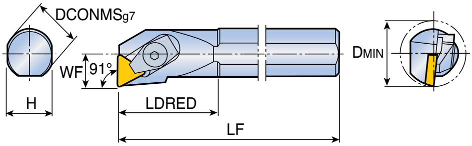
Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
75°	**S16R CSKPR/L09**	16	15	200	30	11	20	SPMR, SP...N 0903...	A305, A335
	**S20S CSKPR/L09**	20	18	250	32	13	25		
	S20R CSKPR/L12	20	18	200	34	13	25	SPMR, SP...N 1203...	
	S25T CSKPR/L12	25	23	300	42	17	32		
	S32U CSKPR/L12	32	30	350	45	22	40		

Spare parts

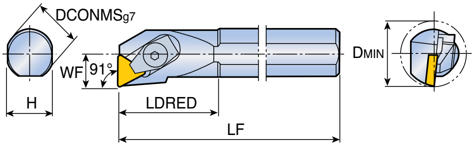
Designation	Clamp		Screw	Snap ring	Shim	Shim pin	Wrench	
...09	CL 2C	-	CLS 2C	CSR 2C	-	-	L-W 2.5	
S20R...12	CL 3C	-	CLS 3C	CSR 2	CSS 42	CSP 3	L-W 3	
S25T ...12	-	CL 3	CLS 3S	WSR 4	CSS 42	CSP 3	L-W 3	
S32U ...12	-	CL 3	CLS 3	WSR 4	CSS 42	CSP 3	L-W 3	

S-CTFCR/L S-CTFPR/L

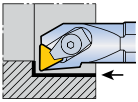
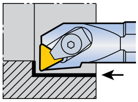
Top clamp type boring bars



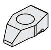
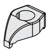
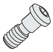
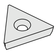
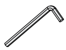
S-CTFCR



S-CTFPR

Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
91°	**S10K CTFCR/L 06**	10	9	125	25	6.5	12	TCGR 0601...	
									
91°	**S10K CTFPR/L 06**	10	9	125	25	6.5	12	TPGR 0601...	A310-A312, A335, A347, A348
	**S12M CTFPR/L 06**	12	11	150	30	9	16		
	S12M CTFPR/L 09	12	11	150	25	9	16	TPGN, TP...R 0902...	
	S16R CTFPR/L 09	16	15	200	25	11	20		
	S12M CTFPR/L 11	12	11	150	30	9	16	TPMR, 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	TPMR, 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	70	27	50		
	S50U CTFPR/L 16	50	47	350	70	35	63		
	S40T CTFPR/L 22	40	37	300	60	27	50	TPMR, TP...N 2204...	
	S50U CTFPR/L 22	50	47	350	70	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

S-HCLNR/L A-HCLNR/L

Hook lever type boring bars

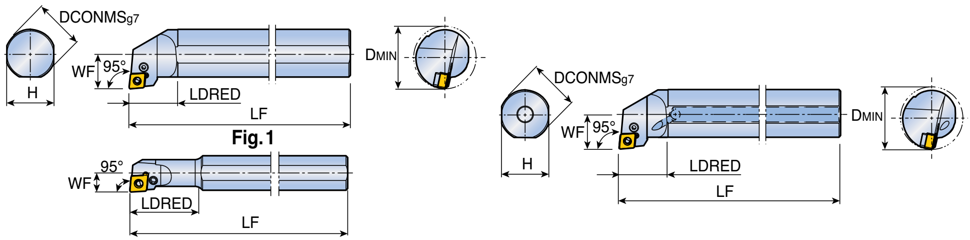
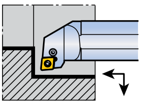
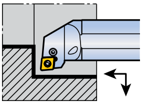


Fig.1

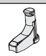
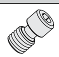
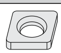
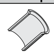
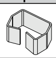
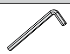
Fig.2

S-HCLNR

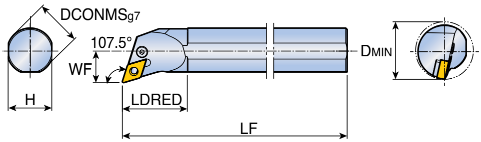
A-HCLNR

Approach angle	Designation	Dimension (mm)						Fig.	Insert
		DCONMS	H	LF	LDRED	WF	DMIN		
95°	**S16Q HCLNR/L0904**	16	15	180	25	11	20	1	CN... 0904... RHINOTURN A250-A257
	**S20Q HCLNR/L0904**	20	18	180	28	13	25	1	
	S20Q HCLNR/L0904-D20	20	18	180	40	11	20	2	
	S25R HCLNR/L0904	25	23	200	31	17	32	1	
	S32S HCLNR/L0904	32	30	250	31	22	40	1	
	S40T HCLNR/L0904	40	37	300	55	27	50	1	
95°	**A16Q HCLNR/L0904**	16	15	180	25	11	20		CN... 0904... RHINOTURN
	**A20Q HCLNR/L0904**	20	18	180	28	13	25		
	A25R HCLNR/L0904	25	23	200	31	17	32		
	A32S HCLNR/L0904	32	30	250	31	22	40		

Spare parts

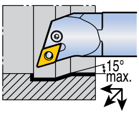
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
								
S ...0904	LCL 09B-NX	LCS 3B	-	-	LSR 3B	L-W 2		
S ...0904...D	LCL 09B-NX	LCS 3B	-	-	LSR 3B	L-W 2		
S32S...0904	LCL 09-NX	LCS 3	LSC 32	LSP 3A	-	L-W 2.5		
S40T...0904	LCL 09-NX	LCS 3	LSC 32	LSP 3A	-	L-W 2.5		
A ...0904	LCL 09B-NX	LCS 3B	-	-	LSR 3B	L-W 2		
A32S...0904	LCL 09-NX	LCS 3	LSC 32	LSP 3A	-	L-W 2.5		

Hook lever type boring bars



S-HDQNR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
107.5°	**S32S HDQNR/L1305**	32	30	250	45	22	40	DN... 1305... RHINO TURN A260-A265

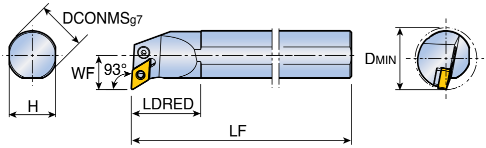


Spare parts

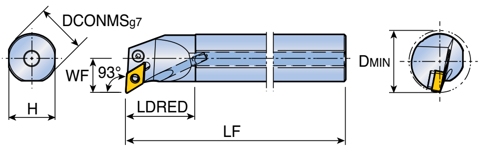
Designation	Lever	Screw	Shim	Shim pin	Wrench			
...1305	LCL 11-NX	LSC 4S	LSD 3.52B	LSP 4	L-W 3			

S-HDUNR/L A-HDUNR/L

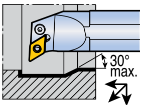
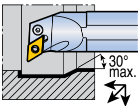
Hook lever type boring bars



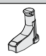
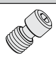
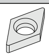
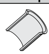
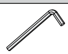
S-HDUNR



A-HDUNR

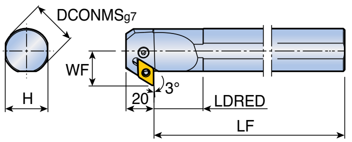
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S32S HDUNR/L1305**	32	30	250	45	22	40	DN... 1305... RHINO TURN A260-A265
	**S40T HDUNR/L1305**	40	37	300	55	27	50	
93°	**A32S HDUNR/L1305**	32	30	250	45	22	40	
	**A40T HDUNR/L1305**	40	37	300	55	27	50	

Spare parts

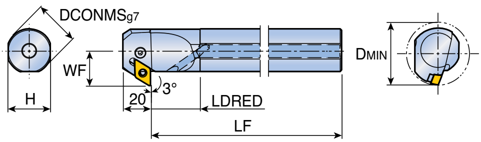
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...1305	LCL 11-NX	LCS 4S	LSD 3.52B	LSP 4	L-W 3			

S-HDZNR/L A-HDZNR/L

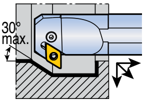
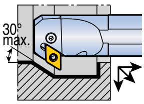
Hook lever type boring bars



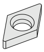
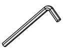
S-HDZNR



A-HDZNR

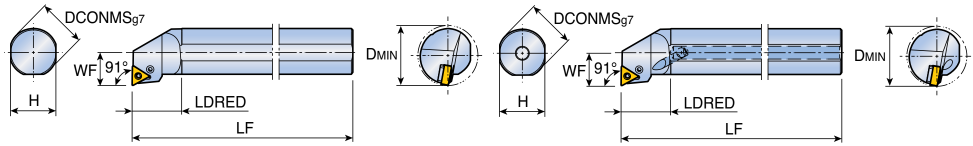
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93° 	**S32S HDZNR/L1305**	32	30	250	35	25	45	DN... 1305... A260-A265
	S40T HDZNR/L1305	40	37	300	40	29	50	
93° 	**A32S HDZNR/L1305**	32	30	250	35	25	45	
	A40T HDZNR/L1305	40	37	300	40	29	50	

Spare parts

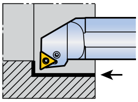
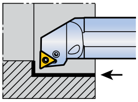
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
...1305	LCL 11-NX	LCS 4S	LSD 3.52B	LSP 4	L-W 3			

S-HTFNR/L A-HTFNR/L

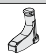
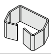
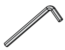
Hook lever type boring bars



S-HTFNR A-HTFNR

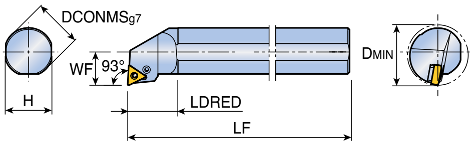
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**S16Q HTFNR/L 1304**	16	15	180	25	11	20	TN... 1304... A275-A280
	**S20Q HTFNR/L 1304**	20	18	180	28	13	25	
	S25R HTFNR/L 1304	25	23	200	33	17	32	
	S32S HTFNR/L 1304	32	30	250	33	22	40	
91°	**A16Q HTFNR/L 1304**	16	15	180	25	11	20	
	**A20Q HTFNR/L 1304**	20	18	180	28	13	25	
	A25R HTFNR/L 1304	25	23	200	33	17	32	
	A32S HTFNR/L 1304	32	30	250	33	22	40	

Spare parts

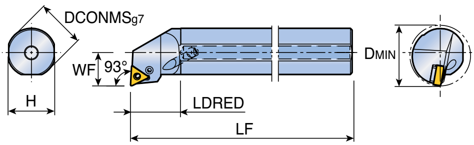
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
								
...1304	LCL 08B-NX	LCS 3B	-	-	LSR 3B	L-W 2		
...32S...1304	LCL 08-NX	LCS 3-NX	LST 2.51.8B	LSP 3B	-	L-W 2.5		

S-HTUNR/L A-HTUNR/L

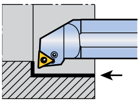
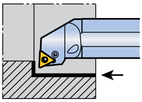
Hook lever type boring bars



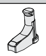
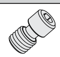
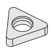
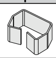
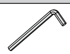
S-HTUNR



A-HTUNR

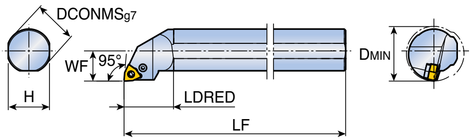
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S16Q HTUNR/L 1304**	16	15	180	25	11	20	TN... 1304... A275-A280
	**S20Q HTUNR/L 1304**	20	18	180	28	13	25	
	S25R HTUNR/L 1304	25	23	200	33	17	32	
	S32S HTUNR/L 1304	32	30	250	33	22	40	
93°	**A16Q HTUNR/L 1304**	16	15	180	25	11	20	
	**A20Q HTUNR/L 1304**	20	18	180	28	13	25	
	A25R HTUNR/L 1304	25	23	200	33	17	32	
	A32S HTUNR/L 1304	32	30	250	33	22	40	

Spare parts

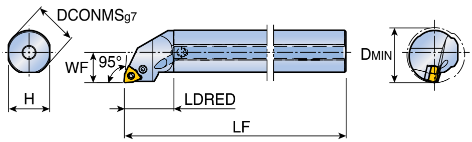
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
								
...1304	LCL 08B-NX	LCS 3B	-	-	LSR 3B	L-W 2		
...32S...1304	LCL 08-NX	LCS 3-NX	LST 2.51.8B	LSP 3B	-	L-W 2.5		

S-HWLNR/L A-HWLNR/L

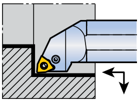
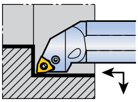
Hook lever type boring bars



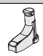
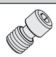
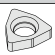
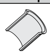
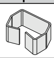
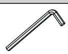
S-HWLNR



A-HWLNR

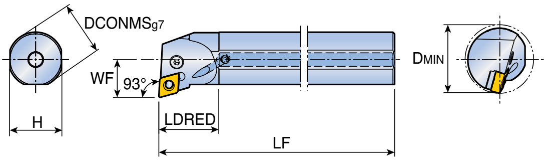
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	S16Q HWLNR/L 0604	16	15	180	30	11	20	WN...X 0604... RHINO TURN A287, A288
	S20Q HWLNR/L 0604	20	18	180	33	13	25	
	S25R HWLNR/L 0604	25	23	200	36	17	32	
	S32S HWLNR/L 0604	32	30	250	36	22	40	
95°	A16Q HWLNR/L 0604	16	15	180	30	11	20	
	A20Q HWLNR/L 0604	20	18	180	33	13	25	
	A25R HWLNR/L 0604	25	23	200	36	17	32	
	A32S HWLNR/L 0604	32	30	250	36	22	40	

Spare parts

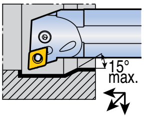
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
								
...0604	LCL 09B-NX	LCS 3B	-	-	LSR 3B	L-W 2		
...32S ...0604	LCL 09-NX	LCS 3	LSW 32	LSP 3A	-	L-W 2.5		

A-HXUNR/L

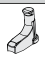
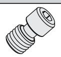
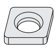
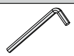
Hook lever type boring bars



A-HXUNR

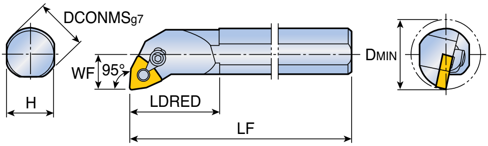
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**A32S HXUNR/L 1105**	32	30	250	35	22	40	XNMG 1105...
								A289

Spare parts

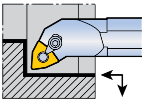
Designation	Lever	Lever screw	Shim	Shim pin	Wrench			
								
...1105	LCL 11-NX	LCS 4S	LSX 3.52B	LSP 4	L-W 3			

S-MWLNR/L

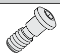
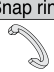
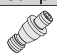
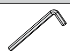
Multi lock type boring bars



S-MWLNR

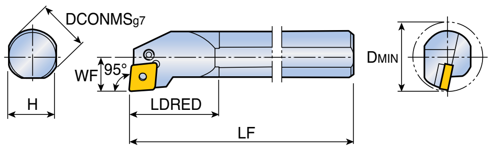
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S25R MWLNR/L 08**	25	23	200	42	17	32	WN... 0804...
	**S32S MWLNR/L 08**	32	30	250	45	22	44	A284-A287, A333, A342

Spare parts

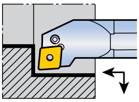
Designation	Clamp	Screw	Snap ring	Lock pin	Wrench			
								
...08	CL 2	CLS 2	CSR 2	MLP 4S	L-W 2.5			

S-PCLNR/L

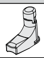
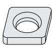
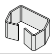
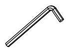
Lever lock type boring bars



S-PCLNR

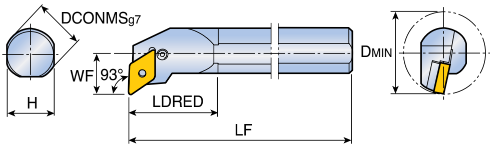
Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
95°	**S25T PCLNR/L12**	25	23	300	40	17	32	CN...1204...	A250-A259, A324, A325, A336
	**S32T PCLNR/L12**	32	30	300	45	22	40		
	S40T PCLNR/L12	40	37	300	55	27	50		
	S50U PCLNR/L12	50	47	350	70	35	63		
	S50U PCLNR/L16	50	47	350	70	35	63	CN...1606...	
	S50U PCLNR/L19	50	47	350	70	35	63	CN...1906...	

Spare parts

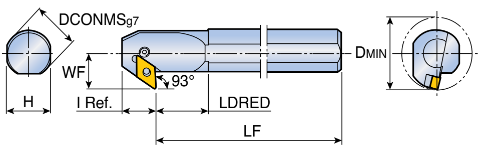
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
								
S25T...12	LCL 4B	LCS 4B	-	-	LSR 4B	L-W 2.5		
S32 ...12	LCL 4	LCS 4S	LSC 42	LSP 4	-	L-W 3		
...12	LCL 4	LCS 4	LSC 42	LSP 4	-	L-W 3		
...16	LCL 5	LCS 5	LSC 53	LSP 5	-	L-W 3		
...19	LCL 6D	LCS 6	LSC 63	LSP 6	-	L-W 4		

S-PDUNR/L S-PDZNR/L

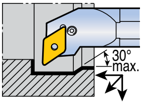
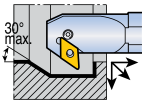
Lever lock type boring bars



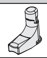
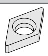
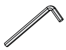
S-PDUNR



S-PDZNR

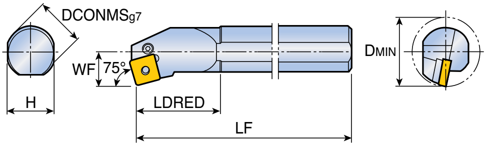
Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	LDRED	WF	I	DMIN	
93°	**S32T PDUNR/L 15**	32	30	300	45	22	-	40	DN...1506... A260-A265, A326, A337
	**S40T PDUNR/L 15**	40	37	300	55	27	-	50	
	S50U PDUNR/L 15	50	47	350	70	35	-	63	
	S32T PDUNR/L 15-A	32	30	300	45	22	-	40	DN...1504...
93°	**S32T PDZNR/L 15**	32	30	300	29.5	25	26	45	DN...1506...
 For back boring	**S40T PDZNR/L 15**	40	37	300	35	29	26	50	
	S50U PDZNR/L 15	50	47	350	45	35	27	63	

Spare parts

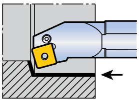
Designation	Lever	Screw	Shim	Shim pin	Wrench			
								
S32T ...15	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			
S40T PDZ...15	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			
...15	LCL 4A	LCS 4	LSD 42	LSP 4	L-W 3			
...15-A	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			

S-PSKNR/L

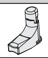
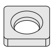
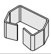
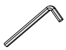
Lever lock type boring bars



S-PSKNR

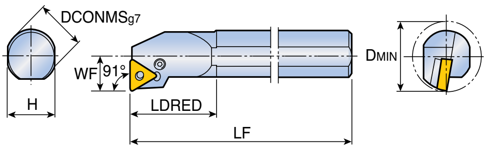
Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
75°	**S25T PSKNR/L12**	25	23	300	39	17	32	SN...1204...	A268-A274, A329, A330, A339
	**S32T PSKNR/L12**	32	30	300	45	22	40		
	S40T PSKNR/L12	40	37	300	55	27	50		
	S50U PSKNR/L19	50	47	350	66	35	63	SN...1906...	

Spare parts

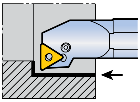
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
								
S25T...12	LCL 4B	LCS 4B	-	-	LSR 4B	L-W 2.5		
S32T...12	LCL 4	LCS 4S	LSS 42	LSP 4	-	L-W 3		
S40T...12	LCL 4	LCS 4	LSS 42	LSP 4	-	L-W 3		
...19	LCL 6D	LCS 6	LSS 63	LSP 6	-	L-W 4		

S-PTFNR/L

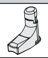
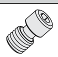
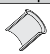
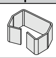
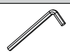
Lever lock type boring bars



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...	A275-A280, A332, A340
	S25T PTFNR/L16	25	23	300	40	17	32	TN... 1604...	
	S32T PTFNR/L16	32	30	300	45	22	40		
	S40T PTFNR/L16	40	37	300	60	27	50		
	S50U PTFNR/L16	50	47	350	70	35	63		
	S40T PTFNR/L22	40	37	300	70	27	50	TN... 2204...	
	S50U PTFNR/L22	50	47	350	70	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

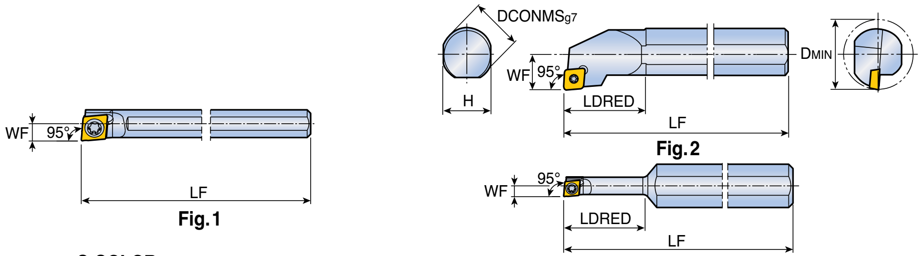
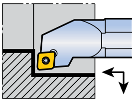


Fig.1

S-SCLCR

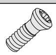
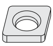
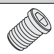
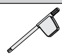
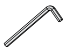
Fig.2

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... A292-A295, A343
	**S05G SCLCR/L 03-D06**	5	4.75	90	-	3	6	1	
	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

Screw type boring bars

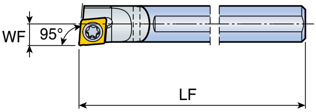


Fig.1

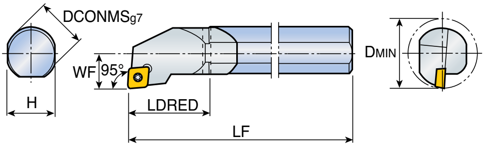
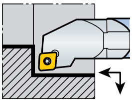


Fig.2

C-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	20	9	16	2	
	✓ **C12M SCLCR/L 09**	12	11	150	20	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	

A292-A295, A343

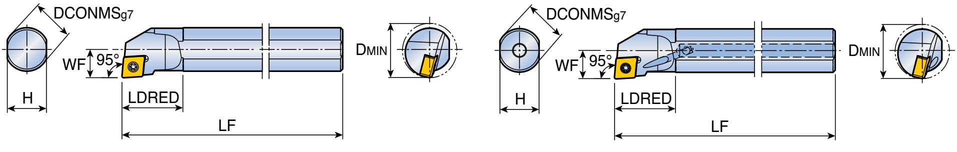
- ✓ Marked: Designates carbide shank
- L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

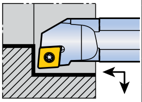
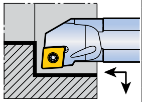
Spare parts

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-SCLNR/L A-SCLNR/L

Screw type boring bars



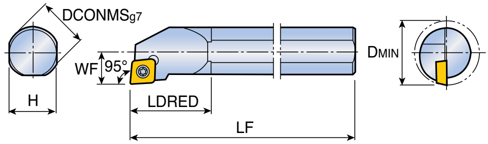
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95° 	**S16Q SCLNR/L 0904**	16	15	180	25	11	20	CN... 0904... RHINOTURN A250-A257
	S20Q SCLNR/L 0904	20	18	180	28	13	25	
	S20Q SCLNR/L 0904-D20	20	18	180	40	11	20	
95° 	**A12M SCLNR/L 0703**	12	11	150	21.5	9	16	CNMX 0703... RHINOMTURN A259
	A16Q SCLNR/L 0703	16	15	180	24.5	11	20	
	A16Q SCLNR/L 0904	16	15	180	25	11	20	CN... 0904... RHINOTURN A250-A257
	A20Q SCLNR/L 0904	20	18	180	28	13	25	

Spare parts

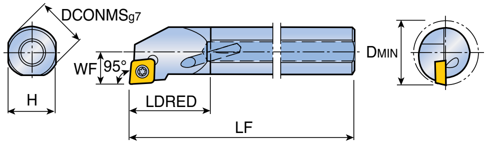
Designation	Screw	Wrench
		
...0904	TS 35083I/HG	T 10
...0703	TS 25D060/HG-P	T 7P

S-SCLPR/L A-SCLPR/L

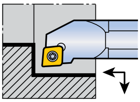
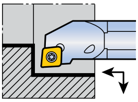
Screw type boring bars



S-SCLPR

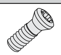
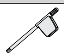


A-SCLPR

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... A296
	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	21.5	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	20	11	20	
	A20R SCLPR/L 09T3	20	18	200	22	13	25	

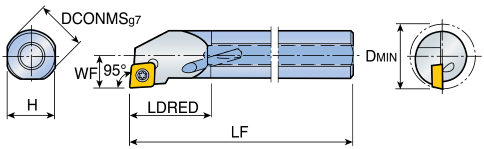
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

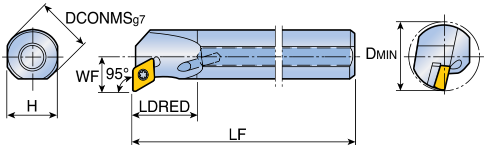
Designation	Screw	Wrench						
								
...06	SO 25050I	T 7						
...08	SO 30055I	T 9						
...09	SO 35080I	T 15						
...0903, 09T3	TS 35070I/HG	T 15						

E-SCLPR/L A-SDLNR/L

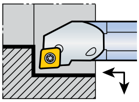
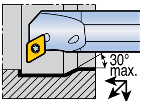
Screw type boring bars



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... A296
	✓ 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	21.7	11	20	
	✓ E12M SCLPR/L 09T3	12	11	150	19	9	16	CP...T 09T3...
	✓ E16R SCLPR/L 09T3	16	15	200	21.5	11	20	
95°  30° max.	A20S SDLNR/L 11	20	18	250	31	13	24	DN...1104... A260-A265
	A25T SDLNR/L 11	25	23	300	30	17	31	

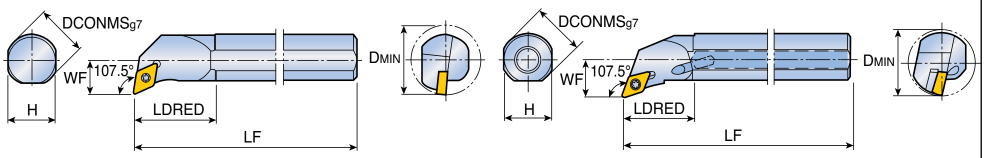
• ✓ Marked: Designates carbide shank • L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

