

TURNING

A collection of precision turning tools and inserts is displayed on a black background. The tools are primarily silver-colored metal, with several gold-colored inserts. One tool in the foreground has the TaeguTec logo and the text 'TaeguTec' and 'AL9681' printed on it. The inserts are arranged in a scattered pattern, some showing their cutting edges. The lighting creates highlights on the metallic surfaces, emphasizing their sharp edges and complex shapes.

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TURNING

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• For more technical information, see TaeguTec technical guide part TA

Guide to Icons



➤ Toolholder Page



➤ Insert Page



➤ Technical Guide Page

















➤ Components Page














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Tool Selection Guide


































External holder

Holder type	T-TURN				
					
B B-Holder 	 BCLCRL-SH A47	 BDJCR/L-SH A48  BDNCN-SH A48			
C Top clamp 				 CSDPN A51	 CTCPN A52  CTFPR/L A52  CTGPR/L A53













External holder

Holder type	T-TURN				
					
B B-Holder   BVJBR/L-SH A49  BVJCR/L-SH A49					
C Top clamp 			 CKJNR/L A50  CKNNR/L A50		



























External holder

Holder type	T-TURN				
					
C C-Adapter 	 C...HCLNR/L A130  C...TCLNR/L A132  C...SCLCR/L A136	 C...HDJNR/L A130  C...TDJNR/L A132  C...SDJCR/L A136	 C...SRDCN A137	 C...HSSNR/L A131  C...TSDNN A133  C...TSSNR/L A133	 C...HTGNR/L A131 C...HTJNR/L A131  C...TTGNR/L A134 C...TTJNR/L A134  C...STGCR/L A137 C...STJCR/L A137
H Hook lever holder 	 HCBNR/L-RS A54 HCBNR/L A54  HCKNR/L A55  HCLNR/L-RS A56 HCLNR/L A56	 HDJNR/L A57  HDNNR/L A57  HDQNR/L A58  HDUNR/L A58		 HSBNR/L A59 A119  HSDNN A59 A119  HSKNR/L A60  HSSNR/L A60	 HTFNR/L A61  HTGNR/L A61












External holder

Holder type	T-TURN				
	 35°	 80°	 55°	 120°	 75°
C C-Adapter 	 C...TVJNR/L A134  C...SVJBR/L A138  C...SVVBN A138	 C...TWLNR/L A135			
H Hook lever holder 		 HwLNR/L A62			























External holder

Holder type	T-TURN				
					
M Multi lock 		 MDJNR/L A63  MDNN A63  MDQNR/L A64			 MTJNR/L A65
P Lever lock 	 PCBNR/L A69  PCLNR/L A70  PCKNR/L A70	 PDJNR/L A71  PDNNR/L A71	 PRDCN A72  PRGCR/L A73  PRGNR/L A74	 PSBNR/L A75  PSDNN A75  PSKNR/L A76  PSSNR/L A76	 PTFNR/L A77  PTGNR/L A78  PTTNR/L A78














External holder

Holder type	T-TURN				
	 35°	 80°	 55°	 120°	 75°
M Multi lock 	 MVJNR/L A66  MVCNR/L A66  MNVN A67	 MWLNR/L A68			
P Lever lock 					


























External holder

Holder type	T-TURN				
	 80°	 55°		 90°	 60°
S Screw clamp 	 SCACR/L-SH A78	 SDJCR/L-SH A81	 SRDCN A85	 SSDCN A86	 STFCR/L A87
	 SCLCR/L-SH A80	 SDJCR/L A81	 SRGCR/L A85	 SSSCR/L A86	 STGCR/L-SH A88
	 SCLCR/L A80	 SDJNR/L A82			 STGCR/L A88
		 SDNCN-SH A83			
		 SDNCN A83			
		 SDQNR A84			











External holder

Holder type	T-TURN				
	 35°	 80°	 55°	 120°	 75°
S Screw clamp 	 SVJBR/L-SH A89  SVJBR/L A89  SVJCR/L A90  SVJNR/L A90  SWBN-SH A91  SWBN A91  SWVCN A92				


























External holder

Holder type	T-TURN				
					
T T-Holder 	 TCBNR/L A93  TCLNR/L A93  TCKNR/L A94	 TDJNR/L A95  TDNLR/L A95  TDQNR/L A96  TDUNR/L A96		 TSBNR/L A98  TSDNN A98  TSKNR/L A99  TSSNR/L A99	 TTGNR/L A100  TTJNR/L A100  TTFNR/L A100
W Wedge clamp 				 WTENN A103  WTGNR/L A103  WTJNR/L A104  WTQNR/L A104	