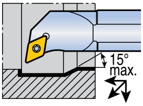
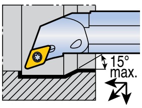
Designation	Screw	Shim	Shim screw	Wrench		Seal
...06	SO 25050I	-	-	T 7	-	-
...09	TS 35070I/HG	-	-	T 15	-	-
A20S...11	SO 35120I	-	-	T 10	-	PL 20
A25T ...11	SO 35120I	SSD 32	SO 50090S	T 10	L-W 3.5	PL 25

S-SDQCR/L A-SDQNR/L

Screw type boring bars

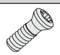
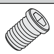
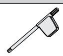
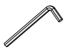
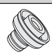


S-SDQCR A-SDQNR

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...
	**S12M SDQCR/L 07**	12	11	150	22	9	16	A297-A300, A344
	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...
	**A20S SDQNR/L 11**	20	18	250	31	15	27	A260-A265
	A25T SDQNR/L 11	25	23	300	35	19	33	
	A32T SDQNR/L 11	32	30	300	44	26	44	

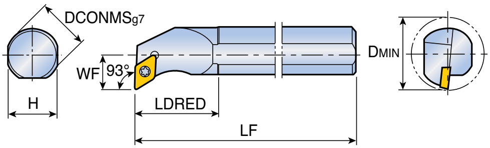
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

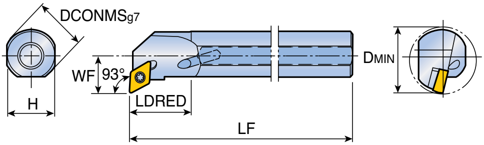
Designation	Screw	Shim	Shim screw	Wrench		Seal		
								
S10 ...07	SO 25050I	-	-	T 7	-	-		
S ...07	SO 25065I	-	-	T 7	-	-		
S ...11	SO 35080I	-	-	T 15	-	-		
A16S...11	SO 35120I	-	-	T 10	-	PL 16		
A20S...11	SO 35120I	SSD 32	SO 50090S	T 10	L-W 3.5	PL 20		
A25T...11	SO 35120I	SSD 32	SO 50090S	T 10	L-W 3.5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

S-SDUCR/L A-SDUNR/L

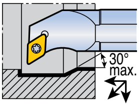
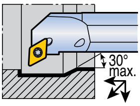
Screw type boring bars



S-SDUCR

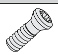
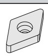
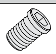
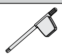
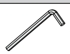
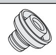


A-SDUNR

Approach angle	Designation	DCONMS	H	LF	LDRED	WF	DMIN	Insert
93°	**S10K SDUCR/L 07**	10	9	125	20	7	13	DC... 0702... A297-A300, A344
	**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°	**A12M SDUNR/L 0803**	12	11	150	21.5	9	16	DN...X 0803... RHINO TURN A265
	**A16Q SDUNR/L 0803**	16	15	180	24.5	11	20	
	A20S SDUNR/L 11	20	18	250	30	15	27	DN... 1104... A260-A265
	A25T SDUNR/L 11	25	23	300	30	19	33	
	A32T SDUNR/L 11	32	30	300	44	26	44	

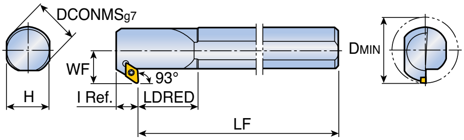
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

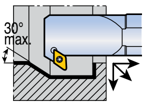
Designation	Screw	Shim	Shim screw	Wrench		Seal		
								
S ...07	SO 25065I	-	-	T 7	-	-		
S ...11	SO 35080I	-	-	T 15	-	-		
A20S...11	SO 35120I	-	-	T 10	-	PL 20		
A25T...11	SO 35120I	SSD 32	SO 50090S	T 10	L-W 3.5	PL 25		
A32T...11	SO 35120I	SSD 32	SO 50090S	T 10	L-W 3.5	PL 32		
...0803	TS 25D060/HG-P	-	-	T 7P	-	-		

S-SDZCR/L

Screw type back boring bars

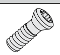
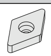
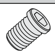
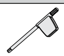
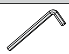


S-SDZCR

Approach angle	Designation	Dimension (mm)							Insert
		DCONMS	H	LF	LDRED	WF	I	DMIN	
93°	**S16R SDZCR/L 07**	16	15	200	23	13	12	22	DC... 0702...
	**S20S SDZCR/L 07**	20	18	250	28	15	12	30	A297-A300, A344
	S25T SDZCR/L 07	25	23	300	33	18	12	33	
	S20S SDZCR/L 11	20	18	250	24	15	16	27	DC... 11T3...
For back boring	**S32T SDZCR/L 11**	32	30	300	34	22	16	40	

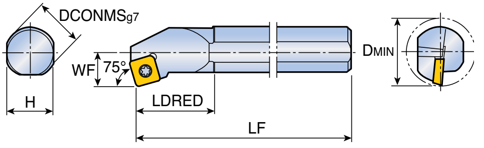
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

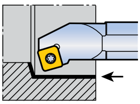
Designation	Screw	Shim	Shim screw	Wrench				
								
...07	SO 25065I	-	-	T 7	-			
S20S ...11	SO 35080I	-	-	T 15	-			
S32T ...11	SO 35124I	SSD 32	SO 50090S	T 15	L-W 3.5			

S-SSKCR/L

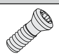
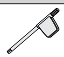
Screw type boring bars



S-SSKCR

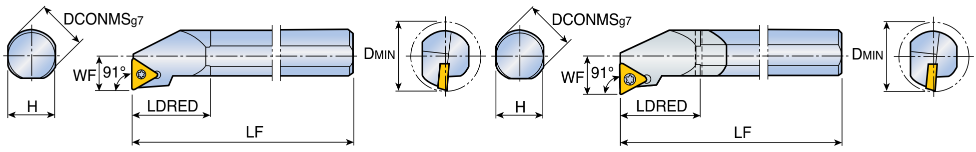
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
75°	**S16R SSKCR/L 09**	16	15	200	28	11	20	SC... 09T3... A304, A346
	S20S SSKCR/L 09	20	18	250	30	13	25	
	**S25T SSKCR/L 12**	25	23	300	39	17	32	SC...T 1204... A304

Spare parts

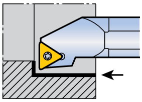
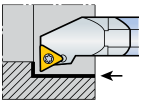
Designation	Screw	Wrench						
								
...09	SO 35080I	T 15						
...12	SO 45100I	T 20						

S-STFCR/L C-STFCR/L

Screw type boring bars

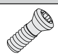
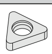
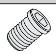
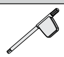
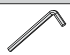


S-STFCR C-STFCR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**S06H STFCR/L 06T1**	6	5.4	100	12	4.5	8	TC...T 06T1...
	**S08K STFCR/L 09**	8	7	125	20	6	11	TC... 0902... A307, A308, A347, A348
	S10K STFCR/L 09	10	9	125	22.5	7	13	
	S12M STFCR/L 09	12	11	150	30	9	16	
	S16R STFCR/L 09	16	15	200	35	11	20	
	S12M STFCR/L 11	12	11	150	25	9	16	TC... 1102...
	S16R STFCR/L 11	16	15	200	35	11	20	
	S20S STFCR/L 11	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/L 11**	10	9	125	15	7	13	TC... 1102...
	✓ **C12M STFCR/L 11**	12	11	150	20	9	16	
	✓ **C16R STFCR/L 11**	16	15	200	25	11	20	

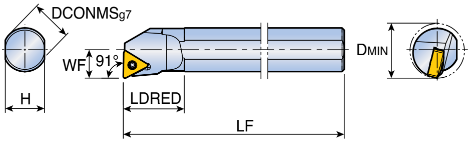
- ✓ Marked: Designates carbide shank
- L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

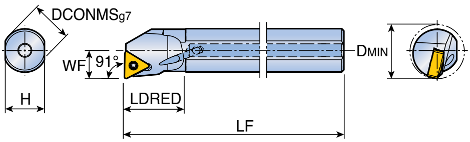
Designation	Screw	Shim	Shim screw	Wrench				
								
...06T1	TS 20038I	-	-	T 6	-			
S08K...09	TS 22046I	-	-	T 7	-			
...09	SO 22050I	-	-	T 7	-			
...11	SO 25065I	-	-	T 7	-			
C10K...11	SO 25050I	-	-	T 7	-			
S20S ...16	SO 35080I	-	-	T 15	-			
S25T ...16	SO 35080I	-	-	T 15	-			
S32T ...16	SO 35124I	SST 32	SO 50090S	T 15	L-W 3.5			
S40T ...16	SO 35124I	SST 32	SO 50090S	T 15	L-W 3.5			

S-STFNR/L A-STFNR/L

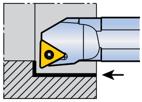
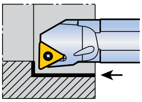
Screw type boring bars



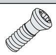
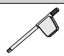
S-STFNR



A-STFNR

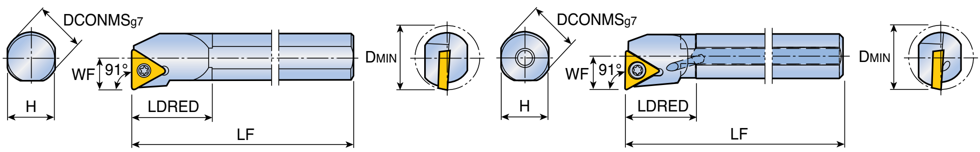
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**S16Q STFNR/L 1304**	16	15	180	25	11	20	TN... 1304...
	**S20Q STFNR/L 1304**	20	18	180	28	13	25	A275-A280
91°	**A16Q STFNR/L 1304**	16	15	180	25	11	20	
	**A20Q STFNR/L 1304**	20	18	180	28	13	25	

Spare parts

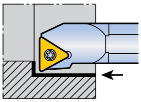
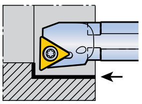
Designation	Screw	Wrench					
							
...1304	TS 30080I/HG	T 9					

S-STFPR/L A-STFPR/L

Screw type boring bars

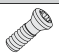
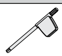


S-STFPR A-STFPR

Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
91°	**S08K STFPR/L 09-X01**	8	7	125	15	6	11	TPGX 0902...	
	**S08K STFPR/L 09**	8	7	125	14	6	11	TP...T 0902...	A309, A310,
	S10K STFPR/L 11	10	9	125	25	6	12	TP...T 1103...	A311, A347
	S12M STFPR/L 11	12	11	150	30	8	16		
	S16R STFPR/L 11	16	15	200	35	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	7	13	TP...T1102...	
	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...T1103...	
	A16Q STFPR/L 1103	16	15	180	20.5	11	20		
	A20R STFPR/L 16T3	20	18	200	26	13	25	TP...T 16T3...	

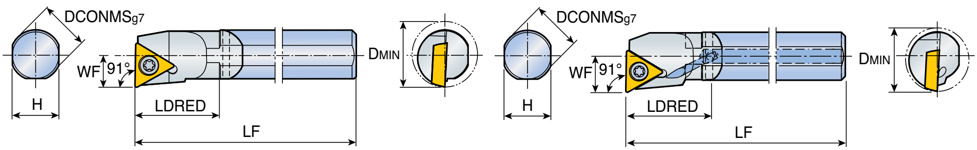
• TPGX type inserts are available with alternate screw. (TPGX 1103 → SO 30081I)
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

Designation	Screw	Wrench					
							
...09-X01	SO 25061I	T 8					
...09	TS 22046I	T 7					
S10 ...11	SO 30055I	T 9					
...11	SO 30100I	T 9					
S16R...11	SO 30040I	T 9					
...1102	SO 25050I	T 7					
...1103	SO 30100I	T 9					
...16T3	TS 35070I/HG	T 15					
...16	SO 35124I	T 15					

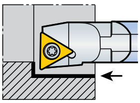
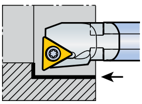
C-STFPR/L E-STFPR/L

Screw type boring bars



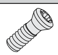
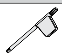
C-STFPR

E-STFPR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91° 	✓ **C10K STFPR/L 11**	10	9	125	15	6	12	TPGT 1103... A309-A311, A347
	✓ **C12M STFPR/L 11**	12	11	150	20	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...T 1103...
	✓ **E16R STFPR/L 1103**	16	15	200	22	11	20	

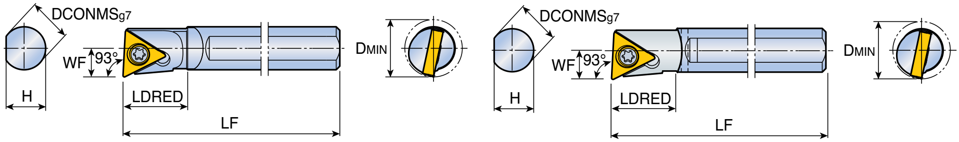
- ✓ Marked: Designates carbide shank
- L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

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

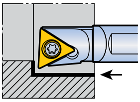
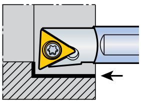
S-STUBR/L   C-STUBR/L

Screw type boring bars



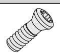
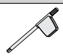
S-STUBR

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... A306
								
93°	✓ **C06J STUBR/L 06-D08**	6	5.5	110	8.6	4	8	
								

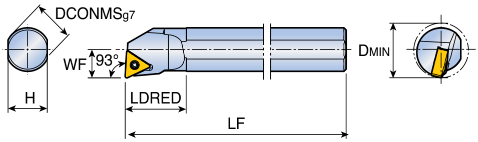
• ✓ Marked: Designates carbide shank • L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

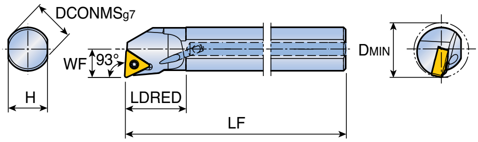
Designation	Screw	Wrench						
								
...06-D08	TS 20043I/HG-P	T 6P						

S-STUNR/L A-STUNR/L

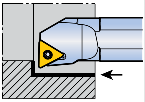
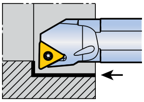
Screw type boring bars



S-STUNR



A-STUNR

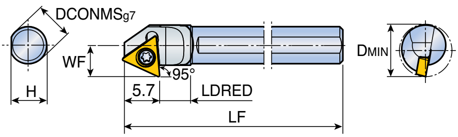
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S16Q STUNR/L 1304**	16	15	180	25	11	20	TN... 1304...
	**S20Q STUNR/L 1304**	20	18	180	28	13	25	RHINO TURN A275-A280
93°	**A16Q STUNR/L 1304**	16	15	180	25	11	20	
	**A20Q STUNR/L 1304**	20	18	180	28	13	25	

Spare parts

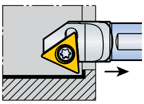
Designation	Screw	Wrench					
							
...1304	TS 30080I/HG	T 9					

C-STZBR/L

Screw type boring bars

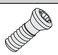
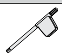


C-STZBR

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... A306
								

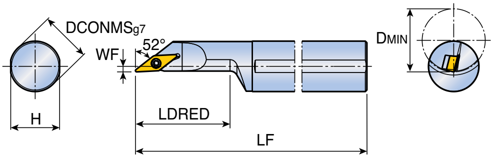
• ✓ Marked: Designates carbide shank

Spare parts

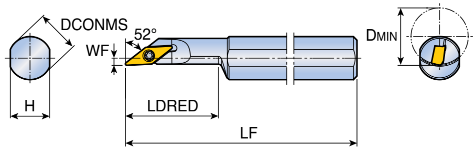
Designation	Screw	Wrench						
								
...06-D085	SO 25043I	T 6P						

S-SVJBR/L S-SVJCR/L

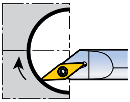
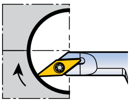
Screw type boring bars



S-SVJBR

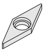
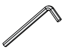


S-SVJCR

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...
	S25S SVJBR/L 11-D30	25	23	250	45	3.5	30	A313, A314, A349
	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...
	S16Q SVJCR/L 08-D20	16	15	180	36	2	20	A316

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

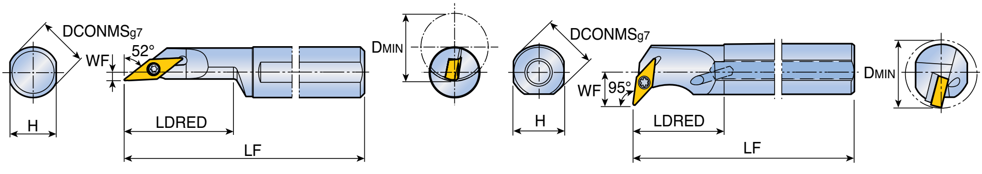
Spare parts

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			

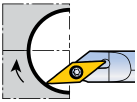
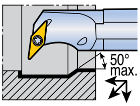
S-SVJPR/L   A-SVLNR/L

T-TURN

Screw type boring bars

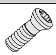
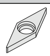
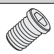
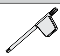
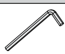
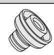


S-SVJPR   A-SVLNR

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...	A317
									
95°	**A25T SVLNR/L 1304**	25	23	300	40	16	31	VN...X 1304...	A281, A283, A289
	A32T SVLNR/L 1304	32	30	300	45	20	38	YNMG 1304... RHINO TURN	
 50° max.	**A25T SVLNR/L 13**	25	23	300	40	16	31	VN... 13...	A281, A282, A333, A341
	A32T SVLNR/L 13	32	30	300	45	20	38		

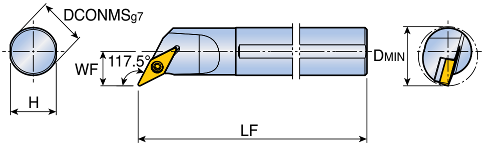
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

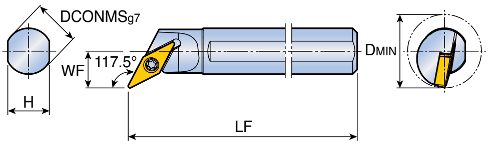
Designation	Screw	Shim	Shim screw	Wrench		Seal		
								
S...08-D16	TS 20043I/HG-P	-	-	T 6P	-	-		
A..1304	TS 30120I/HG	SSVN 2.523	TS 5030062S	T 9	L-W 3.5	-		
A25T...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	L-W 3.5	PL 25		
A32T...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	L-W 3.5	PL 32		

S-SVPBR/L S-SVPCR/L

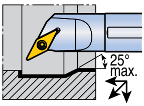
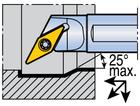
Screw type boring bars



S-SVPBR

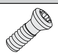
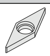
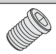
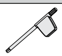
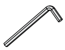


S-SVPCR

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...
	**S20R SVPBR/L 11-D26**	20	18	200	41	15.5	26	A313, A314, A349
	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...
	**S12M SVPCR/L 11-D20**	12	11	150	19	10	20	VC...T 1103... A315, A316, A349

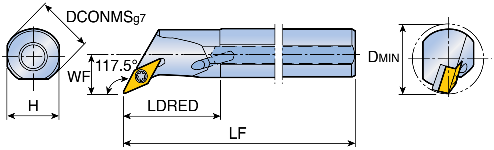
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

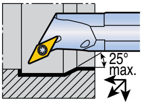
Designation	Screw	Shim	Shim screw	Wrench				
								
...08-...	TS 20038I/HG-P	-	-	T 6P	-			
...11-...	SO 25065I	-	-	T 7	-			
...16	SO 35124I	SSV32	SO 50090S	T 15	L-W 3.5			

A-SVPNR/L

Screw type boring bars



A-SVPNR

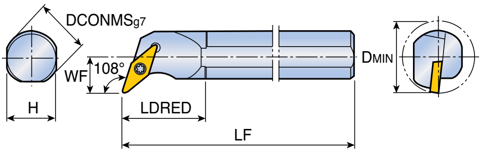
Approach angle	Designation	Dimension (mm)						Insert	
		DCONMS	H	LF	LDRED	WF	DMIN		
117.5°	**A25T SVPNR/L 1304**	25	23	300	45	19	33	VN...X 1304...	A281, A283, A289
 25° max.	**A32T SVPNR/L 1304**	32	30	300	47	26	44	YNMG 1304... RHINO TURN	
	A25T SVPNR/L 13	25	23	300	45	19	33	VN... 13...	A281, A282, A333, A341
	A32T SVPNR/L 13	32	30	300	47	26	44		

Spare parts

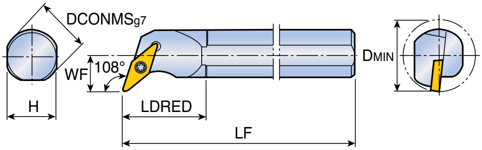
Designation	Screw	Shim	Shim screw	Wrench		Seal		
A..1304	TS 30120I/HG	SSVN 2.523	TS 5030062S	T 9	L-W 3.5	-		
A25T...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	L-W 3.5	PL 25		
A32T...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	L-W 3.5	PL 32		

S-SVQBR/L S-SVQCR/L

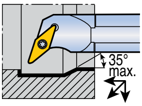
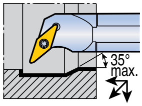
Screw type boring bars



S-SVQBR

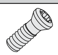
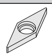
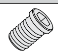
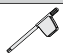
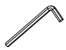


S-SVQCR

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... A313, A314, A349
	S32T SVQBR/L 16	32	30	300	45	22	40	
	S40T SVQBR/L 16	40	37	300	55	27	50	
108° 	**S32T SVQCR/L 16**	32	30	300	45	22	40	VC...T 1604... A315, A316, A349
	S40T SVQCR/L 16	40	37	300	55	27	50	

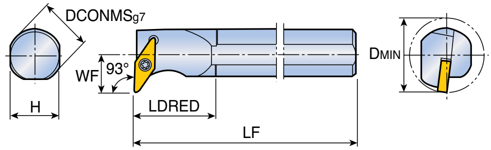
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

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

S-SVUBR/L S-SVUCR/L

Screw type boring bars



S-SVUBR

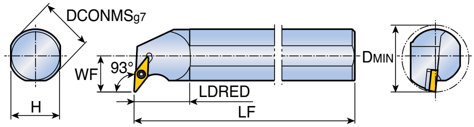


Fig.1

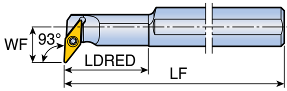
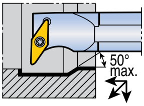
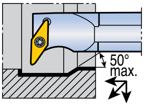


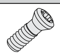
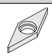
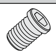
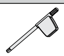
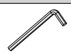
Fig.2

S-SVUCR

Approach angle	Designation	Dimension (mm)						Fig.	Insert
		DCONMS	H	LF	LDRED	WF	DMIN		
93°	**S32T SVUBR/L 16**	32	30	300	45	22	40		VB... 1604... A313, A314, A349
 50° max.	**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...
 50° max.	**S16Q SVUCR/L 11-D20**	16	15	180	32	15.5	20	2	VC...T 1103... A315, A316, A349
	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	27	50	1	

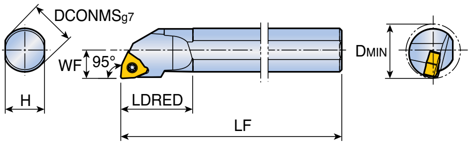
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

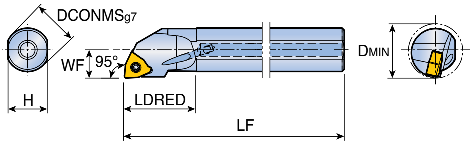
Designation	Screw	Shim	Shim screw	Wrench				
								
...08-...	TS 20038I/HG-P	-	-	T 6P	-			
...11-...	SO 25065I	-	-	T 7	-			
...16	SO 35124I	SSV 32	SO 50090S	T 15	L-W 3.5			

S-SWLNR/L A-SWLNR/L

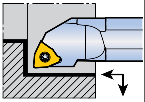
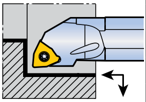
Screw type boring bars



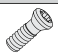
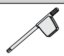
S-SWLNR



A-SWLNR

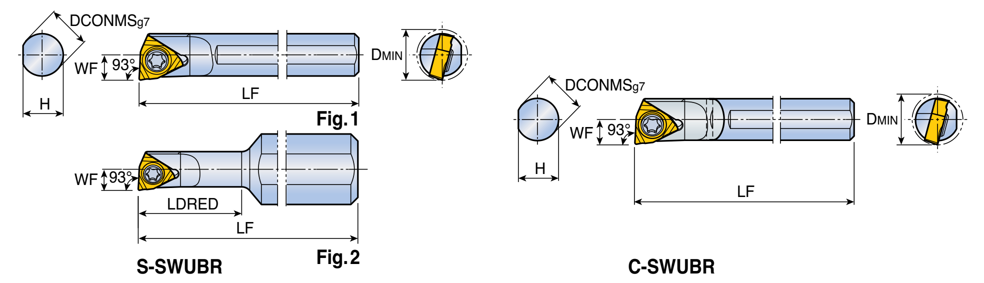
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95° 	**S16Q SWLNR/L 0604**	16	15	180	30	11	20	WN...X 0604... RHINO TURN A287, A288
	S20Q SWLNR/L 0604	20	18	180	33	13	25	
95° 	**A12M SWLNR/L 0403**	12	11	150	21.5	9	16	WNMX 0403... RHINO M TURN
	A16Q SWLNR/L 0403	16	15	180	24.5	11	20	
	A16Q SWLNR/L 0604	16	15	180	30	11	20	WNMX 0604.. RHINO TURN
	A20Q SWLNR/L 0604	20	18	180	33	13	25	

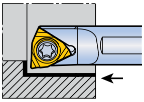
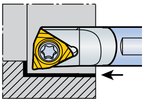
Spare parts

Designation	Screw	Wrench
		
...0604	TS 35083I/HG	T 10
...0403	TS 25D060/HG-P	T 7P

S-SWUBR/L C-SWUBR/L

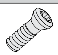
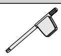
Screw type boring bars



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... A318
	**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		

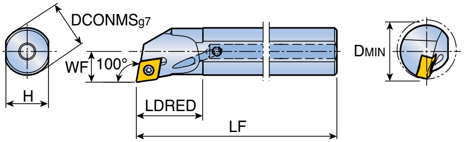
- ✓ Marked: Designates carbide shank
- L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

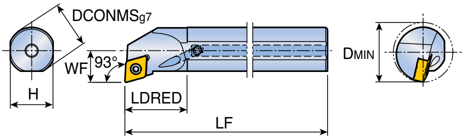
Designation	Screw	Wrench						
								
...06-...	TS 20038I/HG-P	T 6P						

A-SXQNR/L A-SXUNR/L

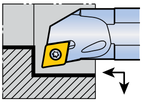
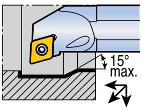
Screw type boring bars



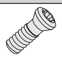
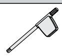
A-SXQNR



A-SXUNR

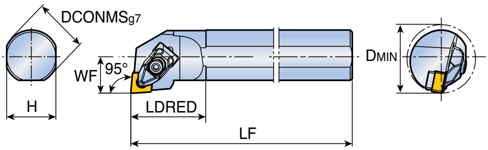
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
100°	**A16Q SXQNR/L 0904**	16	15	180	24.5	11	20	XNMG 0904...
	**A20Q SXQNR/L 0904**	20	18	180	28	13	25	
	A20Q SXQNR/L 1105	20	18	180	28	13	25	XNMG 1105... A289
93°	**A25R SXUNR/L 1105**	25	23	200	33.4	17	32	
 15° max.								

Spare parts

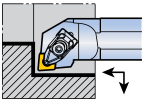
Designation	Screw	Wrench					
							
...0904	TS 30080I/HG	T 9					
...1105	TS 40G110I	T 15					

S-TCLNR/L

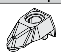
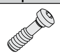
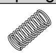
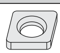
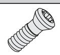
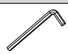
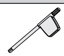
T-holder type boring bars



S-TCLNR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S25R TCLNR/L 0904**	25	23	200	35	17	32	CN... 0904...
	**S32S TCLNR/L 0904**	32	30	250	35	22	40	RHINO TURN
	S40T TCLNR/L 0904	40	37	300	45	27	50	A250-A257

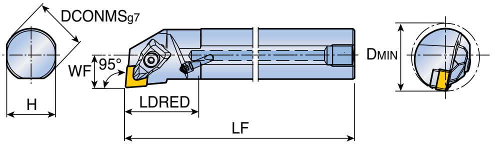
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench		
								
S25R ...0904	DLM 3-NX	DLS 3	DSP 3	LSC 32	SO 40073I	L-W 2.5	T 15	
S32S,S40T...0904	DLM 3-NX	DLS 3	DSP 3	LSC 32	SO 40085I	L-W 2.5	T 15	

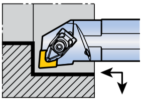
A-TCLNR/L

T-TURN

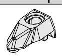
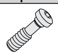
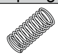
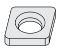
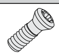
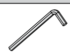
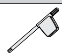
T-holder type boring bars



A-TCLNR

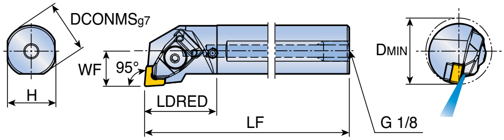
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**A25R TCLNR/L 0904**	25	23	200	35	17	32	CN... 0904...
	**A32S TCLNR/L 0904**	32	30	250	35	22	40	RHINO TURN
	A25T TCLNR/L 12	25	23	300	45	17	32	CN... 1204...
	A32T TCLNR/L 12	32	30	300	45	22	40	
	A40T TCLNR/L 12	40	37	300	45	27	50	A250-A257
	A50U TCLNR/L 12	50	47	350	45	35	63	

Spare parts

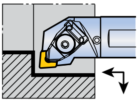
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
								
A25R...0904	DLM 3-NX	DLS 3	DSP 3	LSC 32	SO 40073I	NZ 62	L-W 2.5	T 15
A32S...0904	DLM 3-NX	DLS 3	DSP 3	LSC 32	SO 40085I	NZ 62	L-W 2.5	T 15
A25T...12	DLM 4	DLS 4	DSP 4	LSC 42	TS 50A105I	NZ 62	L-W 3	T 20
A32T...12	DLM 4	DLS 4	DSP 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-TCLNR/L-TB

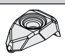
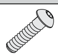
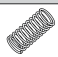
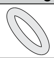
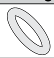
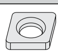
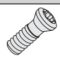
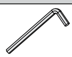
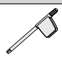
T-holder type boring bars with high pressure coolant



A-TCLNR-TB

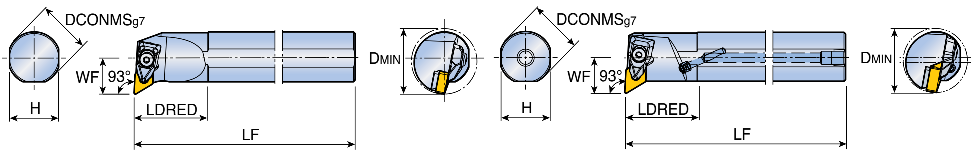
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**A25R TCLNR/L 0904-TB**	25	23	200	35	17	32	CN... 0904…
	**A32S TCLNR/L 0904-TB**	32	30	250	35	22	40	A250-A257

Spare parts

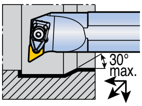
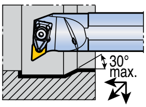
Designation	Clamp	Clamp screw	Spring	Upper O-ring	Lower O-ring	Shim	Shim screw	Wrench	
									
A-TCLNR/L-TB	DLM 3-NX-TB	BH M4x0.7x 16-TB	DSP 3	O-RING ID4.47x 1.78	O-RING ID6.07x 1.78	LSC 32	SO 40073I	L-W 3	T 15

S-TDUNR/L A-TDUNR/L

T-holder type boring bars



S-TDUNR A-TDUNR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S32S TDUNR/L 1305**	32	30	250	45	22	40	DN... 1305... RHINO TURN A260-A265, A326, A337
 30° max.	**S40T TDUNR/L 1305**	40	37	300	55	27	50	
93°	**A32S TDUNR/L 1305**	32	30	250	45	22	40	DN... 1305... RHINO TURN
 30° max.	**A40T TDUNR/L 1305**	40	37	300	55	27	50	
	A32T TDUNR/L 15	32	30	300	45	22	40	DN... 1506...
	A40T TDUNR/L 15	40	37	300	45	27	50	
	A50U TDUNR/L 15	50	47	350	45	35	63	

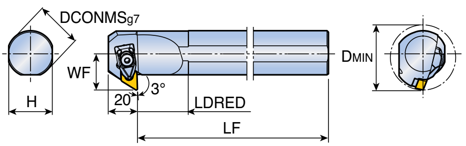
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
S ...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52B	TS 50A105I	-	L-W 3	T 20
A32S...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52B	TS 50A105I	NZ 62	L-W 3	T 20
A40T ...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52B	TS 50A105I	NZ 104	L-W 3	T 20
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

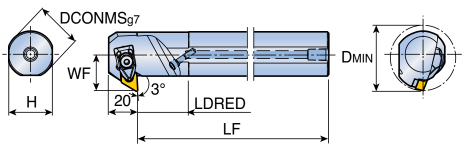
S-TDZNR/L A-TDZNR/L

T-TURN

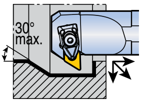
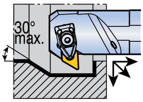
T-holder type boring bars



S-TDZNR



A-TDZNR

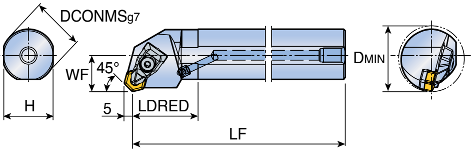
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S32S TDZNR/L 1305**	32	30	250	35	25	45	DN... 1305... RHINO TURN A260-A265
 30° max.	**S40T TDZNR/L 1305**	40	37	300	40	29	50	
93°	**A32S TDZNR/L 1305**	32	30	250	35	25	45	
 30° max.	**A40T TDZNR/L 1305**	40	37	300	40	29	50	

Spare parts

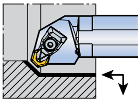
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
S ...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52B	TS 50A105I	-	L-W 3	T 20
A32S...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52B	TS 50A105I	NZ 62	L-W 3	T 20
A40T ...1305	DLM 3.5-NX	DLS 4	DSP 4	LSD 3.52B	TS 50A105I	NZ 104	L-W 3	T 20

A-THSNR/L

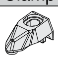
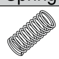
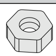
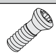
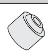
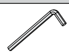
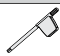
T-holder type boring bars



A-THSNR

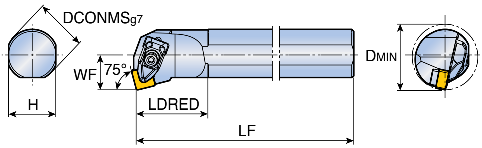
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
45° 	**A32T THSNR/L 05**	32	30	300	40	22	40	HN...G 0504... A266
	A40T THSNR/L 05	40	37	300	45	27	50	
	A50U THSNR/L 05	50	47	350	45	35	63	

Spare parts

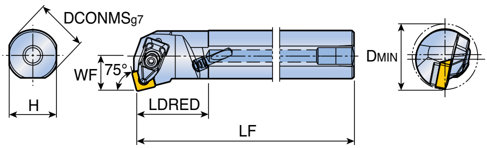
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
								
A32T ...05	DLM 4	DLS 4	DSP 4	TSH 42	SO 40050I	NZ 62	L-W 3	T 15
...05	DLM 4	DLS 4	DSP 4	TSH 44	SO 40050I	NZ 104	L-W 3	T 15

S-TSKNR/L A-TSKNR/L

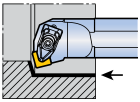
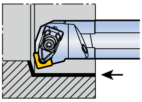
T-holder type boring bars



S-TSKNR

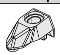
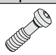
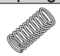
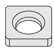
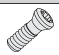
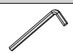
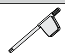


A-TSKNR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
75°	**S25R TSKNR/L 0904**	25	23	200	35	17	32	SN... 0904...
	**S32S TSKNR/L 0904**	32	30	250	35	22	40	 A270-A273
75°	**A25R TSKNR/L 0904**	25	23	200	35	17	32	SN... 0904...
	**A32S TSKNR/L 0904**	32	30	250	35	22	40	
	A25T TSKNR/L 12	25	23	300	45	17	32	SN... 1204...

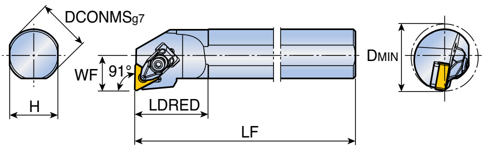
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

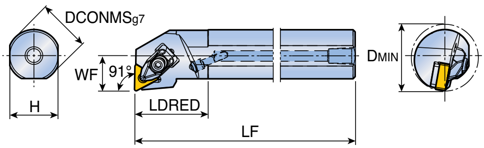
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
								
S25R...0904	DLM 3.5-NX	DLS 3	DSP 3	LSS 32	SO 40073I	-	L-W 2.5	T 15
S32S...0904	DLM 3.5-NX	DLS 3	DSP 3	LSS 32	SO 40085I	-	L-W 2.5	T 15
A25R...0904	DLM 3.5-NX	DLS 3	DSP 3	LSS 32	SO 40073I	NZ 62	L-W 2.5	T 15
A32S...0904	DLM 3.5-NX	DLS 3	DSP 3	LSS 32	SO 40085I	NZ 62	L-W 2.5	T 15
A25T...12	DLM 4	DLS 4	DSP 4	LSS 42	TS 50A105I	NZ 62	L-W 3	T 20

S-TTFNR/L   A-TTFNR/L

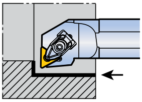
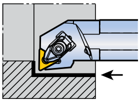
T-holder type boring bars



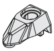
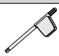
S-TTFNR



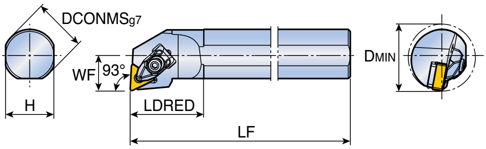
A-TTFNR

Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	S25R TTFNR/L 1304	25	23	200	35	17	32	TN... 1304...
	S32S TTFNR/L 1304	32	30	250	35	22	40	RHINO TURN A275-A280
91°	A25R TTFNR/L 1304	25	23	200	35	17	32	
	A32S TTFNR/L 1304	32	30	250	35	22	40	

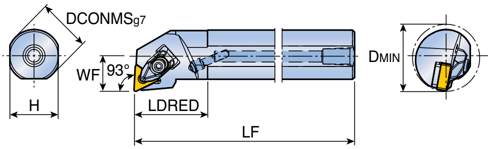
Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
								
S25R...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40073I	-	L-W 2.5	T 15
S32S...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40085I	-	L-W 2.5	T 15
A25R...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40073I	NZ 62	L-W 2.5	T 15
A32S...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40085I	NZ 62	L-W 2.5	T 15

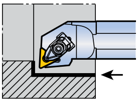
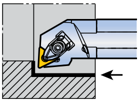
T-holder type boring bars



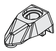
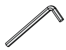
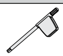
S-TTUNR



A-TTUNR

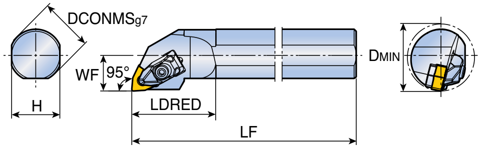
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
93°	**S25R TTUNR/L 1304**	25	23	200	35	17	32	TN... 1304...
	**S32S TTUNR/L 1304**	32	30	250	35	22	40	RHINOTURN A275-A280
93°	**A25R TTUNR/L 1304**	25	23	200	35	17	32	
	**A32S TTUNR/L 1304**	32	30	250	35	22	40	

Spare parts

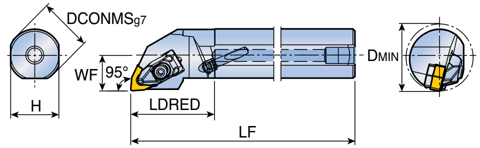
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
								
S25R...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40073I	-	L-W 2.5	T 15
S32S...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40085I	-	L-W 2.5	T 15
A25R...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40073I	NZ 62	L-W 2.5	T 15
A32S...1304	DLM 2.5-NX	DLS 3	DSP 3	LST 2.52B	SO 40085I	NZ 62	L-W 2.5	T 15

S-TWLNR/L A-TWLNR/L

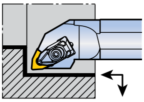
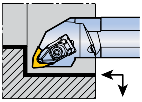
T-holder type boring bars



S-TWLNR



A-TWLNR

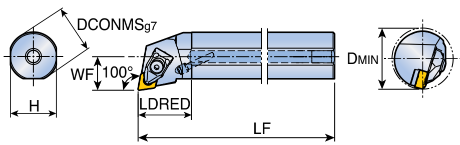
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S25R TWLNR/L 0604**	25	23	200	40	17	32	WN...X 0604...
	**S32S TWLNR/L 0604**	32	30	250	45	22	40	RHINO TURN A284-A288, A333, A342
	S25T TWLNR/L 08	25	23	300	35	17	32	WN... 0804...
	S32T TWLNR/L 08	32	30	300	45	22	40	
95°	**A25R TWLNR/L 0604**	25	23	200	40	17	32	WN...X 0604...
	**A32S TWLNR/L 0604**	32	30	250	45	22	40	RHINO TURN
	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

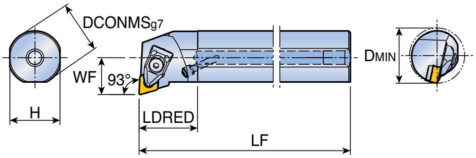
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
S25R...0604	DLM 3-NX	DLS 3	DSP 3	LSW 32	SO 40073I	-	L-W 2.5	T 15
S32S...0604	DLM 3-NX	DLS 3	DSP 3	LSW 32	SO 40085I	-	L-W 2.5	T 15
A25R...0604	DLM 3-NX	DLS 3	DSP 3	LSW 32	SO 40073I	NZ 62	L-W 2.5	T 15
A32S...0604	DLM 3-NX	DLS 3	DSP 3	LSW 32	SO 40085I	NZ 62	L-W 2.5	T 15
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-TXQNR/L A-TXUNR/L

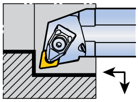
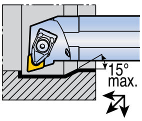
T-holder type boring bars



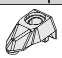
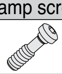
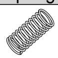
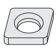
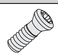
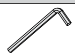
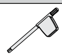
A-TXQNR



A-TXUNR

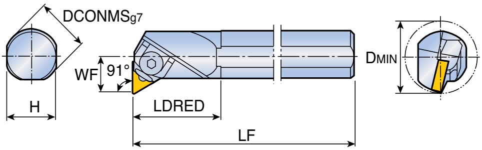
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
100°	**A25R TXQNR/L 1105**	25	23	200	33.4	17	32	XNMG 1105...
	**A32S TXQNR/L 1105**	32	30	250	35	22	40	A289
93°	**A32S TXUNR/L 1105**	32	30	250	35	22	40	
 15° max.								

Spare parts

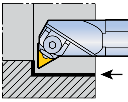
Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Nozzle	Wrench	
								
A25R...1105	DLM 3.5-NX	DLS 4	DSP 4	-	-	NZ 62	L-W 3	-
A32S...1105	DLM 3.5-NX	DLS 4	DSP 4	LSX 3.52B	TS 50A105I	NZ 62	L-W 3	T 20

S-WTFNR/L

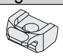
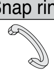
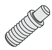
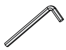
Wedge clamp type boring bars



S-WTFNR

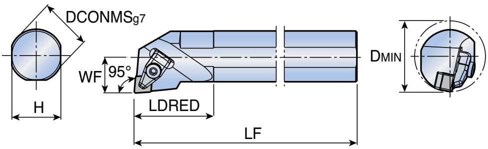
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
91°	**S25R WTFNR/L 1304**	25	23	200	40	17	32	TN... 1304...
	**S32S WTFNR/L 1304**	32	30	250	45	22	40	RHINO TURN A275-A280, A332, A340
	S25T WTFNR/L 16	25	23	300	50	17	32	TN... 1604...
	S32T WTFNR/L 16	32	30	300	55	22	40	
	S40T WTFNR/L 16	40	37	300	60	27	50	
	S40T WTFNR/L 22	40	37	300	60	27	50	TN... 2204...
	S50U WTFNR/L 22	50	47	350	65	35	63	

Spare parts

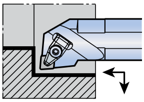
Designation	Wedge clamp	Screw	Snap ring	Shim	Pin screw	Wrench	
							
S25R...1304	WC 2.53	WCS 2.5	CSR 2	-	WSS 2.52-1	L-W 2.5	
S32S...1304	WC 2.53	WCS 2.5	CSR 2	WST 2.52	WSS 2.52	L-W 2.5	
S25T ...16	WC 33	WCS 4B	WSR 4	-	WSS 33-1	L-W 3	
...16	WC 33	WCS 4	WSR 4	WST 33	WSS 33	L-W 3	
...22	WC 43	WCS 4	WSR 4	WST 43	WSS 43	L-W 3	

S-TCLNR/L-CH

T-holder type boring bars for CH dimple insert



S-TCLNR-CH

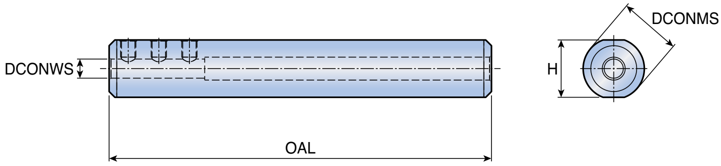
Approach angle	Designation	Dimension (mm)						Insert
		DCONMS	H	LF	LDRED	WF	DMIN	
95°	**S40T TCLNR/L 1207-CH**	40	37	300	50	27	70	CN...X 1207... A325
	**S50U TCLNR/L 1207-CH**	50	47	350	50	32	70	

Spare parts

Designation	Clamp	Clamp screw	Spring	Shim	Shim screw	Wrench	
...1207-CH	CCL 4	CSC 4	DSP 5	S 48	BH M5×0.8×1.0	L-W 4, L-W 3	

TSL

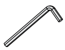
Sleeve



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					

Anti-vibration shanks for boring

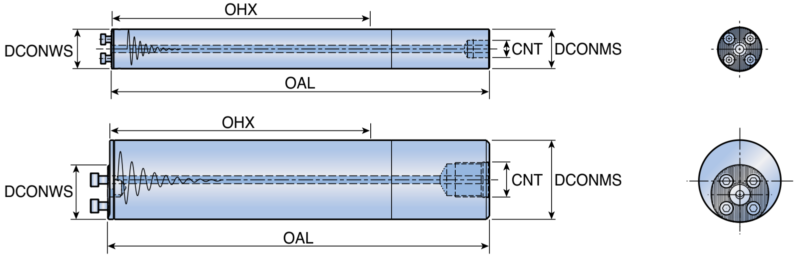


Fig.1

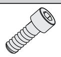
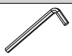
Fig.2

Designation	Dimension (mm)					Coolant hole	Fig.
	DCONMS	DCONWS	OAL	OHX	CNT		
QS16A-7D	16	16	156.3	92	G 1/8	●	1
QS16E-10D(1)	16	16	204.3	140	-	●	1
QS20A-7D	20	20	200.3	120	G 1/4	●	1
QS20E-10D(1)	20	20	260.3	180	-	●	1
QS25A-7D	25	25	257.5	155	G 1/4	●	1
QS25A-10D	25	25	332.5	230	G 1/4	●	1
QS32A-7D	32	32	323.0	192	G 3/8	●	1
QS32A-10D	32	32	419.0	288	G 3/8	●	1
QS40A-7D	40	40	411.0	251	G 1/2	●	1
QS40A-10D	40	40	531.0	368	G 1/2	●	1
QS50A-7D	50	40	523.0	318	G 1/2	●	2
QS50A-10D	50	40	673.0	468	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

• OHX: Maximum overhang

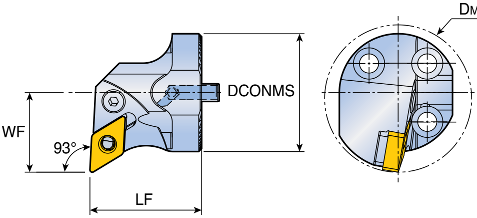
• (1) Carbide shank

Spare parts

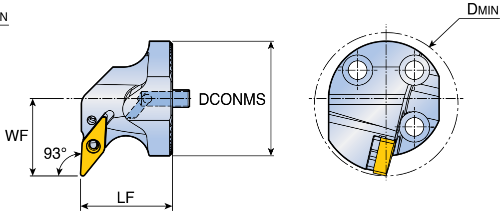
Designation	Screw	Wrench					
							
QS16	SH M3x0.5X10	L-W 2.5					
QS20	SH M3.5x0.6X10	L-W 2.5					
QS25	SH M4x0.7X12	L-W 3					
QS32	SH M5x0.8X12	L-W 4					
QS40/50/60	SH M6x1X16	L-W 5					

QH-HDUNR/L QH-HVUNR/L

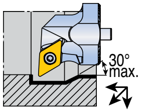
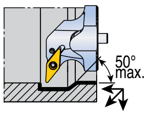
Hook lever type boring heads



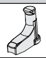
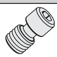
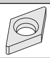
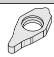
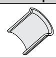
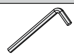
QH-HDUNR



QH-HVUNR

Approach angle	Designation	Dimension (mm)				Coolant hole	Insert
		DCONMS	LF	WF	DMIN		
93°	**QH40-HDUNR/L-1305**	40	38	27	50	●	DN...G 1305... RHINOTURN A260-A265
 30° max.							
93°	**QH40-HVUNR/L-1304**	40	32	27	50	●	VN...X 1304... YNMG 1304... RHINOTURN A281, A283, A289
 50° max.							