External holder

Holder type	T-TURN				
	 35°	 80°	 55°	 120°	 75°
T T-Holder 	 TVJNRRL A101	 TWLNRRL A102		 THSNRRL A97	
W Wedge clamp 					























External holder

Holder type	T-TURN				
					
T-F Ceramic T-Holder 	 TCLNR/L-F A105	 TDJNR/L-F A106	 CRDCN-120 A112 CRDCN-140 A112  TRDNN-F A108  CRGCR/L-120 A113 CRGCR/L-140 A113  TRGNR/L-F A108	 TSDNN-F A109  TSKNR/L-F A109  TSRNR/L-F A110  TSSNR/L-F A110	 TTJNR/L-F A111
T-CH Ceramic dimple holder 	 TCBNR/L-CH A114  TCKNR/L-CH A114  TCLNR/L-CH A115	 TDJNR/L-CH A116  TDNN-CH A116		 TSRNR/L-CH A117  TSSNR/L-CH A117	













External holder

Holder type	T-TURN				
					
T-F Ceramic T-Holder 					 TEGNRL-F A107
T-CH Ceramic dimple holder 					



















Internal holder

Holder type	T-TURN				
					
C Top clamp 				 S-CSKPR/L A141	 S-CTFCR/L A142 S-CTFPR/L A142
H Hook lever holder 	 S-HCLNR/L A143 A-HCLNR/L A143	 S-HDUNR/L A144 A-HDUNR/L A144  S-HDZNR/L A145 A-HDZNR/L A145		 S-HSKNR/L A146 A-HSKNR/L A146	 S-HTFNR/L A147 A-HTFNR/L A147  S-HTUNR/L A148 A-HTUNR/L A148
M Multi lock 					
P Lever lock 	 S-PCLNR/L A151	 S-PDUNR/L A152  S-PDZNR/L A152		 S-PSKNR/L A153	 S-PTFNR/L A154
















Internal holder

Holder type	T-TURN				
					
C Top clamp 			 S-CKUNR/L A140		
H Hook lever holder 		 S-HWLNRL A149 A-HWLNRL A149			
M Multi lock 		 S-MWLNRL A150			
P Lever lock 					

















Internal holder

Holder type	T-TURN				
					
S Screw clamp 	 S-SCLCR/L A155 C-SCLCR/L A156  S-SCLPR/L A157 A-SCLPR/L A157 E-SCLPR/L A158	 A-SDLNR/L A158  S-SDQCR/L A159  A-SDQNR/L A159  S-SDUCR/L A160  A-SDUNR/L A160  S-SDZCR/L A161		 S-SSKCR/L A162	 S-STFCR/L A163 C-STFCR/L A163  S-STFPR/L A164 A-STFPR/L A164 C-STFPR/L A165 E-STFPR/L A165  S-STUBR/L A166 C-STUBR/L A166











Internal holder

Holder type	T-TURN				
					
S Screw clamp 	 A-SVLNR/L A167	 S-SWUBR/L A171 C-SWUBR/L A171			
	 A-SVPCR/L A167				
	 S-SVQBR/L A168				
	 S-SVQCR/L A168				
	 S-SVUBR/L A169				
	 S-SVUCR/L A169				
	 S-SVJCR/L A170				
	 S-SVPCR/L A170				













Internal holder

Holder type	T-TURN				
					
T T-Holder 	 S-TCLNR/L A172 A-TCLNR/L A172	 S-TDUNR/L A173 A-TDUNR/L A173  S-TDZNR/L A174 A-TDZNR/L A174		 S-TSKNR/L A176 A-TSKNR/L A176	 S-TTFNR/L A177 A-TTFNR/L A177  S-TTUNR/L A178 A-TTUNR/L A178
W Wedge clamp 					 S-WTFNR/L A180
T-CH Ceramic dimple holder 	 S-TCLNR/L-CH A181				








Internal holder

Holder type	T-TURN				
	 35°	 80°	 55°	 120°	 75°
T T-Holder 		 S-TWLNRL A179 A-TWLNRL A179		 A-THSNRL A175	
W Wedge clamp 					
T-CH Ceramic dimple holder 					

Internal holder













Holder type	T-TURN				
					
HE Modular bar 	 HE-PCLNR/L A184	 HE-PDUNR/L A184			 HE-PTFNR/L A185
	 HE-SCLCR/L A186	 HE-SDQCR/L A186			
		 HE-SDUCR/L A187			