Spare parts

Designation	Lever	Lever screw	Shim		Shim pin	Wrench	
							
HDUNR/L-1305	LCL 11-NX	LCS 4S	LSD 3.52B	-	LSP 4	L-W 3	
HVUNR/L-1304	LCL 08-NX	LCS 4-DH	-	LSV 2.51.8H	LSP 3B	L-W 2.5	

QH-SCLCR/L

Screw type boring heads

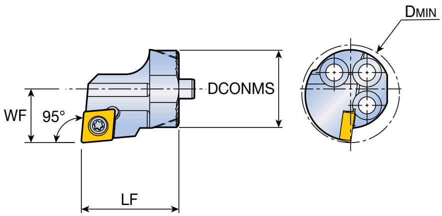


Fig.1

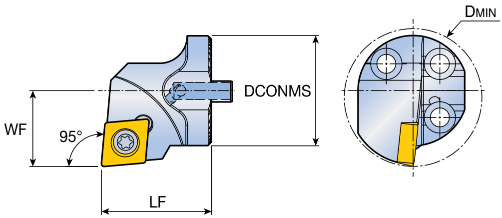
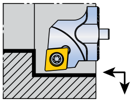
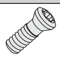
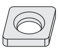
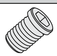
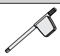
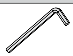


Fig.2

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-12	32	32	22	40	●	2	CC… 1204…
	QH40-SCLCR/L-12	40	38	27	50	●	2	
								A292-A295, A343

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-SCLNR/L

Screw type boring heads

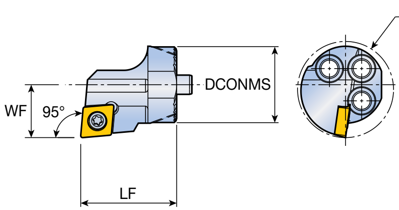


Fig.1

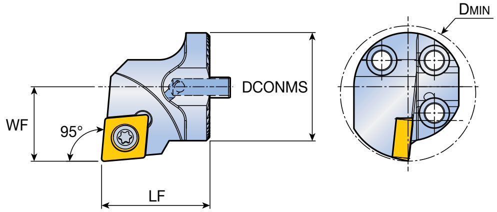
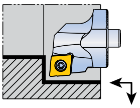
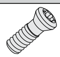
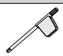


Fig.2

QH-SCLNR

Approach angle	Designation	Dimension (mm)				Coolant hole	Fig.	Insert
		DCONMS	LF	WF	DMIN			
95°	**QH16-SCLNR/L-0703**	16	20	11	20	●	1	CNMX 0703...
	**QH20-SCLNR/L-0703**	20	20	13	25	●	2	A259

Spare parts

Designation	Screw	Wrench					
							
...0703	TS 25D060/HG-P	T 7P					

Screw type boring heads

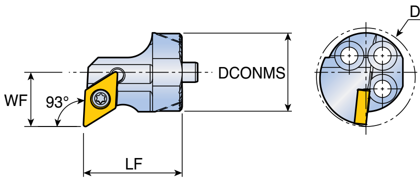


Fig.1

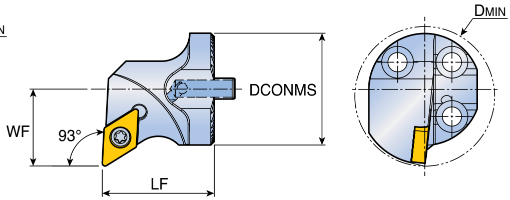
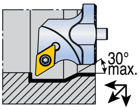
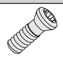
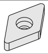
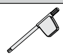
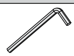


Fig.2

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…
 30° max.	**QH20-SDUCR/L-11**	20	20	13	25	●	2	DC… 11T3…
	QH25-SDUCR/L-11	25	22	17	32	●	2	A297-A300, A344
	QH32-SDUCR/L-11	32	32	22	40	●	2	
	QH40-SDUCR/L-11	40	38	27	50	●	2	

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-SDUNR/L

Screw type boring heads

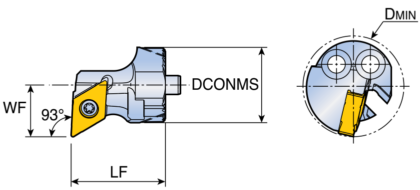


Fig.1

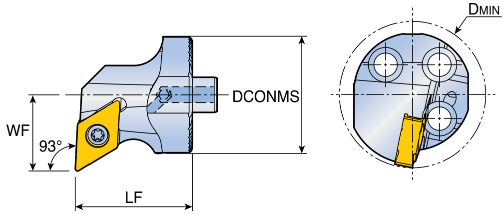
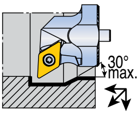


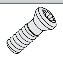
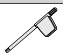
Fig.2

QH-SDUNR

Approach angle	Designation	Dimension (mm)				Coolant hole	Fig.	Insert
		DCONMS	LF	WF	DMIN			
93°	**QH16-SDUNR/L-0803**	16	20	11	20	●	1	DN...X 0803... RHINOMTURN
 30° max.	**QH20-SDUNR/L-0803**	20	20	13	25	●	2	
	QH32-SDUNR/L-1305	32	32	22	40	●	2	DN...G 1305... RHINOTURN

A260-A265

Spare parts

Designation	Screw	Wrench
		
...0803	TS 25D060/HG-P	T 7P
...1305	TS 40G110I	T 15

QH-SVUBR/L

Screw type boring heads

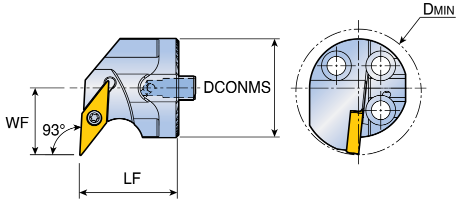


Fig.1

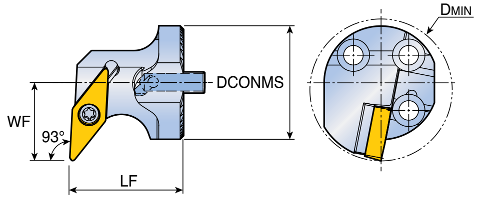
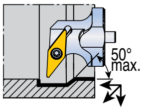
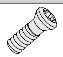
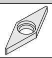
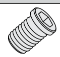
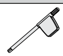
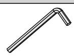


Fig.2

QH-SVUBR

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	A313, A314, A349

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-SWLNR/L

Screw type boring heads

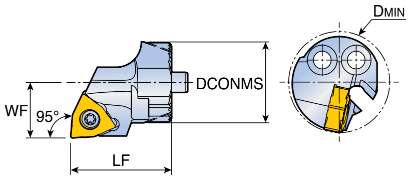


Fig.1

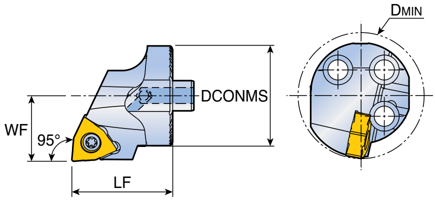
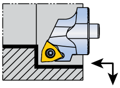
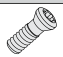
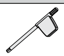


Fig.2

QH-SWLNR

Approach angle	Designation	Dimension (mm)				Coolant hole	Fig.	Insert
		DCONMS	LF	WF	DMIN			
95°	**QH16-SWLNR/L-0403**	16	20	11	20	●	1	WN...X 0403...
	**QH20-SWLNR/L-0403**	20	20	13	25	●	2	A287, A288

Spare parts

Designation	Screw	Wrench					
							
SWLNR/L-0403	TS 25D060/HG-P	T 7P					

QH-SXUNR/L

Screw type boring heads

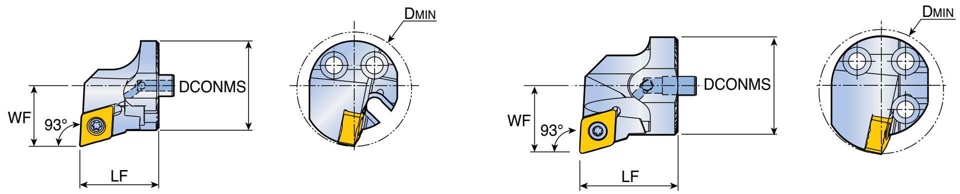
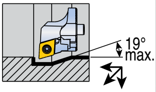
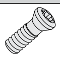
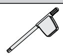


Fig.1 Fig.2

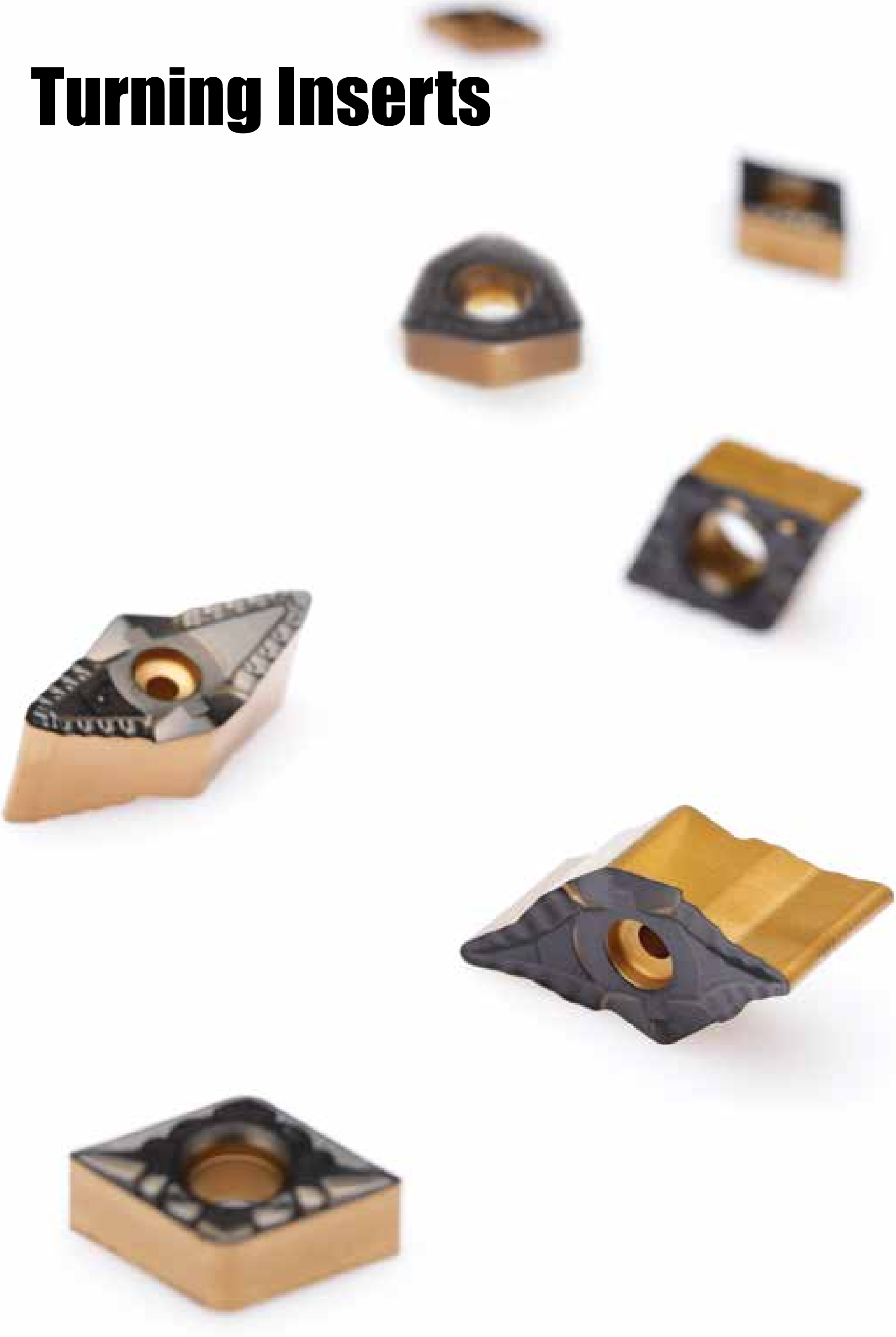
QH-SXUNR

Approach angle	Designation	Dimension (mm)				Coolant hole	Fig.	Insert
		DCONMS	LF	WF	DMIN			
93°	**QH25-SXUNR/L-0904**	25	22	17	32	●	1	XNMX 0904...
	**QH32-SXUNR/L-1105**	32	32	22	40	●	2	XNMX 1105...
								RHINOXTURN
								A289

Spare parts

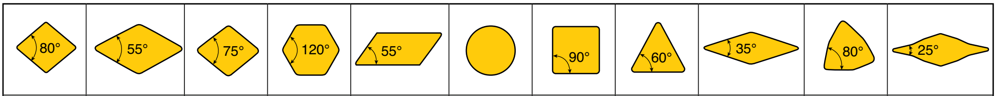
Designation	Screw	Wrench					
							
...0904	TS 30080I/HG	T 9					
...1105	TS 40G110I	T 15					

Turning Inserts



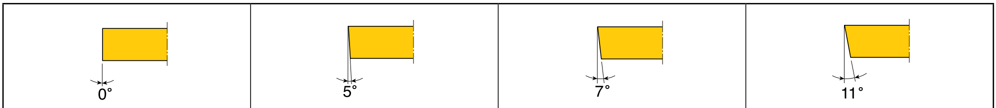
C	N	M	G
1	2	3	4

1 Shape



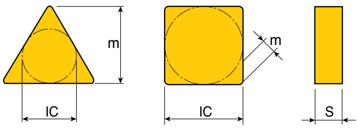
C	D	E	H	K	R	S	T	V	W	Y

2 Clearance angle



N	B	C	P

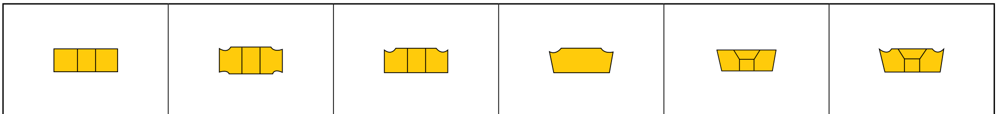
3 Tolerance



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



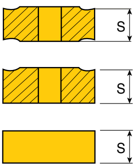
A	G	M	R	B, W	T, H

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

5 Cutting edge length

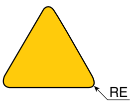
I.C(mm)	C	D	E	R	S	T	V, Y	W	K	H
3.97	03	04			03	06		02		
4.76	04	05			04	08	08			
5.56	05	06			05	09	09	03		
6.35	06	07			06	11	11			
7.94	08	09			07	13	13	05		
8.0				08						
9.52	09	11		09	09	16	16	06	16	
10.0				10						
11.11		13								
12.0				12						
12.7	12	15	13		12	22	22	08		05
15.88	16	19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



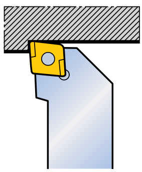
01	1.59mm
T1	1.98mm
02	2.38mm
T2	2.78mm
03	3.18mm
T3	3.97mm
04	4.76mm
05	5.56mm
06	6.35mm
07	7.94mm
09	9.52mm

7 Corner radius

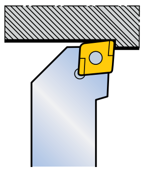


01	0.1mm
02	0.2mm
04	0.4mm
05	0.5mm
08	0.8mm
12	1.2mm
16	1.6mm
20	2.0mm
24	2.4mm
32	3.2mm

8 Hand of insert



R: Right hand



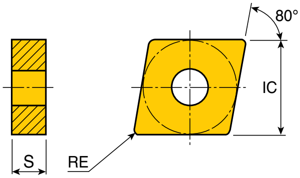
L: Left hand

9 Chip breaker

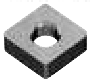
For chip breakers, see page A31-A44

CNGG CNMA

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.1-1.2
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

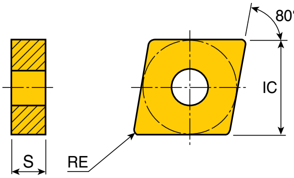
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated														PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**CNGG 090401 ML**	0.1-1.0	0.03-0.10																●						●
	090402 ML	0.2-1.2	0.05-0.15																●						●
	090404 ML	0.5-1.5	0.05-0.20																●						●
	090408 ML	0.5-1.5	0.08-0.25																●						●
 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 090408**	1.0-3.0	0.15-0.60				●	●																	
	090412	1.0-3.0	0.15-0.70				●	●																	
 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				●																		

●: Standard items

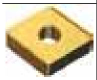
A53, A67-A69, A84,
A110-A112, A166,
A185, A194, A200, A223-A225

CNMD

Negative 80° rhombic inserts



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

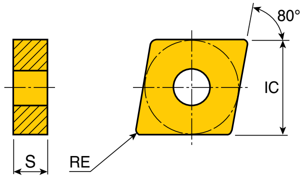
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Roughing  Finishing	**CNMD 250924 HD**										●	●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

A67-A69, A110, A111, A194

● : Standard items

T-TURN

Negative 80° rhombic inserts



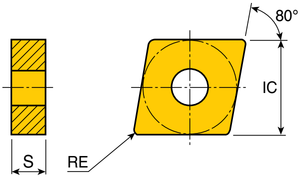
Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.6
16	15.88	4.76	0.4-1.6
19	19.05	6.35	0.4-1.6

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 090404**	0.5-3.0	0.10-0.45				●	●																	
	090408	0.5-3.0	0.10-0.50				●	●																	
	090412	0.5-3.0	0.10-0.55				●	●																	
 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				●	●			●	●					●								
	120416	2.5-5.0	0.27-0.60																						
	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 090404 EA**	0.20-1.5	0.05-0.30											●	●	●			●		●				
	090408 EA	0.30-1.5	0.07-0.40											●	●	●			●		●				
 Finishing	**CNMG 120404 EA**	0.15-1.5	0.05-0.30		●						●	●		●	●	●	●		●	●	●	●	●		
	120408 EA	0.15-1.5	0.07-0.40		●						●			●	●	●	●		●		●	●	●		

A53, A67-A69, A84,
A110-A112, A166,
A185, A194, A200, A223-A225

●: Standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.8-1.2
12	12.7	4.76	0.4-1.6
16	15.88	6.35	0.8-1.2
19	19.05	6.35	0.8-1.6

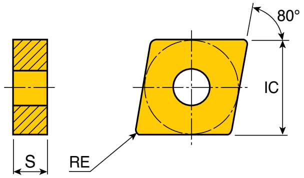
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
RHINO TURN  Medium	**CNMG 090408 EM**	0.5-3.0	0.13-0.40											●	●	●			●		●				
	090412 EM	0.7-3.0	0.15-0.40											●	●	●			●		●				
 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																●						
 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								●	●													

A53, A67-A69, A84,
A110-A112, A166,
A185, A194, A200, A223-A225

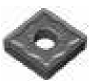
● : Standard items

CNMG

Negative 80° rhombic inserts



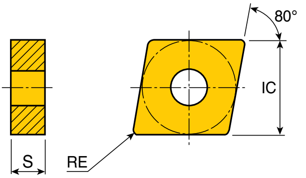
Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.2-1.2
12	12.7	4.76	0.4-1.6
16	15.88	6.35	1.2-1.6
19	19.05	6.35	1.2-1.6

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 090404 FG**	0.2-2.0	0.07-0.30								●	●					●								
	090408 FG	0.5-2.0	0.10-0.35								●	●					●								
	090412 FG	0.5-2.0	0.15-0.40								●	●					●								
 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								●	●													
 Finishing	**CNMG 090404 FM**	0.25-2.0	0.07-0.30	●	●					●	●	●	●				●								
	090408 FM	0.3-2.0	0.10-0.35		●					●	●	●	●				●								
	090412 FM	0.35-2.0	0.15-0.40	●	●					●	●	●	●				●								
 Finishing	**CNMG 090402 FS**	0.2-1.5	0.05-0.25	●	●						●	●													
	090404 FS	0.25-1.5	0.07-0.30	●	●						●	●													
	090408 FS	0.5-1.5	0.10-0.30	●	●						●	●													
 Finishing	**CNMG 090404 FT**	0.4-3.0	0.07-0.30							●	●	●	●				●								
	090408 FT	0.5-3.0	0.10-0.40							●	●	●	●				●								
	090412 FT	0.6-3.0	0.15-0.50							●	●	●	●				●								
 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				●	●			●														

A53, A67-A69, A84,
A110-A112, A166,
A185, A194, A200, A223-A225

●: Standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.2
16	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
	**CNMG 120404 MC**	0.5-3.5	0.10-0.30		●			●		●	●	●					●	●		●					
	120408 MC	0.7-3.5	0.12-0.35		●						●	●					●								
Medium	**120412 MC**	0.7-3.5	0.15-0.40							●															
	**CNMG 120408 MGP**	0.5-5.0	0.15-0.55								●	●													
Medium	**120412 MGP**	0.6-5.0	0.17-0.55								●	●													
	**CNMG 120408 MGS**	1.0-4.0	0.15-0.40			●																●	●		●
Medium	**120412 MGS**	1.5-4.0	0.17-0.50			●																●	●		●
	**CNMG 090404 MK**	0.7-3.0	0.17-0.40												●	●			●		●				
	090408 MK	1.0-3.0	0.20-0.50												●	●			●	●	●	●	●		
Medium	**090412 MK**	1.2-3.0	0.23-0.50												●	●			●		●				
	**CNMG 120404 ML**	0.8-3.5	0.10-0.30		●						●	●		●	●		●		●	●					●
	120408 ML	1.0-3.5	0.12-0.35		●						●	●		●	●		●		●	●	●				●
Medium	**120412 ML**	1.3-3.5	0.15-0.35														●		●						
	**CNMG 120408 MLP**	0.5-3.5	0.10-0.40							●	●	●													
Medium	**120412 MLP**	0.6-3.5	0.15-0.50							●	●	●													
	**CNMG 090404 MM**	0.4-3.0	0.15-0.45								●	●	●	●	●	●	●				●				
	090408 MM	0.5-3.0	0.20-0.50								●	●	●	●	●	●	●				●				
Medium	**090412 MM**	0.7-3.0	0.23-0.50								●	●	●	●	●	●	●				●				
	**CNMG 120404 MP**	0.8-4.0	0.10-0.30								●	●		●	●	●	●		●	●					
	120408 MP	1.0-4.0	0.12-0.40								●	●		●	●	●	●	●	●	●					
OLD	**120412 MP**	1.5-4.0	0.15-0.50								●	●		●	●		●		●	●					●
Medium	**160612 MP** ✓	2.5-6.0	0.15-0.50									●													

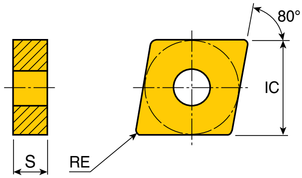
A53, A67-A69, A84,
A110-A112, A166,
A185, A194, A200, A223-A225

• ✓ Marked: Old type chip breaker

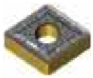
●: Standard items

CNMG

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
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

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 090404 MT**	0.8-3.0	0.10-0.35							●	●	●	●				●								
	090408 MT	1.0-3.0	0.15-0.45		●					●	●	●	●				●		●		●				
	090412 MT	1.2-3.0	0.20-0.55							●	●	●	●				●								
 OLD 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									●													
 Medium	**CNMG 090404 PC**	0.4-3.0	0.10-0.30							●	●	●	●				●				●				
	090408 PC	0.5-3.0	0.15-0.40							●	●	●	●				●				●				
	090412 PC	0.6-3.0	0.18-0.50							●	●	●	●				●				●				
 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									●	●												

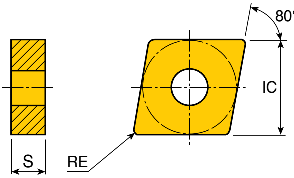
A53, A67-A69, A84,
A110-A112, A166,
A185, A194, A200, A223-A225

• ✓ Marked: Old type chip breaker

●: Standard items

T-TURN

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.6
16	15.88	6.35	1.2-1.6
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
 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		●						●	●					●		●	●					
RHINO TURN wiper  Finishing	**CNMG 090404 WA**	0.25-2.5	0.08-0.25	●	●		●	●		●	●	●					●								
	090408 WA	0.25-3.0	0.10-0.40	●	●		●	●		●	●	●					●								
	090412 WA	0.4-3.0	0.20-0.50	●	●		●	●		●	●	●					●								
wiper  Finishing	**CNMG 120404 WS**	0.5-2.0	0.05-0.35		●		●				●	●					●								
wiper  Medium	**CNMG 120408 WT**	1.0-5.0	0.15-0.60		●		●	●			●	●		●			●								
	120412 WT	1.0-5.0	0.20-0.80								●	●					●								

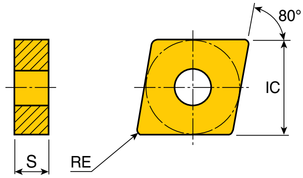
A53, A67-A69, A84,
A110-A112, A166,
A185, A194, A200, A223-A225

●: Standard items

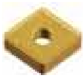
TaeguTec Member IMC Group

CNMM

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
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
 Roughing	**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															●							
	250932 HT	5.0-13.0	0.65-1.30															●							
 Roughing	**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								●	●													

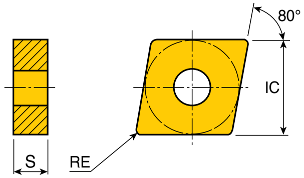
A67-A69,
A194

●: Standard items

CNMM CNMX

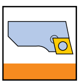
T-TURN

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
07	7.0	3.18	0.4
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								●	●					●								
	190608 RH ✱	3.0-9.0	0.30-0.70																						
	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								●	●					●								
	250724 RH ✱	5.0-12.0	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									●													
 Finishing	**CNMX 070304 FGP**	0.3-2.0	0.05-0.25	●							●	●							●						



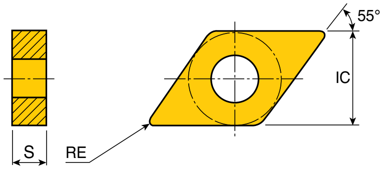
A67-A69, A83, A194, A200, A240

• ✱ Marked: Chip breaker shape is not the same as shown in the catalogue

● : Standard items

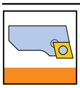
DNGG DNGX DNMA DNMG

Negative 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
08	7.0	3.18	0.2
11	9.52	4.76	0.8-1.2
13	11.11	5.56	0.1-1.2
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
 Finishing For Swiss	**DNGG 130501M FU-F**	0.2-2.5	0.03-0.12																				●	●	
	130502M FU-F	0.2-2.5	0.04-0.12																				●	●	
	130504M FU-F	0.4-2.5	0.05-0.12																				●	●	
 Medium	**DNGG 130501 ML**	0.1-1.0	0.03-0.10																●						●
	130502 ML	0.2-1.2	0.05-0.15																●						●
	130504 ML	0.5-1.5	0.05-0.20																●						●
	130508 ML	0.5-1.5	0.08-0.25																●						●
 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																●						●
 Finishing For Swiss	**DNGX 080302M SM-F**	0.2-1.2	0.02-0.12																			●			
 Roughing	**DNMA 110408** #	0.8-3.0	0.15-0.50																						
	110412 #	0.8-3.0	0.15-0.50				●																		
	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 130504**	0.5-3.5	0.10-0.45				●	●																	
	130508	0.5-3.5	0.10-0.50				●	●												●	●				
	130512	0.5-3.5	0.10-0.55				●	●																	
 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								●														



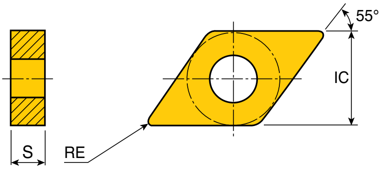
A54, A55, A61, A62, A70, A71, A87, A88, A91, A113-A116, A121, A164, A166, A186-A188, A195, A202-A204, A226, A227, A238, A242

• # Marked: Insert with screw hole

●: Standard items

DNMG

Negative 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	9.52	4.76	0.4-0.8
13	11.11	5.56	0.4-1.2
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
RHINO TURN Finishing	**DNMG 130504 EA**	0.20-1.5	0.05-0.30											●	●	●					●				
	130508 EA	0.30-1.5	0.07-0.40											●	●	●									
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											●					●		●	●	●		
RHINO TURN Medium	**DNMG 130508 EM**	0.5-3.0	0.13-0.40											●	●	●			●		●				
	130512 EM	0.7-3.0	0.15-0.40											●	●	●			●		●				
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											●		●			●			●	●	●	
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									●													

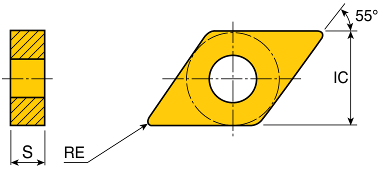
A54, A55, A61, A62, A70, A71, A87, A88, A91, A113-A116, A121, A164, A166, A186-A188, A195, A226, A227, A238

• # Marked: Insert with screw hole

●: Standard items

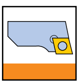
DNMG

Negative 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	9.52	4.76	0.4-0.8
13	11.11	5.56	0.2-1.2
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 130504 FG**	0.2-2.0	0.07-0.30								●	●					●								
	130508 FG	0.5-2.0	0.10-0.35								●	●					●								
	130512 FG	0.5-2.0	0.15-0.40								●	●					●								
 OLD 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								●	●													
 Finishing	**DNMG 130504 FM**	0.25-2.0	0.07-0.30		●					●	●	●	●				●								
	130508 FM	0.3-2.0	0.10-0.35		●					●	●	●	●				●								
	130512 FM	0.35-2.0	0.15-0.40		●					●	●	●	●				●								
 Finishing	**DNMG 130502 FS**	0.2-2.0	0.05-0.25	●	●						●	●													
	130504 FS	0.25-2.0	0.07-0.30	●	●						●	●													
	130508 FS	0.5-2.0	0.10-0.30	●	●						●	●													
 Finishing	**DNMG 130504 FT**	0.25-3.0	0.07-0.30							●	●	●	●				●								
	130508 FT	0.3-3.0	0.10-0.40							●	●	●	●				●								
	130512 FT	0.35-3.0	0.15-0.50							●	●	●	●				●								
 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				●	●	●		●														



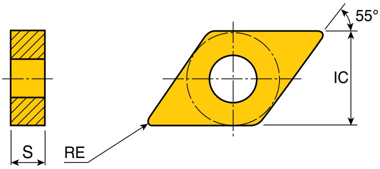
A54, A55, A61, A62, A70, A71, A87, A88, A91, A113-A116, A121, A164, A166, A186-A188, A195, A226, A227, A238

- ✓ Marked: Old type chip breaker
- # Marked: Insert with screw hole

●: Standard items

DNMG

Negative 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
13	11.11	5.56	0.4-1.2
15	12.7	4.76-6.35	0.4-1.2

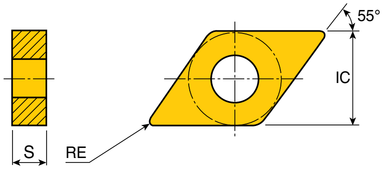
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**DNMG 150604 MC**	0.5-3.5	0.10-0.30							●	●	●					●								
	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 130504 MK**	0.7-4.0	0.17-0.40												●	●			●		●				
	130508 MK	1.0-4.0	0.20-0.45												●	●			●		●	●	●		
	130512 MK	1.2-4.0	0.23-0.50												●	●			●		●				
 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								●	●													
 Medium	**DNMG 130504 MM**	0.4-4.0	0.15-0.45								●	●	●	●	●	●	●		●		●				
	130508 MM	0.5-4.0	0.20-0.50								●	●	●	●	●	●	●								
	130512 MM	0.7-4.0	0.23-0.50								●	●	●	●	●	●	●								

A54, A55, A61, A62, A70, A71, A87, A88, A91, A113-A116, A121, A164, A166, A186-A188, A195, A226, A227, A238

●: Standard items

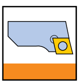
DNMG

Negative 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	9.52	4.76	0.8-1.2
13	11.11	5.56	0.4-1.2
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
 OLD 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								●			●	●	●	●		●						
 Medium	**DNMG 130504 MT**	0.8-4.0	0.10-0.35							●	●	●	●				●								
	130508 MT	1.0-4.0	0.15-0.45							●	●	●	●				●								
	130512 MT	1.2-4.0	0.20-0.55							●	●	●	●				●								
 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 130504 PC**	0.4-3.5	0.10-0.30							●	●	●	●				●								
	130508 PC	0.5-3.5	0.15-0.40							●	●	●	●				●								
	130512 PC	0.6-3.5	0.18-0.50							●	●	●	●				●								
 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								●	●					●								

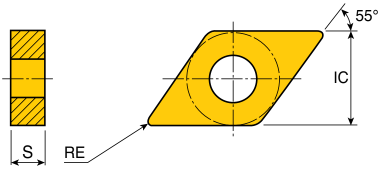


A54, A55, A61, A62, A70, A71, A87, A88, A91, A113-A116, A121, A164, A166, A186-A188, A195, A226, A227, A238

- ✓ Marked: Old type chip breaker
- # Marked: Insert with screw hole

●: Standard items

Negative 55° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
08	7.0	3.18	0.2-0.04
13	11.11	5.56	0.4-1.2
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
 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		●						●	●													
RHINO T-TURN wiper  Finishing	**DNMG 130504 WA ✱**	0.25-2.5	0.08-0.25	●	●		●	●		●	●	●					●								
	130508 WA ✱	0.25-3.0	0.10-0.35	●	●		●	●		●	●	●					●								
	130512 WA ✱	0.4-3.5	0.15-0.45	●	●		●	●		●	●	●					●								
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								●						●								
RHINO M-TURN  Finishing	**DNMX 080304 FGP**	0.3-2.0	0.05-0.25	●							●	●							●						
RHINO T-TURN  Right hand Medium	**DNUX 130504 R11**	1.5-4.5	0.15-0.35								●	●			●		●				●				
	130504 L11	1.5-4.5	0.15-0.35								●	●			●		●				●				
	130508 R11	2.0-4.5	0.21-0.45							●	●	●			●		●				●				
	130508 L11	2.0-4.5	0.21-0.45								●	●			●		●				●				

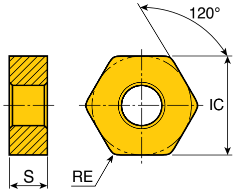
A54, A55, A61, A62, A70, A71, A87, A88, A91, A113-A116, A121, A164, A166, A186-A188, A195, A202-A204, A226, A227, A238, A242

• ✱ Marked: Wiper inserts should be applied to ☐DJNR/L..., ☐DUNR/L..., ☐DZNR/L...

●: Standard items

HNMG

Negative 120° hexagonal inserts



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

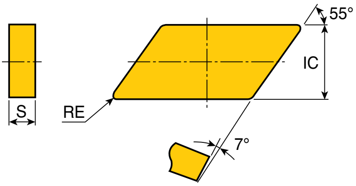
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**HNMG 050408 GU**	0.5-3.5	0.15-0.60				●	●	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

A117, A228

●: Standard items

KNUX

Negative 55° rhombic inserts



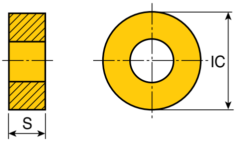
Size	Dimension (mm)		
	IC	S	RE
16	9.52	4.76	0.5-1.0

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									●													

A49, A182

●: Standard items

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	

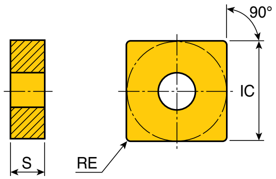
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Roughing	**RNMG 120400**	2.0-5.0	0.30-0.60							●		●					●								
	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									●						●							

A74

●: Standard items

SNGG SNMA SNMD

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	1.2-1.6
25	25.4	7.94-9.52	2.4
31	31.75	9.52	2.4

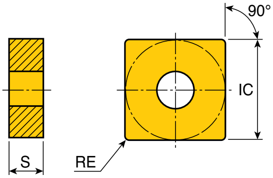
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Right hand Medium	**SNGG 120404 L**	1.0-4.0	0.15-0.35		●																				
	120404 R	1.0-4.0	0.12-0.35		●																				
	120408 L	1.0-4.0	0.15-0.40		●																				
	120408 R	1.0-4.0	0.15-0.35		●																				
 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  Finishing	**SNMD 250924 HD**										●	●	●												
	Roughing	4.0-15.0	0.55-1.50																						
	Finishing	2.0-5.0	0.40-0.80																						
 Roughing  Finishing	**SNMD 310924 HD**										●	●						●							
	Roughing	7.0-25.0	0.60-1.50																						
	Finishing	2.0-5.0	0.40-0.80																						

●: Standard items

A56, A75, A76,
A126, A127,
A167, A196

SNMD

Negative square inserts



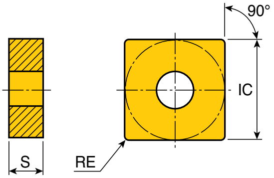
Size	Dimension (mm)		
	IC	S	RE
19	19.05	6.35	2.4
25	25.4	9.52	2.4
31	31.75	9.52	2.4

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	Finishing	2.0-5.0	0.40-0.80																						
 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	Finishing	2.0-5.0	0.40-0.80																						

A56, A75, A76,
A126, A196

● : Standard items

Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
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

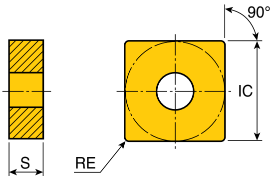
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**SNMG 090404**	0.5-3.0	0.10-0.45				●	●			●	●													
	090408	0.5-3.0	0.10-0.50				●	●			●	●													
	090412	0.5-3.0	0.10-0.55				●	●				●													
 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 090404 EA**	0.2-1.5	0.05-0.30											●	●	●			●		●				
	090408 EA	0.3-1.5	0.07-0.40											●	●	●			●		●				
 Finishing	**SNMG 120404 EA**	0.1-1.5	0.05-0.20											●	●				●						
	120408 EA	0.1-1.5	0.10-0.40											●	●				●						
 Medium	**SNMG 090408 EM**	0.5-3.0	0.13-0.40											●	●	●			●		●				
	090412 EM	0.7-3.0	0.15-0.40											●	●	●			●		●				

●: Standard items

A75, A76,
A126, A127,
A165, A167, A196

SNMG

Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.6
15	15.88	6.35	1.2-1.6
19	19.05	6.35	0.8-1.6

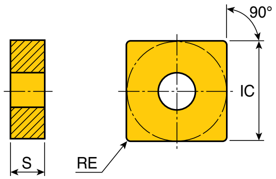
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet PV3010	Cermet CT3000	CVD coated TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	PVD coated TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**SNMG 120408 EM**	0.8-5.0	0.13-0.50											●	●	●			●		●		●		
	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											●	●	●			●				●		
 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 090404 FG**	0.2-2.0	0.07-0.30		●						●	●					●								
	090408 FG	0.5-2.0	0.10-0.35		●						●	●					●								
	090412 FG	0.5-2.0	0.15-0.40								●	●					●								
 Finishing	**SNMG 120404 FG**	0.5-3.0	0.07-0.20		●							●							●						
	120408 FG	0.7-3.0	0.10-0.25	●	●						●	●													
 Finishing	**SNMG 090404 FM**	0.25-2.0	0.07-0.30		●					●	●	●	●				●								
	090408 FM	0.3-2.0	0.10-0.35	●	●					●	●	●	●				●								
	090412 FM	0.35-2.0	0.15-0.40		●					●	●	●	●				●								
 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				●	●			●														

●: Standard items

A75, A76,
A126, A127,
A165, A167, A196

SNMG

Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.2
15	15.88	6.35	0.8-1.2
19	19.05	6.35	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
 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 090404 MK**	0.7-3.0	0.17-0.40												●	●			●		●				
	090408 MK	1.0-3.0	0.20-0.50												●	●			●		●				
	090412 MK	1.2-3.0	0.23-0.50												●	●			●		●				
 Medium	**SNMG 120408 ML**	1.0-3.5	0.12-0.35								●	●					●			●					●
	120412 ML	1.0-3.5	0.15-0.35								●	●					●								
 Medium	**SNMG 090404 MM**	0.4-3.0	0.15-0.45								●	●	●	●	●	●	●								
	090408 MM	0.5-3.0	0.20-0.50								●	●	●	●	●	●	●				●				
	090412 MM	0.7-3.0	0.23-0.50								●	●	●	●	●	●	●								
 OLD 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								●														
 Medium	**SNMG 090404 MT**	0.8-3.0	0.10-0.35							●	●	●	●				●								
	090408 MT	1.0-3.0	0.15-0.45							●	●	●	●				●		●						
	090412 MT	1.2-3.0	0.20-0.55							●	●	●	●				●								

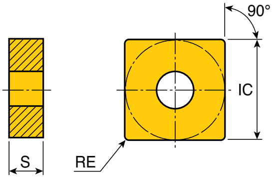
A75, A76,
A126, A127,
A165, A167, A196

• ✓ Marked: Old type chip breaker

●: Standard items

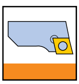
SNMG SNMM

Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.6
15	15.88	6.35	1.2
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
 OLD 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									●			●	●	●			●					
RHINO TURN  Medium	**SNMG 090404 PC**	0.4-3.0	0.10-0.30							●	●	●	●				●								
	090408 PC	0.5-3.0	0.15-0.40							●	●	●	●				●								
	090412 PC	0.6-3.0	0.18-0.50							●	●	●	●				●								
 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								●	●													
 OLD 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							●	●	●			●		●		●	●					
	250724 RT	5.0-12.0	0.40-1.00																						
	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																						



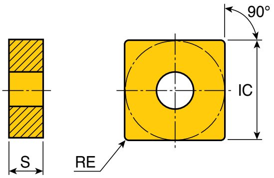
A75, A76,
A126, A127,
A165, A167, A196

• ✓ Marked: Old type 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								•	•													

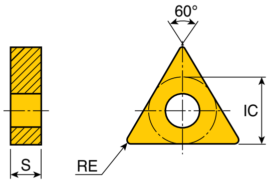
A75, A76,
A196

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

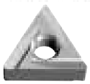
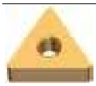
• : Standard items

TNGG TNMA TNMG

Negative triangular inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.2-1.2
16	9.52	4.76	0.4-1.6
22	12.7	4.76	0.4-1.6

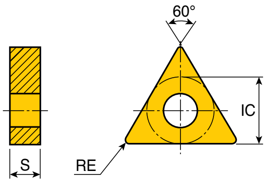
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Left hand Medium	**TNGG 130402 L**	0.8-3.5	0.10-0.30		●																				
	130402 R	0.8-3.5	0.10-0.30		●																				
	130404 L	1.0-3.5	0.12-0.30		●																				
	130408 R	1.3-3.5	0.15-0.35		●																				
	130408 L	1.3-3.5	0.15-0.35		●																				
	130408 R	1.3-3.5	0.15-0.35		●																				
 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				●																		
	220404	1.5-5.0	0.15-0.30																						
	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 130404**	0.5-3.5	0.10-0.45				●	●																	
	130408	0.5-3.5	0.10-0.50				●	●																	
	130412	0.5-3.5	0.10-0.55				●	●																	

A57, A63, A77, A78, A99, A128,
A140, A141, A165, A168, A189, A190, A197
A208, A212, A230, A231, A234

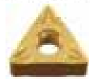
●: Standard items

TNMG

Negative triangular inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.4-0.8
13	7.94	4.76	0.4-1.2
16	9.52	4.76	0.4-1.2
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

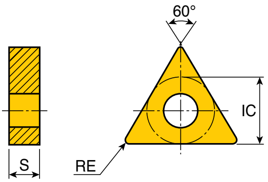
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**TNMG 110304**	1.2-3.0	0.15-0.40								●	●													
	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										●												
RHINO TURN  Finishing	**TNMG 130404 EA**	0.2-1.5	0.05-0.30											●	●	●			●		●				
	130408 EA	0.3-1.5	0.07-0.40											●	●	●			●		●				
 Finishing	**TNMG 160404 EA**	0.1-1.5	0.05-0.20											●	●				●		●				
	160408 EA	0.1-1.5	0.10-0.40																●		●				
RHINO TURN  Medium	**TNMG 130408 EM**	0.5-3.0	0.13-0.40											●	●	●			●		●				
	130412 EM	0.7-3.0	0.15-0.40											●	●	●			●		●				
 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											●							●				

●: Standard items

A57, A63, A77, A78, A99, A128,
A140, A141, A165, A168, A189, A190, A197
A208, A212, A230, A231, A234

TNMG

Negative triangular inserts



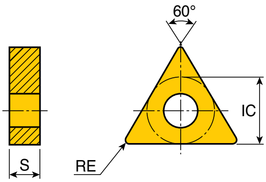
Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.4
13	7.94	4.76	0.2-1.2
16	9.52	4.76	0.4-1.2
22	12.7	4.76	0.8-1.2

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
 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 130404 FG**	0.25-1.5	0.07-0.30								●	●					●								
	130408 FG	0.3-1.5	0.10-0.35								●	●					●								
	130412 FG	0.35-1.5	0.15-0.40								●	●					●								
 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								●	●													
 Finishing	**TNMG 130404 FM**	0.25-1.5	0.07-0.30	●	●					●	●	●	●				●								
	130408 FM	0.3-1.5	0.10-0.35	●	●					●	●	●	●				●								
	130412 FM	0.35-1.5	0.15-0.40	●	●					●	●	●	●				●								
 Finishing	**TNMG 130402 FS**	0.2-1.0	0.05-0.25	●	●						●	●													
	130404 FS	0.25-1.0	0.07-0.30	●	●						●	●													
	130408 FS	0.5-1.0	0.10-0.30	●	●						●	●													

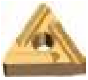
A57, A63, A77, A78, A99, A128,
A140, A141, A165, A168, A189, A190, A197
A208, A212, A230, A231, A234

●: Standard items

Negative triangular inserts



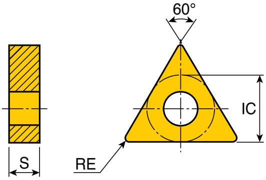
Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.4-1.2
16	9.52	4.76	0.4-1.2
22	12.7	4.76	0.4-1.2

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
 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									●					●			●					
RHINO TURN  Finishing	**TNMG 130404 FT**	0.25-2.5	0.07-0.30							●	●	●	●				●								
	130408 FT	0.3-2.5	0.10-0.40							●	●	●	●				●								
	130412 FT	0.35-2.5	0.15-0.50							●	●	●	●				●								
 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								●	●													
RHINO TURN  Medium	**TNMG 130404 MK**	0.7-3.0	0.17-0.40												●	●			●		●				
	130408 MK	1.0-3.0	0.20-0.45												●	●			●		●				
	130412 MK	1.2-3.0	0.23-0.50												●	●			●		●				
 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									●					●								●

A57, A63, A77, A78, A99, A128,
A140, A141, A165, A168, A189, A190, A197
A208, A212, A230, A231, A234

●: Standard items

Negative triangular inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.8
13	7.94	4.76	0.4-1.2
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
	**TNMG 160404 MLP**	0.25-2.5	0.07-0.30								●	●													
	160408 MLP	0.30-2.5	0.10-0.40								●	●													
Medium	**160412 MLP**	0.35-2.5	0.15-0.50								●	●													
	**TNMG 130404 MM**	0.4-3.0	0.15-0.45								●	●	●	●	●	●	●				●				
	130408 MM	0.5-3.0	0.20-0.50								●	●	●	●	●	●	●				●				
Medium	**130412 MM**	0.7-3.0	0.23-0.50								●	●	●	●	●	●	●				●				
	**TNMG 160404 MP**	0.8-3.5	0.10-0.30									●			●		●		●	●	●	●	●		
Medium	**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								●	●			●				●	●					
	220412 MP	1.0-4.0	0.15-0.40																						
	**TNMG 130404 MT**	0.8-3.0	0.10-0.35							●	●	●	●				●								
	130408 MT	1.0-3.0	0.15-0.45							●	●	●	●				●								
Medium	**130412 MT**	1.2-3.0	0.20-0.55							●	●	●	●				●								
	**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		●		●	●	●		●	●			●		●		●	●					
OLD 	**160412 MT**	1.5-3.5	0.20-0.50				●				●	●					●								
	220404 MT ✓	1.2-5.0	0.15-0.40								●	●													
Medium	**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																						
	**TNMG 130404 PC**	0.4-3.0	0.10-0.30							●	●	●	●				●				●				
	130408 PC	0.5-3.0	0.15-0.40					●		●	●	●	●				●				●				
Medium	**130412 PC**	0.6-3.0	0.18-0.50							●	●	●	●				●								

A57, A63, A77, A78, A99, A128,
A140, A141, A165, A168, A189, A190, A197
A208, A212, A230, A231, A234

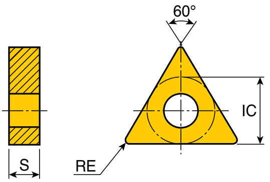
• ✓ Marked: Old type chip breaker

●: Standard items

TNMG TNMM

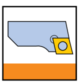
T-TURN

Negative triangular inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.4-1.2
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								●	●					●								
RHINO TURN wiper  Finishing	**TNMG 130404 WA** *	0.25-2.5	0.08-0.25	●	●		●	●		●	●	●					●								
	130408 WA *	0.25-3.0	0.10-0.35	●	●		●	●		●	●	●					●								
	130412 WA *	0.40-3.5	0.15-0.45	●	●		●	●		●	●	●					●								
 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								●	●	●												



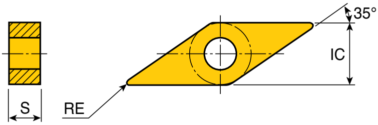
A57, A63, A77, A78, A99, A128, A140, A141, A165, A168, A189, A190, A197, A208, A212, A230, A231, A234

• * Marked: Wiper inserts should be applied to ☐TGNR/L..., ☐TFNR/L...

●: Standard items

VNGG VNGX VNMG

Negative 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.1-0.8
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																						
RHINO TURN  Finishing For Swiss	**VNGX 130401M FS-F**	0.2-1.0	0.03-0.12																				●	●	
	130402M FS-F	0.2-1.0	0.04-0.12																				●	●	
RHINO TURN  Medium	**VNGX 130401 ML**	0.1-1.0	0.03-0.10														●								●
	130402 ML	0.2-1.2	0.05-0.15														●								
	130404 ML	0.5-1.5	0.05-0.20														●								
 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	●					●	●			●												

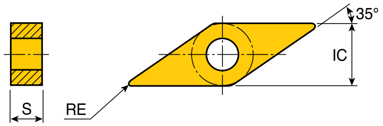
A58, A59, A64, A65, A104, A105, A129-A132, A168, A215, A217, A238

• # Marked: Insert with screw hole

●: Standard items

VNMG VNMM

Negative 35° rhombic inserts



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

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	**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								●	●													
 Finishing	**VNMG 160404 FX**	0.2-2.0	0.05-0.20		●						●	●													
	160408 FX	0.2-2.0	0.07-0.20		●					●	●	●													
 Medium	**VNMG 160408 MGP**	0.5-3.0	0.17-0.36								●	●													
 OLD 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	**VNMM160404 ML**	0.8-3.0	0.10-0.27																						●
	160408 ML	1.0-3.0	0.12-0.32														●								●

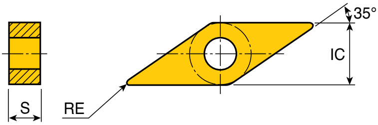
A64, A65, A105, A129, A131, A168, A215, A217

- ✓ Marked: Old type chip breaker
- # Marked: Insert with screw hole

●: Standard items

VNMX

Negative 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.2-1.2

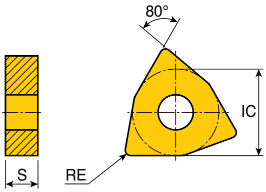
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**VNMX 130404 FG**	0.5-2.0	0.08-0.20		●						●	●					●		●		●				
	130408 FG	0.5-2.0	0.10-0.23		●						●	●					●		●		●				
 Finishing	**VNMX 130404 FM**	0.25-1.5	0.07-0.30		●					●	●	●	●				●		●		●				
	130408 FM	0.3-1.5	0.10-0.35		●					●	●	●	●				●		●		●				
 Finishing	**VNMX 130402 FS**	0.2-1.0	0.05-0.20	●	●						●	●													
	130404 FS	0.25-1.0	0.07-0.20	●	●						●	●													
	130408 FS	0.5-1.0	0.10-0.23	●	●						●	●													
 Finishing	**VNMX 130404 FX**	0.2-2.0	0.05-0.20	●	●						●	●							●						
	130408 FX	0.2-2.0	0.07-0.20	●	●						●	●							●						
 Medium	**VNMX 130404 MK**	0.7-3.0	0.17-0.35												●	●			●		●				
	130408 MK	1.0-3.0	0.20-0.40												●	●			●		●				
 Medium	**VNMX 130404 MT**	0.8-3.0	0.15-0.36		●					●	●	●	●				●		●		●				
	130408 MT	1.0-3.0	0.17-0.36		●		●	●		●	●	●	●				●		●		●				
	130412 MT	1.5-3.0	0.20-0.40				●	●		●	●	●	●				●		●		●				
 Medium	**VNMX 130404 PC**	0.4-3.0	0.15-0.36							●	●	●	●				●		●		●				
	130408 PC	0.5-3.0	0.17-0.36							●	●	●	●				●		●		●				
	130412 PC	1.0-3.0	0.20-0.40							●	●	●	●				●		●		●				

● : Standard items

A58, A59, A104,
A129-A132,
A215, A217, A217, A238

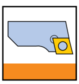
WNMA WNMG

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
 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		●						●	●			●										
	060408 FC	0.5-2.0	0.10-0.25		●						●	●													
	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	●	●						●	●					●								

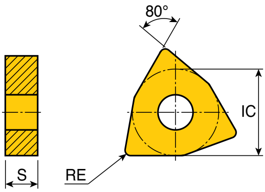


A66, A79, A133, A169, A193, A232

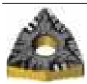
●: Standard items

WNMG

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								●	●													
 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								●	●													
 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								●	●				●	●								

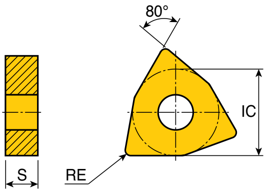
A66, A79, A133, A169, A193, A232

• ✓ Marked: Old type chip breaker

●: Standard items

WNMG

Negative 80° trigon inserts



Size	Dimension (mm)		
	IC	S	RE
06	9.52	4.76	0.4-1.2
08	12.7	4.76	0.8-1.2

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
 OLD  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					●			●	●													

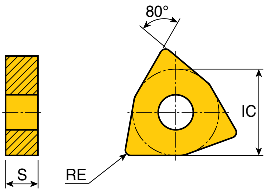
A66, A79, A133, A169, A193, A232

• ✓ Marked: Old type chip breaker

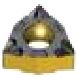
●: Standard items

WNMG WNMX

Negative 80° trigon inserts



Size	Dimension (mm)		
	IC	S	RE
04	7	3.18	0.4
06	9.52	4.76	0.4-1.2
08	12.7	4.76	0.8-1.6