Internal holder

Holder type	T-TURN				
					
HE Modular bar 	 HE-SVUBR/L A187				

Tool Selection Guide













Negative insert













Application	T-TURN										
	Super finishing					Finishing					
Chip breaker	FA		EA		FG		SF		FX		
Insert											
Material	P	S	M	S	P	S	P	S	P	M	S
C 	• A215		• A214		• A216		• A218				
D 	• A222		• A222		• A223						
R 											
S 			• A230		• A231						
T 			• A236		• A237		• A240				
V 	• A241		• A241		• A241				• A242		
W 			• A243		• A243 A245						

Application	T-TURN									
	Finishing					Medium				
Chip breaker	FC		FM		MC		FT		PC	
Insert										
Material	P	M	P		P		P		P	M
C 	• A215		• A216		• A216		• A216		• A218	
D 	• A222		• A223		• A223		• A223		• A224 A225	
R 										
S 	• A231		• A231		• A232				• A233	
T 	• A237		• A237		• A238		• A237		• A239	
V 	• A241								• A242	
W 	• A243		• A245		• A244				• A244 A246	

Tool Selection Guide













Negative insert













	T-TURN				
Application	Medium				
Chip breaker	VF	ML	MP	MM	EM
Insert					
Material	P M S	P M S	P M S	P M	M S
C 		A212 A216	A217	A217	A215
D 	A225	A221 A224	A224	A224	A222
R 					
S 		A232	A232	A232	A230 A231
T 	A240	A238	A238	A238	A236
V 		A241 A242			A241
W 		A244	A244	A246	A243 A245

	T-TURN				
Application	Medium		Roughing		
Chip breaker	MT	MG-	ET	RT	KT
Insert					
Material	P M S	P K S	M S	P M K S	K
C 	A217	A214	A215	A218	A216
D 	A224	A221	A222	A225	A223
R 		A227			
S 	A232	A230	A231	A233	A231
T 	A239	A235 A236	A237	A239	A238
V 	A242	A241			
W 	A244 A246		A243	A245	A244

Tool Selection Guide













Negative insert

	T-TURN				
Application	Semi-Heavy				Heavy
Chip breaker	HB	RH(N)	RX	RH	EH
Insert					
Material	P M S	P	P	P M	M
C	 A220	A220	A220	A220	A219
D					
R					
S	 A234	A234	A234	A234	A233
T			A240	A240	
V					
W					

	T-TURN				
Application	Heavy				Finishing wiper
Chip breaker	HT	HD	HY	HZ	WS
Insert					
Material	P M K	P	P	P	P M K S
C	 A213 A219	A212	A213 A219	A213 A219	A218
D					A225
R					
S	 A229 A233	A228	A229 A234	A229 A234	
T					
V					
W					A245













Tool Selection Guide













Negative insert

	T-TURN															
Application	Medium wiper			Medium			Roughing		Medium							
Chip breaker	WT			GU		SU	KNUX type		DNUX type							
Insert																
Material	P	M	K	S	P	K	P	M	S	P	M	K	S	P	M	S
C 	● A212 A219															
D 	● A225												● A225			
H 				● A226		● A226										
K 									● A226							
T 																
V 																
W 	● A245															

Tool Selection Guide












Positive insert

		T-TURN															
Application		Super finishing		Finishing				Medium									
Chip breaker		FA		FG		FX		PC		MT							
Insert																	
Material		P	M	S	P	M	S	P	M	S	P	M	S	P	M	K	S
C		• A248		• A248 A249				• A248 A249				• A248					
D		• A250		• A250				• A251				• A251					
R								• A252				• A252					
S				• A253				• A253				• A253					
T		• A256		• A256 A258				• A256 A258				• A256					
V		• A259		• A259				• A259				• A260					
W																	

		T-TURN													
Application		Roughing				Finishing									
Chip breaker		PMR-		RA		CMX-		FF		GF					
Insert															
Material		P	M	K	S	P		P		P	M	S	P	M	S
C								• A247		• A247					
D										• A250					
R				• A252		• A252									
S		• A254													
T		• A258						• A255		• A256					
V										• A259					
W								• A261							