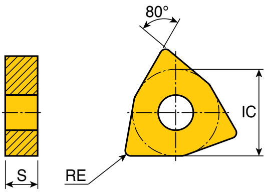
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
wiper  Medium	**WNMG 060408 WT**	0.7-3.5	0.15-0.60								●						●								
	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		●		●	●			●	●	●												
RHINO TURN  Medium	**WNMX 060404 EM**	0.4-3.0	0.10-0.35											●	●	●			●		●				
	060408 EM	0.5-3.0	0.13-0.40											●	●	●			●		●				
	060412 EM	0.7-3.0	0.15-0.40											●	●	●			●		●				
RHINO TURN  Finishing	**WNMX 060404 FG**	0.2-2.0	0.07-0.30	●	●						●	●					●		●						
RHINO M TURN  Finishing	**WNMX 040304 FGP**	0.3-2.0	0.05-0.25	●						●	●								●						
RHINO TURN  Finishing	**WNMX 060404 FM**	0.25-2.0	0.07-0.30		●					●	●	●					●								
	060408 FM	0.3-2.0	0.10-0.35		●					●	●	●					●								
	060412 FM	0.35-2.0	0.15-0.40		●					●	●	●					●								
RHINO TURN  Finishing	**WNMX 060404 FS**	0.25-1.5	0.07-0.30	●	●					●	●	●													
	060408 FS	0.5-1.5	0.10-0.30	●	●					●	●	●													

A60, A66, A79, A109,
A133, A169,
A191, A193, A220, A232

● : Standard items

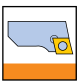
WNMX

Negative 80° trigon inserts



Size	Dimension (mm)		
	IC	S	RE
06	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
 Medium	**WNMX 060404 MK**	0.7-3.0	0.17-0.40												●	●			●		●				
	060408 MK	1.0-3.0	0.20-0.45												●	●			●		●				
	060412 MK	1.2-3.0	0.23-0.50												●	●			●		●				
 Medium	**WNMX 060404 MM**	0.4-3.0	0.15-0.45											●	●	●			●		●				
	060408 MM	0.5-3.0	0.20-0.50								●	●		●	●	●	●		●		●				
	060412 MM	0.7-3.0	0.23-0.50											●	●	●	●		●		●				
 Medium	**WNMX 060404 MT**	0.8-3.0	0.10-0.35				●	●		●	●	●		●	●	●	●		●						
	060408 MT	1.0-3.0	0.15-0.45				●	●		●	●	●		●	●	●	●		●						
	060412 MT	1.2-3.0	0.20-0.55				●	●		●	●	●					●								
 Medium	**WNMX 060404 PC**	0.4-3.0	0.10-0.30							●	●	●													
	060408 PC	0.5-3.0	0.15-0.40							●	●	●									●				
	060412 PC	0.6-3.0	0.18-0.50							●	●	●									●				
wiper  Finishing	**WNMX 060404 WA**	0.25-2.5	0.08-0.25	●	●		●	●		●	●	●					●								
	060408 WA	0.25-3.0	0.10-0.40	●	●		●	●		●	●	●					●								
	060412 WA	0.4-3.0	0.20-0.50	●	●		●	●		●	●	●					●								



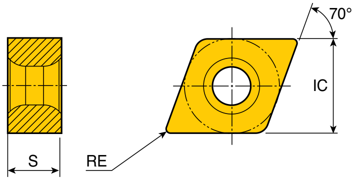
A60, A109,
A133, A134,
A191, A220, A244

●: Standard items

XNMG

T-TURN

Negative 70° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
09	8.7	4.76	0.4
11	11.11	5.56	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	**XNMG**	**090404 FLP**	0.20-1.50	0.07-0.30							●	●	●													
 Finishing	**XNMG**	**110504 FGP**	0.25-2.00	0.07-0.30							●	●	●													
		110508 FGP	0.30-2.00	0.10-0.35							●	●	●													
		110512 FGP	0.35-2.00	0.15-0.40							●	●														
 Medium	**XNMG**	**110508 MLP**	0.50-3.50	0.10-0.40							●	●	●													
		110512 MLP	0.60-3.50	0.15-0.50							●	●	●													

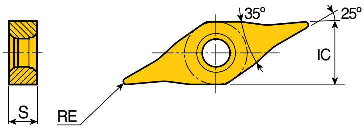
A135-A137,
A192, A222, A233

●: Standard items

YNMG

T-TURN

Negative 25° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
13	7.94	4.76	0.4-0.8

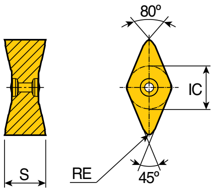
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		CVD coated														PVD coated						
					PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**YNMG**	**130404 FS**	0.3-1.0	0.08-0.20	●	●						●								●		●				
		130408 FS	0.5-1.5	0.08-0.25	●	●						●								●						

A58, A59,
A129, A131, A132,
A215, A217

●: 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[1]		FWT[2]		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															●	●		

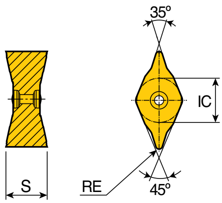
A138

- [1] BWT: Backward turning
- [2] FWT: Forward turning

● : Standard items

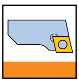
ZNMV Y-BF

Negative rhombic inserts with 35° corner angle



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

Insert	Designation	BWT[1]		FWT[2]		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					●	●	●											



A138, A139

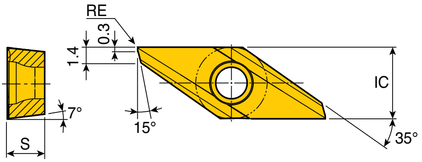
- [1] BWT: Backward turning
- [2] FWT: Forward turning

● : Standard items

BTVC

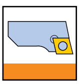
T-TURN

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
TOPMINI  Right hand Back Turn	**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										●		

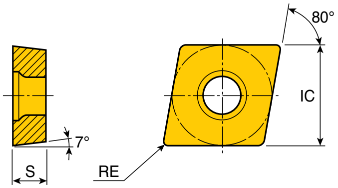


A118

● : Standard items

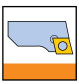
CCET

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  Right hand Finishing	**CCET 0602003 L-GF**	0.1-1.5	0.02-0.15		●						●				
	0602003 R-GF	0.1-1.5	0.02-0.15		●						●				
	060201 L-GF	0.2-1.5	0.02-0.15		●						●				
	060201 R-GF	0.2-1.5	0.02-0.15		●						●				
	060202 L-GF	0.3-1.5	0.03-0.17	●	●						●				
	060202 R-GF	0.3-1.5	0.03-0.17		●						●				
	060204 L-GF	0.3-1.5	0.05-0.20	●	●						●				
	060204 R-GF	0.3-1.5	0.05-0.20		●						●				
	060208 L-GF	0.4-1.5	0.07-0.22		●						●				
	060208 R-GF	0.4-1.5	0.07-0.22		●						●				
	09T3003 L-GF	0.1-2.5	0.02-0.15		●						●				
	09T3003 R-GF	0.1-2.5	0.02-0.15		●						●				
	09T301 L-GF	0.2-2.5	0.02-0.15		●						●				
	09T301 R-GF	0.2-2.5	0.0 2-0.15		●						●				
	09T302 L-GF	0.3-2.5	0.03-0.17		●						●				
	09T302 R-GF	0.3-2.5	0.03-0.17		●						●				
	09T304 L-GF	0.3-2.5	0.05-0.20	●	●						●				
	09T304 R-GF	0.3-2.5	0.05-0.20		●						●				
	09T308 L-GF	0.4-2.5	0.07-0.22		●						●				
	09T308 R-GF	0.4-2.5	0.07-0.22		●						●				
TOPMINI wiper  Right hand Finishing	**CCET 0602003 L-GW✱**	0.1-1.5	0.02-0.15								●				
	0602003 R-GW✱	0.1-1.5	0.02-0.15								●				
	09T3003 L-GW✱	0.1-2.5	0.02-0.15								●				
	09T3003 R-GW✱	0.1-2.5	0.02-0.15								●				

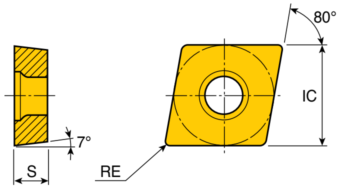


A80-A82, A119, A170, A198, A199, A239

• ✱ Marked: Wiper inserts should be applied to ☐CLCR/L...

●: Standard items

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

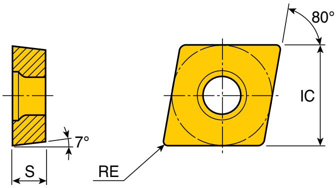
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
TOP MINI  Right hand Finishing	**CCGT**	**0301003 L-FF**	0.05-0.3	0.03-0.10		●						●				
		0301003 R-FF	0.05-0.3	0.03-0.10		●						●				
		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												●
TOP MINI  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			●					●				

A80-A82, A119,
A170, A198,
A199, A239

●: Standard items

CCGT

Positive 7° clearance 80° rhombic inserts



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

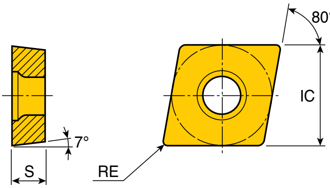
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Roughing For Swiss	**CCGT 09T304M SH-F**	0.7-3.5	0.07-0.17									●	●		
 Medium For Swiss	**CCGT 060204M SM-F**	0.3-1.5	0.03-0.12									●	●		
	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									●	●		
 Finishing For Swiss	**CCGT 060202M SL-F**	0.02-0.2	0.02-0.10									●	●		
	09T301M SL-F	0.02-0.2	0.015-0.10									●	●		
	09T302M SL-F	0.02-0.2	0.02-0.10									●	●		

A80-A82, A119, A170, A198, A199, A239

●: Standard items

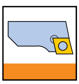
CCMT

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	●	●							●					●		●						
 OLD 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	●	●						●	●					●		●	●					
 OLD 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		●		●				●	●					●		●						



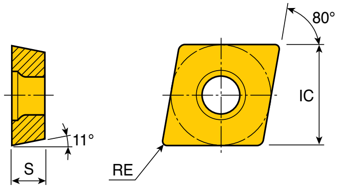
A80-A82, A119, A170, A198, A199, A239

- ✓ Marked: Old type chip breaker
- ✱ Marked: Wiper inserts should be applied to ☐CLCR/L...

●: Standard items

CPGT CPMT

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

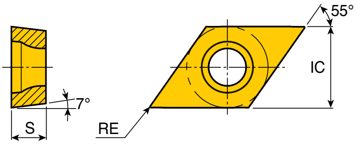
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated														PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**CPGT 080204 C**	0.4-1.5	0.05-0.20		●																				
	090304 C	0.4-2.0	0.05-0.20		●																				
 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		●		●	●				●		●	●		●		●						

A201, A202

●: Standard items

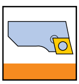
DCET

Positive 7° clearance 55° rhombic inserts



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

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



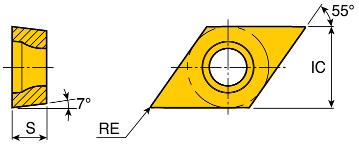
A85, A86, A89, A90, A120, A123, A125, A170, A203-A205, A241

• ✱ Marked: Wiper inserts should be applied to ☐DJCR/L..., ☐DUCR/L..., ☐DZCR/L...

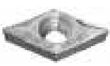
● : Standard items

DCGT

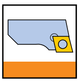
Positive 7° clearance 55° rhombic inserts



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

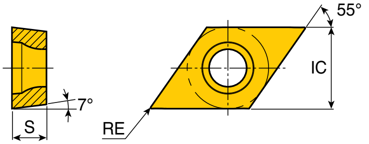
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet PV3010	Cermet CT3000	PVD coated TT5080	PVD coated TT8020	PVD coated TT9080	PVD coated TT3010	PVD coated TT3020	PVD coated TT9020	PVD coated TT4410	PVD coated TT4430	Uncoated P20	Uncoated K10
TOP MINI  Right hand Finishing	**DCGT**	**0702003 L-FF**	0.05-0.3	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												●
TOP MINI  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			●					●				

● : Standard items



A85, A86, A89, A90,
A120, A123, A125,
A170, A203-A205, A241

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

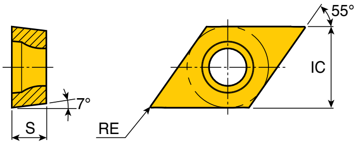
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
				PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
TOPMINI  Roughing For Swiss	**DCGT 11T302M SH-E**	0.5-3.5	0.05-0.15									●	●		
	11T304M SH-E	0.7-3.5	0.07-0.17									●	●		
	11T302M SH-F	0.5-3.5	0.05-0.15									●	●		
	11T304M SH-F	0.7-3.5	0.07-0.17									●	●		
TOPMINI  Medium For Swiss	**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	0.3-1.5	0.03-0.12									●	●		
	11T301M SM-F	0.2-1.5	0.02-0.12									●	●		
	11T302M SM-F	0.2-1.5	0.02-0.12									●	●		
	11T304M SM-F	0.3-1.5	0.03-0.12									●	●		
TOPMINI  Finishing For Swiss	**DCGT 070202M SL-F**	0.02-0.20	0.02-0.10									●	●		
	11T301M SL-F	0.02-0.20	0.015-0.10									●	●		
	11T302M SL-F	0.02-0.20	0.02-0.10									●	●		

A85, A86, A89, A90,
A120, A123, A125,
A170, A203-A205, A241

● : Standard items

DCMT

Positive 7° clearance 55° rhombic inserts



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

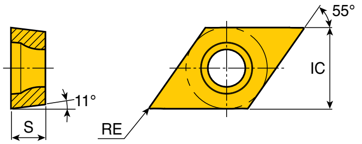
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated														PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**DCMT 070202 FA**	0.1-1.5	0.03-0.15	●	●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

●: Standard items

A85, A86, A89, A90,
A120, A123, A125,
A170, A203-A205, A241

DPET DPGT

Positive 11° clearance 55° rhombic inserts



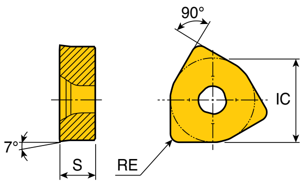
Size	Dimension (mm)		
	IC	S	RE
07	6.35	2.38	0.03-0.2
11	9.52	3.97	0.03-0.2

Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Right hand Finishing	**DPET**	**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		●						●				
		070202 L-GF	0.3-1.5	0.03-0.17		●						●				
		070202 R-GF	0.3-1.5	0.03-0.17		●						●				
		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		●						●				
 Right hand Finishing	**DPGT**	**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		●						●				
		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		●						●				

● : Standard items

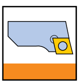
FCMX

Positive 7° clearance high feed inserts



Size	Dimension (mm)		
	IC	S	RE
10	15.45	6.5	1.6

Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet: PV3010	Cermet: CT3000	CVD coated: TT3005	CVD coated: TT7005	CVD coated: TT7015	CVD coated: TT7025	CVD coated: TT8105B	CVD coated: TT8115B	CVD coated: TT8125B	CVD coated: TT8135B	CVD coated: TT9215	CVD coated: TT9225	CVD coated: TT9235	CVD coated: TT5100	CVD coated: TT7100	PVD coated: TT5080	PVD coated: TT8020	PVD coated: TT9080	PVD coated: TT3010	PVD coated: TT3020	PVD coated: 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**	0.5-2.0	1.00-2.50								●	●	●												

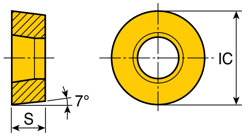


A92

●: 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			

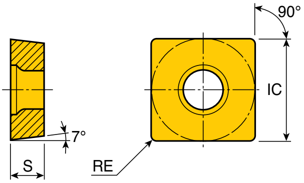
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium For aluminum	**RCGT 0803MO FL**	1.0-4.0	0.20-0.40																						●
	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								●	●	●												

A72, A73,
A93, A94,
A171

● : Standard items

SCGT SCMT

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	0.4-1.2

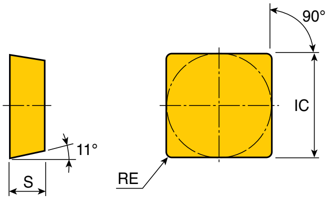
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet PV3010	CT3000	CVD coated TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	PVD coated TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium For aluminum	**SCGT 09T308 FL**	0.5-3.0	0.10-0.30																						●
	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		●						●	●		●	●						●				

●: Standard items

A95,
A206

SPGN SPMR SPUN

Positive 11° clearance square inserts



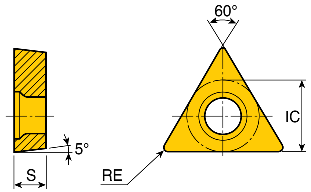
Size	Dimension (mm)		
	IC	S	RE
09	9.52	3.18	0.4-0.8
12	12.7	3.18-4.76	0.4-1.6
15	15.88	4.76	0.4-1.2
19	19.05	4.76	0.4-1.2

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																		●				
	120404	1.0-5.0	0.08-0.20																						
	120408	1.0-5.0	0.10-0.25																						●
	120412	1.0-5.0	0.15-0.30																						
	120416	1.0-5.0	0.18-0.33																						●
	150404	1.5-7.0	0.08-0.20								●														●
	150408	1.5-7.0	0.10-0.25																						
	150412	1.5-7.0	0.15-0.30																						
	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 090304**	1.0-3.5	0.10-0.30		●																				
	090308	1.0-3.5	0.15-0.40																						
	120304	1.0-5.0	0.10-0.30								●	●													
	120308	1.0-5.0	0.15-0.40		●						●	●													●
	120312	1.0-5.0	0.20-0.50																						
	150404	1.5-7.0	0.10-0.30														●								
	190412	1.5-9.0	0.20-0.50									●													

A50,
A183

●: Standard items

Positive 5° clearance triangular inserts



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

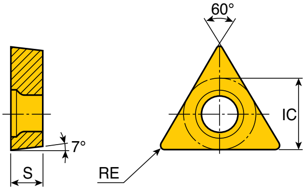
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
TOPMINI  Right hand Finishing	**TBGT**	**0601003 R-FF**	0.05-0.3	0.03-0.10		●						●				
		0601003 L-FF	0.05-0.3	0.03-0.10		●						●				
		060101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

A211, A213

● : Standard items

TCET TCGT

Positive 7° clearance triangular inserts



Size	Dimension (mm)		
	IC	S	RE
08	4.76	2.38	0.03-0.2
09	5.56	2.36	0.4
11	6.35	2.38-3.18	0.03-0.8
16	9.52	3.97	0.4-0.8

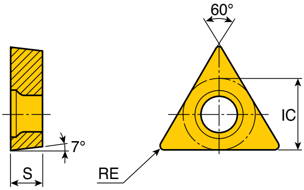
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
TOPMINI  Right hand Finishing	**TCET**	**0802003 L-GF**	0.2-1.5	0.02-0.12		●						●				
		0802003 R-GF	0.2-1.5	0.02-0.12		●						●				
		080201 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		●						●				
		110304 L-GF	0.5-1.5	0.05-0.20		●						●				
		110304 R-GF	0.5-1.5	0.05-0.20		●						●				
 Medium For aluminum	**TCGT**	**090204 FL**	0.2-2.5	0.05-0.25												●
		110204 FL	0.2-3.0	0.05-0.30												●
		16T304 FL	0.5-3.0	0.05-0.30												●
		16T308 FL	0.5-3.0	0.10-0.30												●
TOPMINI  Finishing	**TCGT**	**110201 SA**	0.1-2.5	0.01-0.05			●					●				
		110202 SA	0.2-2.5	0.02-0.15			●					●				
		110204 SA	0.2-2.5	0.03-0.20			●					●				

A96-A98,
A171, A207

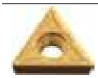
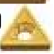
● : Standard items

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	0.4-0.8
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	●	●						●	●					●		●	●					
 OLD  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		●						●	●		●	●						●				

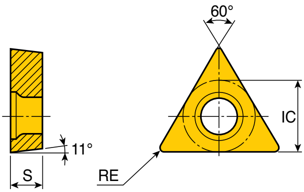
A96-A98,
A171, A207

• ✓ Marked: Old type chip breaker

●: Standard items

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	0.03-0.8

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	**TPET**	**0802003 L-GF**	0.2-1.5	0.02-0.12		●						●				
		0802003 R-GF	0.2-1.5	0.02-0.12		●						●				
		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		●						●				
TOPMINI  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		●						●				

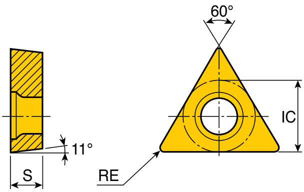

A209, A210

●: Standard items

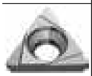
TPGN TPGT TPGX

T-TURN

Positive 11° clearance triangular inserts



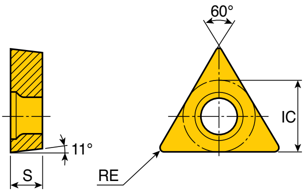
Size	Dimension (mm)		
	IC	S	RE
09	5.56	2.38	0.2-0.4
11	6.35	3.18	0.2-0.8
16	9.52	4.76	0.2-12
22	12.7	4.76	0.4-3.0
27	15.88	6.35	0.8

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																							
	220430	1.5-7.0	0.30-0.45																							
	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		●																					

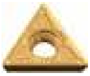
●: Standard items

A51, A52,
A184,
A209, A210

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

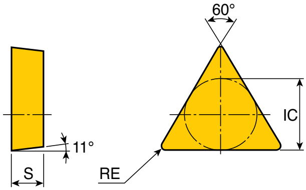
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 OLD  Medium	**TPMR 090204**	0.5-2.0	0.10-0.25								●	●					●								
	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									●		●	●				●						

A51, A52,
A184,
A209, A210

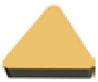
• ✓ Marked: Old type chip breaker

●: Standard items

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	0.4-1.6
22	12.7	4.76	0.4-1.6

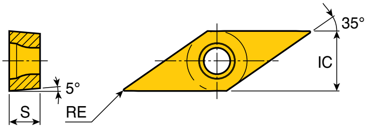
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated													PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Medium	**TPUN 110304**	1.0-3.0	0.10-0.30									●													●
	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									●													
	160316	1.5-5.0	0.25-0.55																						
	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									●													
	220416	1.5-7.0	0.25-0.55																						

A51, A52,
A184

●: Standard items

VBET VBGT

Positive 5° clearance 35° rhombic inserts



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

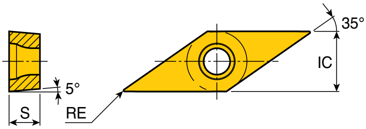
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
TOPMINI  Right hand Finishing	**VBET**	**110301 L-GF**	0.2-1.5	0.02-0.15		●						●				
		110301 R-GF	0.2-1.5	0.02-0.15		●						●				
		110302 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		●						●				
TOPMINI 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								●				
TOPMINI  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		●						●				
TOPMINI  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								●				
TOPMINI  Finishing For Swiss	**VBGT**	**110302M SL-F**	0.02-0.20	0.02-0.10									●	●		
TOPMINI  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	0.3-1.5	0.03-0.12									●	●		

A100, A101, A106-A108, A122, A124, A125, A172, A214, A216, A218, A219, A243

* Marked: Wiper inserts should be applied to ☐VJBR/L...

● : Standard items

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	0.4-1.2

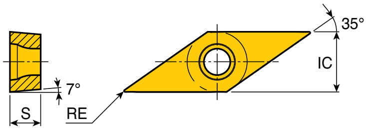
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet PV3010	CT3000	CVD coated TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	PVD coated TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 Finishing	**VBGT 160404 FGS**	0.2-2.5	0.03-0.20			●													●			●	●		●
	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		●		●				●	●					●		●						

A100, A101, A106-A108,
A122, A124, A125, A172,
A214, A216, A218, A219, A243

●: Standard items

VCGT

Positive 7° clearance 35° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.1-0.4
16	9.52	4.76	0.2-1.2
22	12.7	5.56	3.0

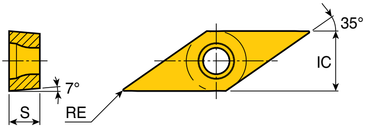
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
 Medium For aluminum	**VCGT**	**110302 FL**	0.2-2.5	0.05-0.20												●
		110304 FL	0.5-3.0	0.05-0.25												●
		160402 FL	0.5-2.5	0.05-0.25												●
		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												●
TOP MINI  Finishing	**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			●					●				
TOP MINI  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	0.3-1.5	0.03-0.12									●	●		
TOP MINI  Finishing For Swiss	**VCGT**	**110302M SL-F**	0.02-0.25	0.02-0.10									●	●		

A102, A103, A108, A118,
A214, A216, A218, A219

● : 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	0.1-0.4
16	9.52	4.76	0.4-0.8

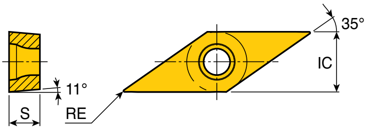
Insert	Designation	ap (mm)	Feed (mm/rev)	Cermet		CVD coated															PVD coated						
				PV3010	CT3000	TT3005	TT7005	TT7015	TT7025	TT8105B	TT8115B	TT8125B	TT8135B	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	K10
 VCMT 08, 11  VCMT 16 Medium	**VCMT 080202 PC**	0.2-1.5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

A102, A103, A108, A118, A214, A216, A218, A219

●: Standard items

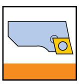
VPET VPGT

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
TOP MINI  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		●						●				
TOP MINI  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 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		●						●				

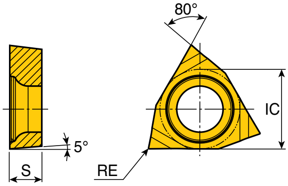


A215

●: 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

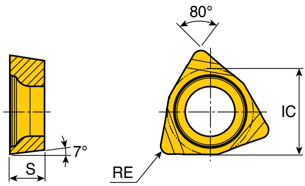
Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
TOPMINI  Left hand Finishing	**WBGT**	**0601003 R-FF**	0.05-0.3	0.03-0.10		●						●				
		0601003 L-FF	0.05-0.3	0.03-0.10		●						●				
		060101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

A221

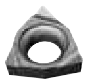
●: Standard items

WCGT

Positive 7° clearance 80° trigon inserts



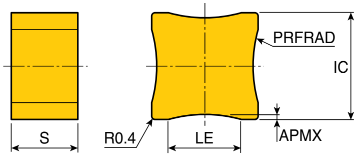
Size	Dimension (mm)		
	IC	S	RE
02	3.97	1.59	0.2-0.4

Insert	Designation		ap (mm)	Feed (mm/rev)	Cermet		PVD coated								Uncoated	
					PV3010	CT3000	TT5080	TT8020	TT9080	TT3010	TT3020	TT9020	TT4410	TT4430	P20	K10
TOPMINI  Left hand Finishing	**WCGT**	**020102 L-FF**	0.1-0.4	0.03-0.15	●	●										
		020104 L-FF	0.1-0.4	0.05-0.20	●	●										

●: Standard items

T-TURN

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	-	-														●								

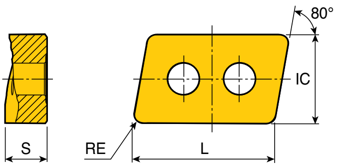
●: Standard items

TaeguTec
Member IMC Group

LNMM

T-TURN

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									●						●							

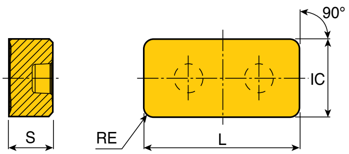
A158

●: Standard items

LNMX

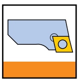
T-TURN

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									●			●			●							

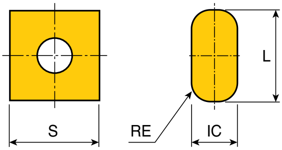


A158

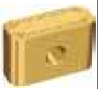
●: Standard items

LNMX

TOP-RAIL inserts



Size	Dimension (mm)			
	L	RE	IC	S
19	19.05	4	10	19.05
30	30	4	12	19.05

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							●	●	●													

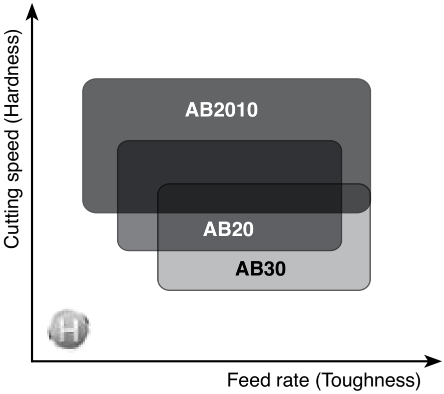
A159

● : Standard items

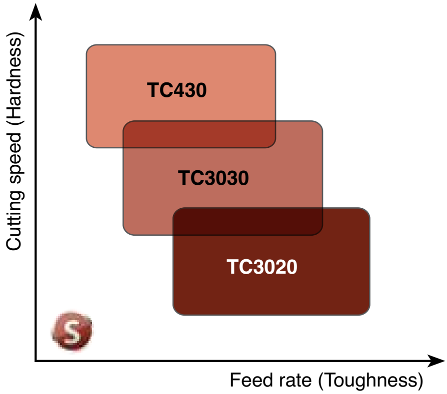
Selection guide for ceramic grades

For cast iron

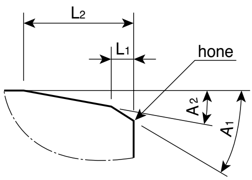
For hardened steel (HRc 40~50)



For super alloys



Edge preparations for ceramic inserts

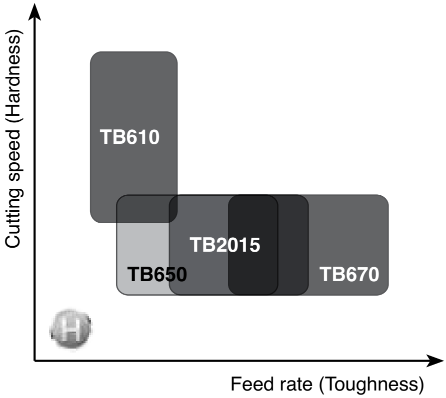
Single land		Double land			
Symbol	Width(mm) X angle	Symbol	Width(mm) X angle		Shape
			L1 X A1	L2 X A2	
T2	0.10 X 30°	U1	0.15 X 30°	0.7 X 15°	
T3	0.15 X 30°	U2	0.15~0.2 X 30°	1.5 X 15°	
T4	0.20 X 30°	U3	0.2 X 30°	2.0 X 15°	
T5	0.30 X 20°	- All items are honed			
T6	0.10 X 20°				
T7	0.20 X 20°				

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

Hard Turn for Ceramic, CBN and PCD Inserts

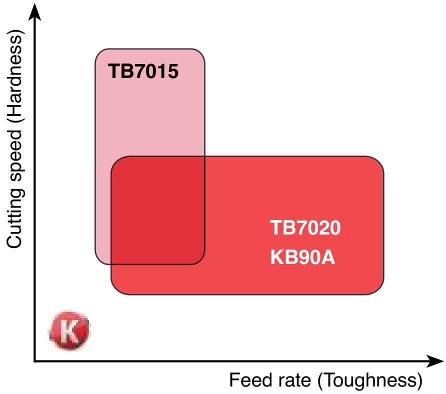
Selection guide for CBN and PCD grades

For hardened steel (HRc ≥ 50, CBN)

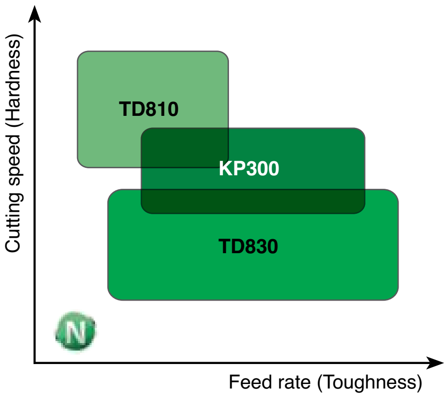


• TB730 for General turning of sintered or powder metals

For cast iron (CBN)



For non-ferrous material (PCD)



Information of CBN type

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

Edge preparations for CBN inserts

Symbol	Width(mm) x angle	Symbol	Width(mm) x angle
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

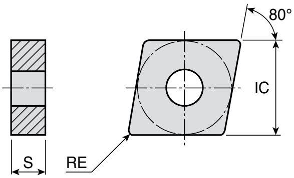
TB610, TB2015, TB650, TB670 : 0.13x20°+honed

TB730, TB7015 : 0.13x20°+no honed

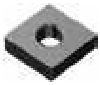
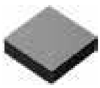
KB90A, TB7020 : 0.20x20°+honed

CNGA CNGN

Negative 80° rhombic inserts



Size	Dimension (mm)		
	IC	S	RE
12	12.7	4.76-7.94	0.4-1.6
16	15.88	4.76-6.35	0.8-2.4
19	19.05	6.35-7.94	0.8-2.4

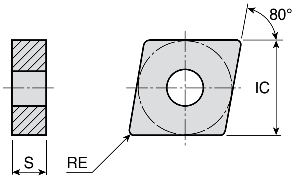
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**CNGA**	**120404**	0.10-3.00	0.05-0.15	●	●	●							
		120404 T2	0.10-3.00	0.05-0.15			●							
		120404 T7-WZ	0.10-3.00	0.05-0.15	●									
		120408	0.10-3.00	0.05-0.20	●	●	●		●	●	●			
		120408 E	0.10-3.00	0.05-0.20									●	●
		120408 S7	0.10-3.00	0.05-0.20	●									
		120408 T2	0.10-3.00	0.05-0.20		●	●							
		120408 T6	0.10-3.00	0.05-0.20		●						●	●	●
		120408 T6-WZ	0.10-3.00	0.05-0.20							●			
		120408 T7	0.10-3.00	0.05-0.20				●	●					
		120408 T7-WZ	0.10-3.00	0.05-0.20	●	●								
		120412	0.10-3.00	0.05-0.25	●	●	●			●	●			
		120412 T2	0.10-3.00	0.05-0.25		●								
		120412 T6-WZ	0.10-3.00	0.05-0.25						●	●			
		120412 T7	0.10-3.00	0.05-0.25					●					
		120412 T7-WZ	0.10-3.00	0.05-0.25	●	●								
		120416	0.10-3.00	0.05-0.30		●	●			●	●			
		160608	0.10-3.50	0.05-0.20		●								
		160612	0.10-3.50	0.05-0.25			●							
		160616	0.10-3.50	0.05-0.30			●							
		190608	0.10-4.50	0.05-0.20		●	●							
		190612	0.10-4.50	0.05-0.25		●	●							
	**CNGN**	**120404**	0.10-3.00	0.05-0.15			●							
		120404 T6	0.10-3.00	0.05-0.15								●		
		120408	0.10-3.00	0.05-0.20	●	●	●				●			
		120408 E	0.10-3.00	0.05-0.20									●	●
		120408 T6	0.10-3.00	0.05-0.20								●	●	●
		120408 T7	0.10-3.00	0.05-0.20					●					
		120412	0.10-3.00	0.05-0.25		●				●	●			
		120412 E	0.10-3.00	0.05-0.25								●		●
		120412 T6	0.10-3.00	0.05-0.25								●		
		120412 T7	0.10-3.00	0.05-0.25				●						
		120416	0.10-3.00	0.05-0.30							●			
		120416 T6	0.10-3.00	0.05-0.30								●		
		120708	0.10-3.00	0.05-0.20	●	●	●							

A67-A69,
A144, A151,
A194

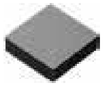
●: Standard items

CNGN CNGX-CH CNMG-CE

Negative 80° rhombic inserts



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

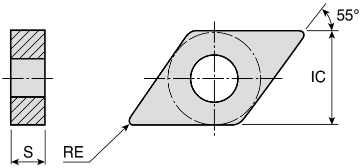
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic AB2010	AB20	AB30	AW120	SC500	AS500	SC10	AS10	TC430	TC3020	TC3030
	**CNGN**	**120708 E**	0.10-3.00	0.05-0.20									●	●	
		120708 T6	0.10-3.00	0.05-0.20								●	●	●	
		120712	0.10-3.00	0.05-0.25			●				●				
		120712 E	0.10-3.00	0.05-0.25									●	●	
		120712 T6	0.10-3.00	0.05-0.25								●	●		
		120712 T7	0.10-3.00	0.05-0.25				●							
		120716	0.10-3.00	0.05-0.30			●			●					
		120716 T6	0.10-3.00	0.05-0.30									●	●	
		120716 T7	0.10-3.00	0.05-0.30				●							
 Dimple type	**CNGX**	**120712 CH**	0.10-3.50	0.05-0.30								●			
		120712 T7-CH	0.10-3.50	0.05-0.30					●	●		●			
		120716 CH	0.10-3.50	0.05-0.35							●	●			
		120716 T7-CH	0.10-3.50	0.05-0.35						●					
	**CNMG**	**120404 CE**	0.10-3.00	0.05-0.15			●								
		120408 CE	0.10-3.00	0.05-0.20		●	●								

A110, A111, A144-A146,
A151, A166,
A223-A225, A235

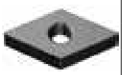
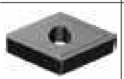
● : Standard items

DNGA DNGN DNGX-CH DNMG-CE

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

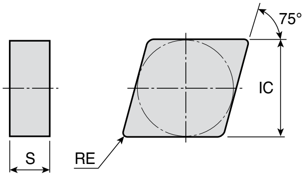
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**DNGA**	**150404**	0.10-2.50	0.05-0.15		●	●							
		150408	0.10-2.50	0.05-0.20	●	●	●							
		150408 S7	0.10-2.50	0.05-0.20	●									
		150412	0.10-2.50	0.05-0.25	●	●	●							
		150604	0.10-2.50	0.05-0.15	●	●	●							
		150608	0.10-2.50	0.05-0.20	●	●	●				●			
		150608 T5	0.10-2.50	0.05-0.20			●							
		150612	0.10-2.50	0.05-0.25	●	●	●				●			
		150616	0.10-2.50	0.05-0.30		●	●							
	**DNGN**	**150408**	0.10-2.50	0.05-0.20		●	●							
		150704	0.10-2.50	0.05-0.15			●							
		150708	0.10-2.50	0.05-0.20			●							
		150708 T6	0.10-2.50	0.05-0.20									●	
		150708 T7	0.10-2.50	0.05-0.20				●						
		150712 T6	0.10-2.50	0.05-0.25									●	
		150712 T7	0.10-2.50	0.05-0.25				●						
		150716 U2	0.10-2.50	0.05-0.30			●							
 Dimple type	**DNGX**	**120712 T7-CH**	0.10-3.00	0.05-0.30							●			
		150708 T7-CH	0.10-3.00	0.05-0.25							●			
		150712 CH	0.10-3.00	0.05-0.30						●	●			
		150712 T7-CH	0.10-3.00	0.05-0.30					●					
		150716 CH	0.10-3.50	0.05-0.35							●			
		150716 T7-CH	0.10-3.50	0.05-0.35							●			
	**DNMG**	**150608 CE**	0.10-2.50	0.05-0.20			●							

●: Standard items

A61, A62, A70, A71, A113-A116, A147, A152, A166, A195, A226, A227

ENGN

Negative 75° rhombic inserts



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

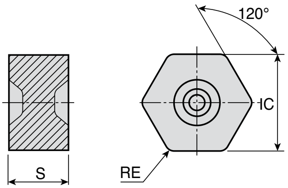
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**ENGN**	**130708**	0.10-2.50	0.05-0.20	●	●	●							
		130708 T5	0.10-2.50	0.05-0.20			●							
		130712 T5	0.10-2.50	0.05-0.25			●							
		130716	0.10-2.50	0.05-0.30		●								
		130716 U2	0.10-2.50	0.05-0.30			●							

A153

● : Standard items

HNGX-CH

Negative 120° hexagonal inserts



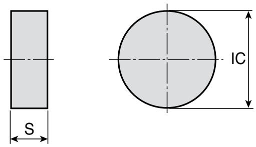
Size	Dimension (mm)		
	IC	S	RE
05	12.7	7.94	1.2-1.6

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	0.05-0.30	0.10-2.00							●			
		050716 T7-CH	0.05-0.30	0.10-2.00					●					

● : Standard items

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	

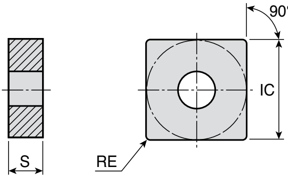
Insert	Designation	ap (mm)	Feed (mm/rev)	Ceramic									
				AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**RNGN 090300**	0.10-2.50	0.05-0.15		●	●							
	090300 T6	0.10-2.50	0.05-0.15								●		
	090400 T6	0.10-2.50	0.05-0.15								●		
	120400	0.10-4.00	0.05-0.20	●	●	●							
	120400 E	0.10-4.00	0.05-0.20								●		●
	120400 T6	0.10-4.00	0.05-0.20								●		
	120700	0.10-4.00	0.05-0.20	●	●	●							
	120700 E	0.10-4.00	0.05-0.20									●	●
	120700 E04	0.10-4.00	0.05-0.20									●	
	120700 S6	0.10-4.00	0.05-0.20									●	●
	120700 T6	0.10-4.00	0.05-0.20								●	●	●
	150700	0.10-4.50	0.05-0.25		●	●							
	150700 T6	0.10-4.50	0.05-0.25								●		
	190700	0.10-5.00	0.05-0.30		●	●							
	190700 E04	0.10-5.00	0.05-0.30									●	●
	190700 T6	0.10-5.00	0.05-0.30								●	●	●
	190700 U2	0.10-5.00	0.05-0.30			●							
	250900 E04	0.10-5.00	0.05-0.35									●	●
	250900 T6	0.10-5.00	0.05-0.35									●	●

A154

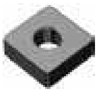
● : Standard items

SNGA SNGN

Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
12	12.7	4.76-7.94	0.4-2.0
15	15.88	7.94	1.2-1.6
19	19.05	6.35-7.94	0.8-1.6

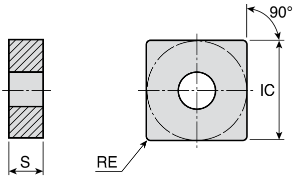
Insert	Designation	ap (mm)	Feed (mm/rev)	Ceramic									
				AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**SNGA 120404**	0.10-3.00	0.05-0.15	●	●	●							
	120408	0.10-3.00	0.05-0.20	●	●	●							
	120408 S7	0.10-3.00	0.05-0.20	●									
	120408 T2	0.10-3.00	0.05-0.20			●							
	120412	0.10-3.00	0.05-0.25	●	●	●				●			
	120416	0.10-3.00	0.05-0.30						●	●			
	190608	0.10-4.50	0.05-0.20			●							
	190612	0.10-4.50	0.05-0.25			●							
	**SNGN 120404**	0.10-3.00	0.05-0.15	●	●	●							
	120404 T7	0.10-3.00	0.05-0.15				●						
	120408	0.10-3.00	0.05-0.20	●	●	●				●			
	120408 T2	0.10-3.00	0.05-0.20			●							
	120408 T6	0.10-3.00	0.05-0.20								●	●	●
	120412	0.10-3.00	0.05-0.25	●	●	●			●				
	120412 T3	0.10-3.00	0.05-0.25							●			
	120412 T6	0.10-3.00	0.05-0.25								●		
	120412 T7	0.10-3.00	0.05-0.25				●	●					
	120416	0.10-3.00	0.05-0.30	●	●	●			●				
	120416 T6	0.10-3.00	0.05-0.30								●		
	120416 T7	0.10-3.00	0.05-0.30				●						
	120708	0.10-3.00	0.05-0.20	●	●	●							
	120708 T6	0.10-3.00	0.05-0.20								●		
	120708 T7	0.10-3.00	0.05-0.20				●						
	120712	0.10-3.00	0.05-0.25	●	●	●			●				
	120712 T6	0.10-3.00	0.05-0.25			●					●	●	●
	120712 T7	0.10-3.00	0.05-0.25				●						
	120716	0.10-3.00	0.05-0.30	●		●							
	120716 T7	0.10-3.00	0.05-0.30				●						
	120720 U2	0.10-3.00	0.05-0.30			●							
	150712 T6	0.10-3.50	0.05-0.25								●		
	150716	0.10-3.50	0.05-0.30			●							
	190716	0.10-4.00	0.05-0.30			●							

A75, A76,
A126, A127,
A155, A156, A167, A196

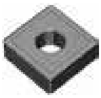
●: Standard items

SNGX-CH SNMG-CE

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

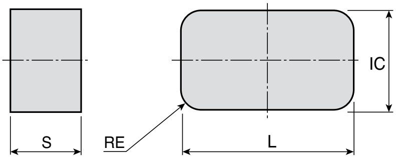
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic										
					AB2010	AB20	AB30	AW120	SC500	AS500	SC10	AS10	TC430	TC3020	TC3030
 Dimple type	**SNGX**	**120712 CH**	0.10-3.00	0.05-0.30							●	●			
		120712 T7-CH	0.10-3.00	0.05-0.30						●					
		120716 CH	0.10-3.00	0.05-0.35							●	●			
		120716 T7-CH	0.10-3.00	0.05-0.35					●	●		●			
		150716 T7-CH	0.10-3.50	0.05-0.35								●			
	**SNMG**	**120408 CE**	0.10-3.00	0.05-0.20			●								

●: Standard items

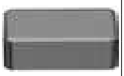
A75, A76,
A126, A127, A148,
A167, A196

LNU T32-

Negative square inserts



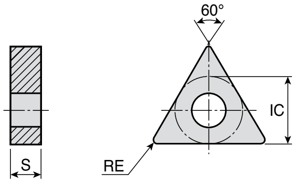
Size	Dimension (mm)			
	L	IC	S	RE
LNU	38.1	19.05	12.77	3.2
T32	31.75	19.05	12.7	2

Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic										
					AB2010	AB20	AB30	AW120	SC500	AS500	SC10	AS10	TC430	TC3020	TC3030
	**LNU**	**6688 T**	1.00-20.0	0.20-1.00		●	●								
	**T32-**	**32-R2**	1.00-15.0	0.20-0.25		●	●								

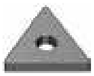
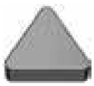
●: Standard items

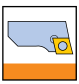
TNGA TNGN TNMG-CE

Negative triangular inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.8
16	9.52	3.18-7.94	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**	0.10-2.50	0.05-0.15	●	●	●							
		160404 T2	0.10-2.50	0.05-0.15			●							
		160408	0.10-2.50	0.05-0.20	●	●	●							
		160408 T2	0.10-2.50	0.05-0.20		●	●							
		160412	0.10-2.50	0.05-0.25	●	●								
		160412 T2	0.10-2.50	0.05-0.25			●							
		160416	0.10-2.50	0.05-0.30		●								
		220404	0.10-3.00	0.05-0.15		●	●							
		220408	0.10-3.00	0.05-0.20	●	●	●							
		220412	0.10-3.00	0.05-0.25		●	●							
		220416	0.10-3.00	0.05-0.30		●	●							
	**TNGN**	**110308**	0.10-1.00	0.05-0.15			●							
		160404	0.10-2.50	0.05-0.15		●	●							
		160408	0.10-2.50	0.05-0.20	●	●	●				●			
		160408 T6	0.10-2.50	0.05-0.20								●		
		160408 T7	0.10-2.50	0.05-0.20				●						
		160412	0.10-2.50	0.05-0.25		●	●			●	●			
		160412 T7	0.10-2.50	0.05-0.25				●	●					
		160416	0.10-1.00	0.05-0.20			●							
		160416 T7	0.10-1.00	0.05-0.20				●						
		160704	0.10-2.50	0.05-0.15			●							
		160708	0.10-2.50	0.05-0.20			●							
	**TNMG**	**160408 CE**	0.10-2.50	0.05-0.20			●							



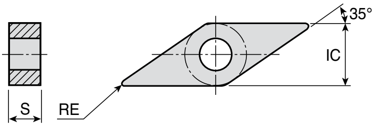
A63, A77, A78, A128, A140, A141, A168, A197, A230, A231, A234

●: Standard items

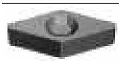
VNGA VNGX-CH

T-TURN

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**	0.05-1.00	0.05-0.10	●	●	●							
		160408	0.05-1.00	0.05-0.15	●	●	●							
		160412	0.05-1.50	0.05-0.20		●	●							
		220412	0.05-2.00	0.05-0.20			●							
 Dimple type	**VNGX**	**160712 T7-CH**	0.05-1.50	0.05-0.20							●			

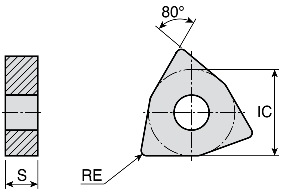
A64, A65,
A129, A131,
A168

●: Standard items

WNGA

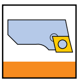
T-TURN

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**	0.10-2.50	0.05-0.25	●	●	●			●	●			
		080408 T7-WZ	0.10-2.50	0.05-0.25	●	●								
		080412	0.10-2.50	0.05-0.25	●	●	●			●	●			
		080412 T7	0.10-2.50	0.05-0.25					●					
		080412 T7-WZ	0.10-2.50	0.05-0.25							●			

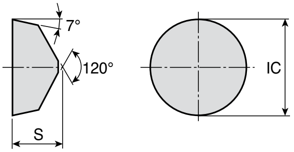


A66, A79, A133,
A169, A193,
A232

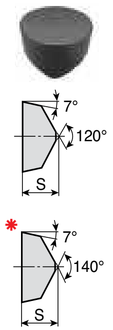
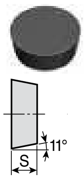
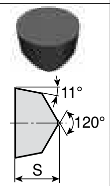
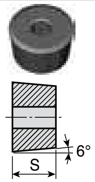
●: Standard items

RCGX RPGN RPGX T11-

Positive round inserts



Size	Dimension (mm) IC	Dimension (mm) S	Size	Dimension (mm) IC	Dimension (mm) S
06	6.35	6.35	**19**	19.05	10.3
09	9.52	3.18-7.94	**25**	25.4	12.3
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**	0.10-2.00	0.05-0.25								●		
		060600 U1	0.10-2.00	0.05-0.25			●							
		090700 E	0.10-3.00	0.05-0.35									●	●
		090700 E04	0.10-3.00	0.05-0.30									●	●
		090700 T2	0.10-3.00	0.05-0.30			●							
		090700 T6	0.10-3.00	0.05-0.30								●	●	●
		090700 U1	0.10-3.00	0.05-0.30		●	●							
		120700	0.10-4.00	0.05-0.35			●						●	
		120700 E	0.10-4.00	0.05-0.35									●	●
		120700 E04	0.10-4.00	0.05-0.35									●	●
		120700 T6	0.10-4.00	0.05-0.35								●	●	●
		120700 U2	0.10-4.00	0.05-0.35		●	●					●		
		151000 U2	0.10-5.00	0.05-0.35		●	●							
		191000 U2	0.10-5.00	0.05-0.35		●	●							
		251200 U3 *	0.10-5.00	0.05-0.35		●	●							
	**RPGN**	**090300 E**	0.10-3.00	0.05-0.30								●		
		120400 E	0.10-4.00	0.05-0.35									●	●
		120400 T6	0.10-4.00	0.05-0.35								●	●	●
	**RPGX**	**090700 E**	0.10-3.00	0.05-0.35									●	●
		090700 T6	0.10-3.00	0.05-0.35										●
		120700 E	0.10-4.00	0.05-0.35									●	●
		120700 T6	0.10-4.00	0.05-0.35								●	●	●
	**T11-**	**3219**	0.10-5.00	0.05-0.35		●								

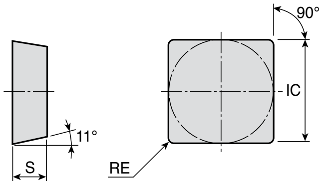
A142-A143

• * Marked: 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

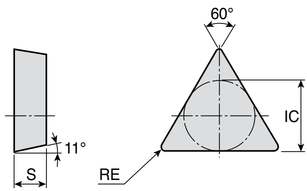
Insert	Designation		ap (mm)	Feed (mm/rev)	Ceramic									
					AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	TC3020	TC3030
	**SPGN**	**120308**	0.10-3.50	0.05-0.20			●				●			
		120412	0.10-3.50	0.05-0.20							●			