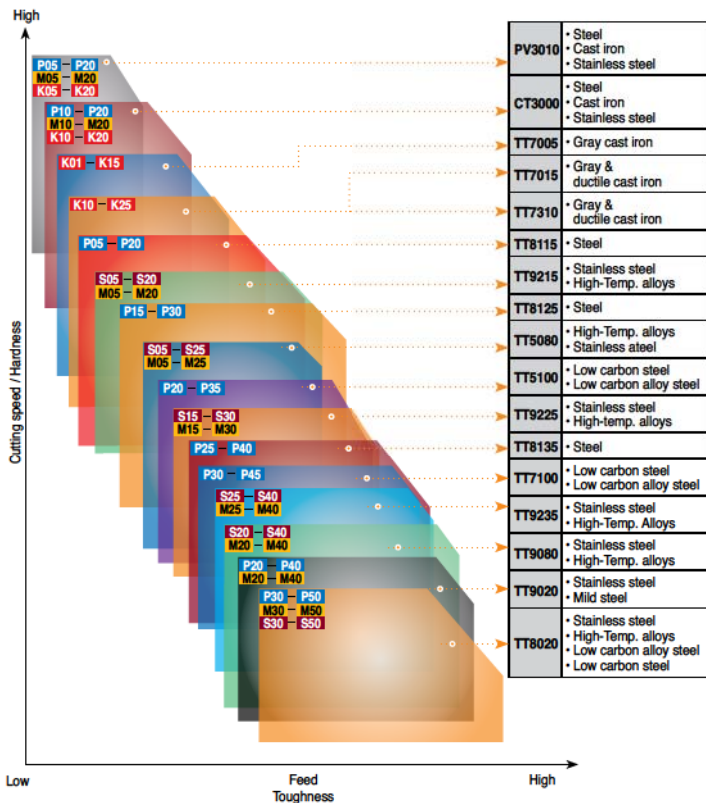
Tool Selection Guide

Positive insert

	T-TURN				
Application	Finishing	Medium wiper	Finishing		
Chip breaker	GW	WT	FL	SA	
Insert					
Material	P M S	P M K S	M N S	P M S	
C 	• A247	• A248	• A263	• A248	
D 	• A250		• A263	• A250	
R 			• A263		
S 			• A263		
T 			• A263	• A256	
V 	• A259		• A263	• A259 A260	
W 					

Grades

Insert grades



- PV3010: PVD Coated cermet, CT3000: Uncoated cermet
- TT7005, TT7015, TT7310, TT8115, TT8125, TT8135, TT5100, TT7100, TT9215, TT9225, TT9235: CVD coated carbide
- TT5080, TT8020, TT9080, TT9020: PVD coated carbide

Grades

Coated carbide, cermet and carbide grades

Grades	ISO	Characteristics & applications
TT7005 CVD coated <small>BLACK-GRUB</small>	K01 – K15	<ul style="list-style-type: none"> For high speed machining of gray and ductile cast iron Excellent wear resistant coated grade assures optimum performance in high speed continuous machining of cast iron
TT7015 CVD coated <small>BLACK-GRUB</small>	K10 – K25	<ul style="list-style-type: none"> For general machining of gray and ductile cast iron For continuous and interrupted machining of gray and ductile cast iron
TT7310 CVD coated	K10 – K25	<ul style="list-style-type: none"> For general machining of gray and ductile cast iron
TT8115 CVD coated	P05 – P20	<ul style="list-style-type: none"> For high speed turning continuous cutting on steels Excellent wear resistance and heat-resistance
TT9215 CVD coated	S05 – S20 M05 – M20	<ul style="list-style-type: none"> Excellent insert wear resistance For high cutting speed & continuous cutting on stainless steels
TT5080 PVD coated	S05 – S25 M05 – M25	<ul style="list-style-type: none"> For a wide range of turning of high-temp alloys Very hard submicron substrate with good fracture toughness
TT8125 CVD coated	P15 – P30	<ul style="list-style-type: none"> For a wide range of turning on steels Very good combination of wear resistance and toughness For general use on steels
TT5100 CVD coated	P20 – P35	<ul style="list-style-type: none"> For a wide range of turning of mild steel, low carbon steel and low carbon alloy steel Excellent chipping resistance and sticking resistance
TT9225 CVD coated	S15 – S30 M15 – M30	<ul style="list-style-type: none"> Excellent combination of insert wear resistance & fracture resistance For general use on stainless steel For continuous and interrupted cutting on stainless steel
TT9020 PVD coated	P20 – P40 M20 – M40	<ul style="list-style-type: none"> Submicron substrate with PVD coating For stainless steel
TT9080 PVD coated	M20 – M40 S20 – S40	<ul style="list-style-type: none"> Very hard submicron substrate For turning small components
TT8135 CVD coated	P25 – P40	<ul style="list-style-type: none"> Tough carbide substrate For a wide range of medium to roughing applications at low cutting speed on steels For heavy turning
TT7100 CVD coated	P30 – P45	<ul style="list-style-type: none"> Very tough carbide substrate base - with a CVD coating This combination provides both excellent toughness and chipping resistance For heavy turning
TT9235 CVD coated	S25 – S40 M25 – M40	<ul style="list-style-type: none"> Excellent combination of insert wear resistance & toughness For low cutting speed & interrupted cutting
TT8020 PVD coated	P30 – P50 M30 – M50 S30 – S50	<ul style="list-style-type: none"> For medium to low speed turning of stainless steel, exotic alloys and low carbon steel Toughest grade in turning grade For interrupted cut on stainless steel and exotic alloys
PV3010 PVD coated cermet	P05 – P20 M05 – M20 K05 – K20	<ul style="list-style-type: none"> For high surface finish turning of steel, stainless steel and cast iron Excellent wear resistance and low coefficient of friction Long tool life
CT3000 Uncoated cermet	P10 – P20 M10 – M20 K10 – K20	<ul style="list-style-type: none"> Excellent surface finish turning on steel, stainless steel and cast iron Excellent wear resistance and low coefficient of friction
K10 Carbide	K05 – K15 N05 – N15 S05 – S15	<ul style="list-style-type: none"> General turning of cast iron, exotic alloy and non-ferrous materials including aluminum and copper alloy Excellent wear resistant grade