A50,
A183

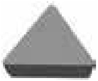
● : Standard items

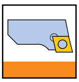
TPGN

Positive triangular inserts



Size	Dimension (mm)		
	IC	S	RE
11	6.35	3.18	0.4-0.8
16	9.52	3.18	0.4-1.2
22	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
	**TPGN**	**110304**	0.10-2.00	0.05-0.10	●	●	●							
		110304 T2	0.10-2.00	0.05-0.10			●							
		110308	0.10-2.00	0.05-0.10	●	●	●							
		160304	0.10-2.50	0.05-0.15	●	●	●							
		160304 T2	0.10-2.50	0.05-0.15		●								
		160308	0.10-2.50	0.05-0.20	●	●	●				●			
		160308 T2	0.10-2.50	0.05-0.20		●	●							
		160308 T6	0.10-2.50	0.05-0.20								●		
		160312	0.10-2.50	0.05-0.25		●								
		220408	0.10-3.00	0.05-0.20			●							
		220412	0.10-3.00	0.05-0.25		●								

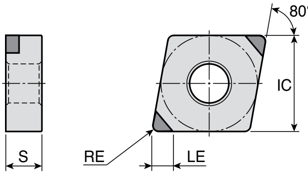


A51, A52,
A184

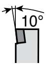
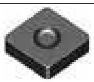
● : Standard items

CNGA CNGN-SD CNGX-DA

Negative 80° rhombic inserts



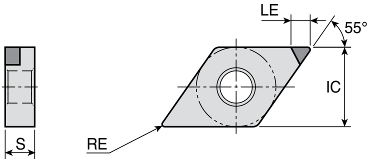
Size	Dimension (mm)		
	IC	S	RE
09	9.52	3.18	0.8-1.6
12	12.7	4.76	0.4-1.6

Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN							PCD		
						TB610	TB650	TB670	TB730	TB7015	KB90A	TB7020	TD810	KP300	TD830
	**CNGA**	**120404 WZ-LS**	2.1	0.10-0.50	0.05-0.30		●								
		120404 WZ-LS2	2.1	0.10-0.50	0.05-0.30	●	●	●							
		120408 WZ-LS	2.1	0.10-0.50	0.05-0.30		●			●					
		120408 WZ-LS2	2.1	0.10-0.50	0.05-0.30	●	●	●	●						
		120408 WZ-LS4	2.1	0.10-0.50	0.05-0.30	●	●	●							
		120412 WZ-LS	2.5	0.10-0.50	0.05-0.30		●			●					
		120412 WZ-LS2	2.5	0.10-0.50	0.05-0.30		●	●	●						
		120412 WZ-LS4	2.5	0.10-0.50	0.05-0.30			●							
	**CNGA**	**120404 LN**	4.2	0.10-0.50	0.05-0.30	●		●		●					
		120404 LS	2.2	0.10-0.50	0.05-0.30					●					
		120404 LS2	2.2	0.10-0.50	0.05-0.30	●	●	●	●						
		120404 LS4	2.2	0.10-0.50	0.05-0.30		●	●							
		120408 LN	4.0	0.10-0.50	0.05-0.30	●	●		●	●					
		120408 LN4	4.0	0.10-0.50	0.05-0.30		●								
		120408 LS	2.1	0.10-0.50	0.05-0.30		●			●					
		120408 LS2	2.1	0.10-0.50	0.05-0.30	●	●	●	●	●					
		120408 LS4	2.1	0.10-0.50	0.05-0.30		●	●	●	●					
		120412 LN	3.9	0.10-0.50	0.05-0.30	●		●		●					
		120412 LS2	2.5	0.10-0.50	0.05-0.30		●		●	●					
		120412 LS4	2.5	0.10-0.50	0.05-0.30			●	●						
  10°	**CNGA**	**120404 LN-10**	4.0	0.10-3.00	0.05-0.25								●	●	
		120408 LN-10	3.9	0.10-3.00	0.05-0.25								●	●	
		120412 LN-10	3.8	0.10-3.00	0.05-0.25									●	
 Solid CBN	**CNGN**	**090308 SD**	-	0.10-3.00	0.05-0.30						●				
		090312 SD	-	0.10-3.00	0.05-0.30						●				
		090316 SD	-	0.10-3.00	0.05-0.30						●				
		120412 SD	-	0.10-4.00	0.05-0.30							●			
		120416 SD	-	0.10-4.00	0.05-0.30							●			
 Dimple type	**CNGX**	**120412 DA**	-	0.10-4.00	0.05-0.30							●			
		120416 DA	-	0.10-4.00	0.05-0.30							●			

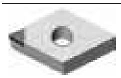
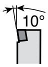
● : Standard items

A67-A69,
A149, A194

Negative 55° rhombic inserts



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

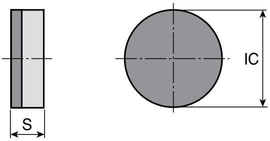
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
	**DNGA**	**150404 LN**	4.2	0.10-0.50	0.05-0.30	●	●	●							
		150404 LS	2.6	0.10-0.50	0.05-0.30		●			●					
		150404 LS2	2.6	0.10-0.50	0.05-0.30	●	●	●							
		150404 LS4	2.6	0.10-0.50	0.05-0.30	●	●	●							
		150408 LN	3.9	0.10-0.50	0.05-0.30	●	●	●		●					
		150408 LS	2.3	0.10-0.50	0.05-0.30		●			●					
		150408 LS2	2.3	0.10-0.50	0.05-0.30	●	●	●	●						
		150408 LS4	2.3	0.10-0.50	0.05-0.30			●							
		150412 LN	3.5	0.10-0.50	0.05-0.30		●			●					
		150412 LS2	2.2	0.10-0.50	0.05-0.30			●	●						
		150412 LS4	2.2	0.10-0.50	0.05-0.30			●							
		150604 LN	4.2	0.10-0.50	0.05-0.30		●	●	●	●					
		150604 LS	2.6	0.10-0.50	0.05-0.30		●								
		150604 LS2	2.6	0.10-0.50	0.05-0.30	●	●	●	●						
		150608 LN	3.9	0.10-0.50	0.05-0.30	●	●	●	●						
		150608 LS2	2.3	0.10-0.50	0.05-0.30	●	●	●	●	●					
		150608 LS4	2.3	0.10-0.50	0.05-0.30			●							
		150612 LS2	2.2	0.10-0.50	0.05-0.30			●							
  10°	**DNGA**	**150404 LN-10**	4.0	0.10-2.50	0.05-0.20								●	●	
		150408 LN-10	3.7	0.10-2.50	0.05-0.20								●	●	
		150604 LN-10	4.0	0.10-2.50	0.05-0.20								●	●	
		150608 LN-10	3.7	0.10-2.50	0.05-0.20								●	●	

●: Standard items

A61, A62, A70, A71,
A113-A116, A166,
A195, A226, A227

RNGN-FT/SD

Negative round inserts



Size	Dimension (mm)		
	IC	S	
09	9.52	3.18	
12	12.7	3.18-4.76	

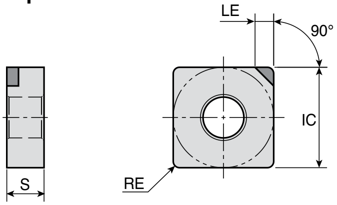
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN							PCD		
						TB610	TB650	TB670	TB730	TB7015	KB90A	TB7020	TD810	KP300	TD830
 Full Top CBN	**RNGN**	**090300 FT**	-	0.10-1.00	0.05-0.30		●	●		●					
		120300 FT	-	0.10-1.50	0.05-0.30					●					
		120400 FT	-	0.10-1.50	0.05-0.30					●					
 Solid CBN	**RNGN**	**090300 SD**	-	0.10-2.00	0.05-0.30						●	●			
		120300 SD	-	0.10-3.00	0.05-0.30						●				
		120400 SD	-	0.10-3.00	0.05-0.30						●	●			

●: Standard items

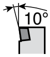
A154

SNGA SNGN-SD SNGX-DA

Negative square inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	3.18	0.8-1.2
12	12.7	4.76	0.4-1.6

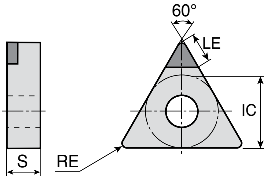
Insert	DeWW		LE (mm)	ap (mm)	Feed (mm/rev)	CBN TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
	**SNGA**	**120404 LS2**	2.5	0.10-0.50	0.05-0.30			●	●						
		120408 LN	4.2	0.10-0.50	0.05-0.30		●			●					
		120408 LS	2.5	0.10-0.50	0.05-0.30		●								
		120408 LS2	2.5	0.10-0.50	0.05-0.30			●		●					
		120408 LS4	2.5	0.10-0.50	0.05-0.30			●							
		120408 LS8	2.5	0.10-0.50	0.05-0.30			●							
	**SNGA**	**120408 LN-10**	4.0	0.10-3.00	0.05-0.20									●	
 10°		**120412 LN-10**	4.0	0.10-3.00	0.05-0.20									●	
 Solid CBN	**SNGN**	**090308 SD**	-	0.10-2.00	0.05-0.30						●				
		090312 SD	-	0.10-3.00	0.05-0.30						●	●		●	
		120416 SD	-	0.10-4.00	0.05-0.30							●			
 Dimple type	**SNGX**	**120416 DA**	-	0.10-4.00	0.05-0.30							●			

A75, A76, A126, A127, A150, A155, A156, A167, A196

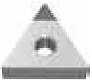
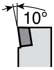
● : Standard items

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

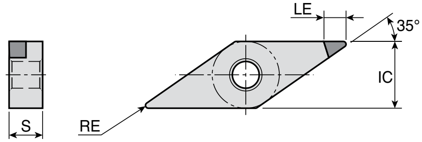
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
	**TNGA**	**160404 LN**	4.3	0.10-0.50	0.05-0.30		●	●		●					
		160404 LS	2.2	0.10-0.50	0.05-0.30		●								
		160404 LS3	2.2	0.10-0.50	0.05-0.30	●		●	●						
		160404 LS6	2.2	0.10-0.50	0.05-0.30		●								
		160408 LN	4.0	0.10-0.50	0.05-0.30		●	●		●					
		160408 LS3	2.1	0.10-0.50	0.05-0.30	●	●	●	●	●					
		160408 LS6	2.1	0.10-0.50	0.05-0.30			●							
		160412 LS3	2.5	0.10-0.50	0.05-0.30			●							
		220404 LN	4.1	0.10-0.50	0.05-0.30		●								
		220408 LS	2.6	0.10-0.50	0.05-0.30		●								
  10°	**TNGA**	**160404 LN-10**	4.3	0.10-3.00	0.05-0.20								●	●	

A63, A78, A128,
A140, A141, A168, A177,
A197, A230, A231, A234

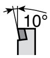
● : Standard items

VNGA

Negative 35° rhombic inserts



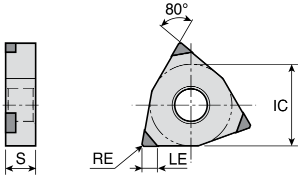
Size	Dimension (mm)		
	IC	S	RE
16	9.52	4.76	0.4-0.8

Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
	**VNGA**	**160404 LN**	5.0	0.10-0.50	0.05-0.30		●								
		160404 LS	3.2	0.10-0.50	0.05-0.30		●								
		160404 LS2	3.2	0.10-0.50	0.05-0.30			●	●						
		160408 LN	4.1	0.10-0.50	0.05-0.30		●								
		160408 LS	2.4	0.10-0.50	0.05-0.30					●					
		160408 LS2	2.4	0.10-0.50	0.05-0.30	●	●	●	●						
		160408 LS4	2.4	0.10-0.50	0.05-0.30					●					
 	**VNGA**	**160404 LN-10**	5.0	0.10-2.00	0.05-0.20								●	●	
		160408 LN-10	4.1	0.10-2.00	0.05-0.20								●	●	

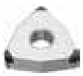
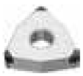
A64, A65, A129, A131, A168

●: Standard items

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

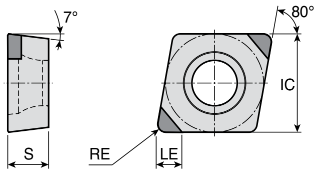
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
	**WNGA**	**060408 WZ-LS6**	2.1	0.05-0.50	0.05-0.30			●							
		080408 WZ-LS3	2.1	0.05-0.50	0.05-0.30	●	●	●							
		080408 WZ-LS6	2.1	0.05-0.50	0.05-0.30			●							
		080412 WZ-LS3	2.1	0.05-0.50	0.05-0.30			●							
	**WNGA**	**080408 LS3**	2.1	0.10-0.50	0.05-0.20			●							
		080408 LS6	2.1	0.10-0.50	0.05-0.20			●							

● : Standard items

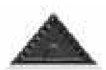
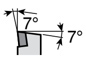
A66, A79,
A133, A169,
A193, A232

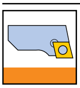
CCGW CCGT-CB

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	KB90A	TB7020	TD810	KP300	TD830
	**CCGW**	**060202 LS**	2.4	0.05-0.50	0.05-0.30		●			●					
		060202 LS2	2.2	0.05-0.50	0.05-0.30			●	●						
		060204 LS	2.4	0.05-0.50	0.05-0.30		●			●					
		060204 LS2	2.1	0.05-0.50	0.05-0.30	●		●	●						
		060208 LS2	2.1	0.05-0.50	0.05-0.30	●		●	●						
		09T304 LS	2.4	0.05-0.50	0.05-0.30		●			●					
		09T304 LS2	2.4	0.05-0.50	0.05-0.30	●	●	●	●	●					
		09T304 WZ-LS	2.8	0.05-0.50	0.05-0.30		●								
		09T304 WZ-LS2	2.4	0.05-0.50	0.05-0.30			●	●						
		09T308 LS	2.3	0.05-0.50	0.05-0.30		●			●					
		09T308 LS2	2.3	0.05-0.50	0.05-0.30	●		●	●						
		09T308 WZ-LS	2.3	0.05-0.50	0.05-0.30		●								
		09T308 WZ-LS2	2.3	0.05-0.50	0.05-0.30		●		●						
		120404 LS2	2.1	0.05-0.50	0.05-0.30				●						
		120408 LS	2.5	0.05-0.50	0.05-0.30					●					
		120408 LS2	2.1	0.05-0.50	0.05-0.30				●						
  PCD chip breaker	**CCGT**	**060204 CB**	3.1	0.50-1.50	0.10-0.50									●	
		09T302 CB	4.15	0.50-2.00	0.10-0.50									●	
		09T304 CB	4.1	0.50-2.00	0.10-0.50									●	
		09T308 CB	4.0	0.50-2.00	0.10-0.50									●	
		120404 CB	4.1	0.50-2.00	0.10-0.50									●	
		120408 CB	4.0	0.50-2.00	0.10-0.50									●	
 	**CCGW**	**060202 LN-7**	3.1	0.08-3.00	0.05-0.30								●	●	
		060204 LN-7	3.1	0.08-3.00	0.05-0.30								●	●	
		09T304 LN-7	4.0	0.10-3.00	0.05-0.30								●	●	
		09T308 LN-7	3.9	0.10-3.00	0.05-0.30								●	●	
		120404 LN-7	4.0	0.10-3.00	0.05-0.30									●	
		120408 LN-7	3.9	0.10-3.00	0.05-0.30								●	●	

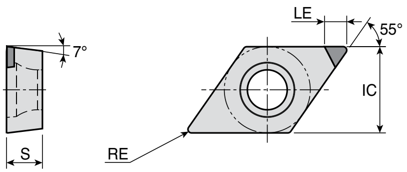


A80-A82, A119, A170, A198, A199, A239

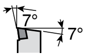
●: Standard items

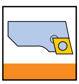
DCGW DCGT-CB

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 TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
	**DCGW**	**070202 LS**	2.6	0.05-0.50	0.05-0.30		●								
		070202 LS2	2.6	0.05-0.50	0.05-0.30	●		●	●						
		070204 LS	2.4	0.05-0.50	0.05-0.30		●			●					
		070204 LS2	2.4	0.05-0.50	0.05-0.30	●		●	●						
		070208 LS2	2.6	0.05-0.50	0.05-0.30				●						
		11T304 LS	2.6	0.05-0.50	0.05-0.30		●			●					
		11T304 LS2	3.4	0.05-0.50	0.05-0.30	●		●	●						
		11T308 LS	2.2	0.05-0.50	0.05-0.30		●			●					
		11T308 LS2	2.2	0.05-0.50	0.05-0.30	●		●	●						
  PCD chip breaker	**DCGT**	**070202 CB**	3.4	0.50-1.50	0.10-0.50									●	
		070204 CB	3.3	0.50-1.50	0.10-0.50									●	
		11T302 CB	4.9	0.50-2.50	0.10-0.50									●	
		11T304 CB	4.7	0.50-2.50	0.10-0.50									●	
		11T308 CB	4.4	0.50-2.50	0.10-0.50									●	
 	**DCGW**	**070202 LN-7**	3.4	0.10-2.00	0.05-0.30								●	●	
		070204 LN-7	3.3	0.10-2.00	0.05-0.30								●	●	
		11T302 LN-7	3.9	0.10-2.00	0.05-0.30								●	●	
		11T304 LN-7	3.7	0.10-2.00	0.05-0.30								●	●	
		11T308 LN-7	3.3	0.10-2.00	0.05-0.30								●	●	

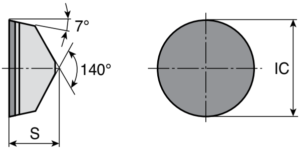


A85, A86, A89, A90,
A120, A123, A125,
A170, A203-A205, A241

● : Standard items

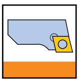
RCGX-FT

Positive round inserts



Size	Dimension (mm)		
	IC	S	
06	6.35	3.18	
09	9.52	3.18	
12	12.7	4.76	

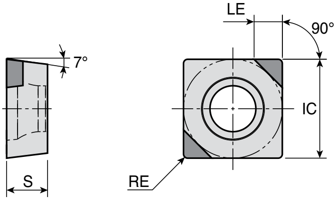
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
 Full Top CBN	**RCGX**	**060300 FT**	-	0.10-1.00	0.05-0.30					●					
		090300 FT	-	0.10-1.50	0.05-0.30					●					
		120400 FT	-	0.10-1.50	0.05-0.30					●					



A142, A143

●: Standard items

Positive square inserts



Size	Dimension (mm)		
	IC	S	RE
09	9.52	3.18-3.97	0.4-0.8

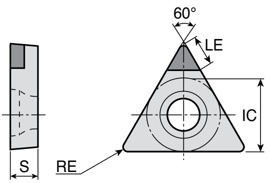
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN							PCD		
						TB610	TB650	TB670	TB730	TB7015	KB90A	TB7020	TD810	KP300	TD830
	**SCGW**	**09T304 LS2**	2.7	0.05-0.50	0.05-0.30				●						
		09T308 LS2	2.7	0.05-0.50	0.05-0.30				●						

A95, A206

● : Standard items

TCGW TPGN TPGW

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

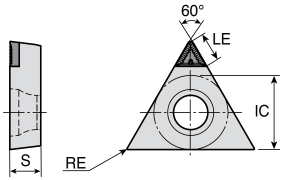
Insert	Designation		LE (mm)	ap (mm)	Feed (mm/rev)	CBN							PCD		
						TB610	TB650	TB670	TB730	TB7015	KB90A	TB7020	TD810	KP300	TD830
	**TCGW**	**090204 LS3**	2.3	0.05-0.50	0.05-0.30			●	●						
		110204 LS	2.3	0.05-0.50	0.05-0.30		●			●					
		110204 LS3	2.3	0.05-0.50	0.05-0.30	●		●	●						
		110208 LS	2.1	0.05-0.50	0.05-0.30		●			●					
		110208 LS3	2.1	0.05-0.50	0.05-0.30			●	●						
		16T304 LS	2.8	0.05-0.50	0.05-0.30		●			●					
		16T304 LS3	2.8	0.05-0.50	0.05-0.30			●	●						
		16T308 LS	2.5	0.05-0.50	0.05-0.30		●			●					
		16T308 LS3	2.5	0.05-0.50	0.05-0.30	●		●	●						
	**TPGN**	**090204 LS3**	2.3	0.05-0.50	0.05-0.30	●									
		110302 LS3	2.8	0.05-0.50	0.05-0.30				●						
		110304 LS	2.6	0.05-0.50	0.05-0.30		●			●					
		110304 LS3	2.6	0.05-0.50	0.05-0.30				●						
		110308 LS3	2.3	0.05-0.50	0.05-0.30	●		●							
		160304 LS	2.8	0.05-0.50	0.05-0.30		●								
		160304 LS3	2.8	0.05-0.50	0.05-0.30	●		●							
		160308 LS	2.5	0.05-0.50	0.05-0.30		●								
		160308 LS3	2.5	0.05-0.50	0.05-0.30	●		●	●						
	**TPGW**	**080204 LS3**	2.1	0.05-0.50	0.05-0.30			●							
		090204 LS3	2.3	0.05-0.50	0.05-0.30			●	●						
		090208 LS3	2.0	0.05-0.50	0.05-0.30			●							
		110302 LS3	2.8	0.05-0.50	0.05-0.30	●									
		110304 LS	2.6	0.05-0.50	0.05-0.30		●	●							
		110304 LS3	2.6	0.05-0.50	0.05-0.30	●			●						
		110308 LS3	2.3	0.05-0.50	0.05-0.30	●		●							
		160404 LS3	2.8	0.05-0.50	0.05-0.30			●							

A51, A52, A96-A98,
A171, A184,
A207, A209, A210

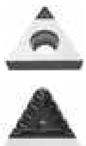
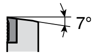
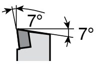
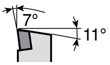
●: Standard items

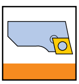
TCGT-CB TCGW TPGN

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	0.4-0.8
16	9.52	3.18-3.97	0.2-0.8

Insert	Designation	LE (mm)	ap (mm)	Feed (mm/rev)	CBN TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
 PCD chip breaker 	**TCGT 090204 CB**	2.8	0.50-1.50	0.10-0.50									●	
	110204 CB	3.8	0.50-2.00	0.10-0.50									●	
	16T304 CB	3.9	0.50-2.00	0.10-0.50									●	
	16T308 CB	3.6	0.50-2.00	0.10-0.50									●	
 	**TCGW 090204 LN-7**	3.3	0.10-2.00	0.05-0.30									●	
	090208 LN-7	3.0	0.10-2.00	0.05-0.30									●	
	110204 LN-7	3.8	0.10-2.00	0.05-0.30								●	●	
	110208 LN-7	3.5	0.10-2.00	0.05-0.30									●	
	16T304 LN-7	3.8	0.10-2.00	0.05-0.30									●	
	16T308 LN-7	3.5	0.10-2.00	0.05-0.30								●	●	
 	**TPGN 110302 LN-7**	3.9	0.10-2.00	0.05-0.30									●	
	110304 LN-7	3.8	0.10-2.00	0.05-0.30									●	
	160302 LN-7	4.4	0.10-2.00	0.05-0.30									●	
	160304 LN-7	4.3	0.10-2.00	0.05-0.30									●	



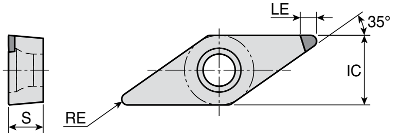
A51, A52, A96-A98, A171, A184, A207

●: Standard items

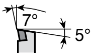
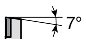
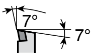
VBGW VCGT-CB VCGW

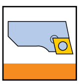
T-TURN

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 TB610	CBN TB650	CBN TB670	CBN TB730	CBN TB7015	CBN KB90A	CBN TB7020	PCD TD810	PCD KP300	PCD TD830
	**VBGW 110304 LS2**	3.2	0.05-0.50	0.05-0.30			●							
	160402 LS2	3.6	0.05-0.50	0.05-0.30			●							
	160404 LS	3.2	0.05-0.50	0.05-0.30		●			●					
	160404 LS2	3.2	0.05-0.50	0.05-0.30	●		●	●						
	160408 LS	2.3	0.05-0.50	0.05-0.30		●			●					
	160408 LS2	2.3	0.05-0.50	0.05-0.30	●		●	●						
 	**VBGW 160402 LN-7**	5.2	0.10-2.00	0.05-0.30								●	●	
	160404 LN-7	5.0	0.10-2.00	0.05-0.30								●	●	
	160408 LN-7	4.2	0.10-2.00	0.05-0.30								●	●	
  PCD chip breaker 	**VCGT 110302 CB**	4.7	0.50-2.00	0.10-0.50									●	
	110304 CB	5.0	0.50-2.00	0.10-0.50									●	
	160404 CB	7.3	0.50-3.50	0.10-0.50									●	
	160408 CB	6.4	0.50-3.50	0.10-0.50									●	
	160412 CB	6.2	0.50-3.50	0.10-0.50									●	
	220530 CB	6.4	0.50-3.50	0.10-0.50									●	
 	**VCGW 110304 LN-7**	5.0	0.10-2.00	0.05-0.30								●		
	160404 LN-7	5.0	0.10-2.00	0.05-0.30								●	●	
	160408 LN-7	4.1	0.10-2.00	0.05-0.30								●	●	



A100-A103, A106-A108, A118, A122, A124, A125, A214, A216, A218, A219

●: Standard items

Recommended Cutting Conditions

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			29
			Hard rubber			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			Rm 400		36
			Alpha+beta alloys cured	Rm 1050		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)									
Coated									
TT7005	TT7015	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								
300-430	250-360								
160-400	150-350								
140-350	130-300								
200-460	250-390								
180-350	200-320								
						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

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
			Electrolytic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			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			Rm 400		36
			Alpha+beta alloys cured	Rm 1050		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)										
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

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			29
			Hard rubber			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			Rm 400		36
			Alpha+beta alloys cured	Rm 1050		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)								
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

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			29
			Hard rubber			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			Rm 400		36
			Alpha+beta alloys cured	Rm 1050		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)						
Ceramic				PCD		
TC3030	AS500	SC10	AS10	TD810	KP300	TD830
	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

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
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			Martensitic	820	240	13
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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
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			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
			Electrolytic copper		100	28
	Non-metallic		Duroplastics, fiber plastics			29
			Hard rubber			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			Rm 400		36
			Alpha+beta alloys cured	Rm 1050		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	KB90A
				300-1200	300-1200	300-800	300-1200
				200-1000	200-1000	500-1000	200-1000
400-800	350-700	350-700	300-600			100-500	
450-700	400-600	400-600	350-500			300-700	
						50-100	
						80-150	
		90-200	90-180	80-130			
		80-180	80-150	60-120			
			100-200	120-180	120-180		120-180
				100-140	100-140		100-140