Grades

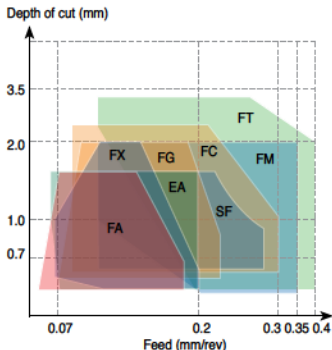
CBN, PCD and ceramic grades

Grades	Composition	Characteristics & applications
KP300 PCD	PCD + Binder	<ul style="list-style-type: none"> • For general use on aluminum alloy • Excellent combination of wear resistance and toughness
TD810 PCD	PCD + Binder	<ul style="list-style-type: none"> • Optimal combination of strong wear resistance and superior toughness • Suitably designed for aluminum and non-ferrous materials • Achieves excellent surface finish
TB610 CBN	CBN + Binder	<ul style="list-style-type: none"> • Excellent wear resistant grade with low CBN content • Continuous cutting at high cutting speeds on hardened steels
TB650 CBN	CBN + Binder	<ul style="list-style-type: none"> • High wear resistant grade with moderate fracture toughness • Can be applied to light interrupted cutting applications
TB670 CBN	CBN + Binder	<ul style="list-style-type: none"> • Excellent combination of wear resistance and toughness • For general use on hardened steel • For continuous and interrupted cutting
TB730 CBN	CBN + Binder	<ul style="list-style-type: none"> • Excellent toughness with high CBN content • For high speed machining of cast iron • Can be applied to interrupted cutting on hardened steel and other materials
KB90A CBN	CBN + Binder	<ul style="list-style-type: none"> • Solid CBN with excellent impact resistance • For high speed machining of cast iron • Can be applied to rough to medium machining of hardened steel
AW120 Ceramic	Al ₂ O ₃ + ZrO ₂	<ul style="list-style-type: none"> • Excellent wear resistant grade with chemical stability and temperature resistance • For high speed continuous turning of cast iron • For finishing applications on hard materials
AB2010 Coated ceramic	(Al ₂ O ₃ + TiCN) + TiN PVD Coating	<ul style="list-style-type: none"> • Excellent wear resistance and tool life • Very good combination with improved wear and fracture resistance • Finishing operations on hardened steels and hardened cast irons
AB20 Ceramic	Al ₂ O ₃ + TiCN	<ul style="list-style-type: none"> • High wear resistant grade with excellent cutting edge stability • For high speed continuous turning of hardened steel and other hard materials • For finishing applications on cast iron.
AB30 Ceramic	Al ₂ O ₃ + TiC	<ul style="list-style-type: none"> • Mixed ceramic with good toughness and wear resistance • For general use on hardened steel, cast iron and hard materials • Can be applied to interrupted cutting conditions
TC430 Ceramic	Whisker	<ul style="list-style-type: none"> • SiC whisker reinforced ceramic grade • General turning and milling • For Ni-base superalloy, inconel, waspaloy and rene
AS500 Ceramic	SiAlON	<ul style="list-style-type: none"> • For roughing to finishing cast iron applications • For higher cutting speeds compared to AS10 • Wet and dry cutting
SC10 Coated ceramic	AS10 + CVD	<ul style="list-style-type: none"> • Wear resistant grade with excellent toughness and thermal shock resistance • For high speed turning of cast iron • Wet and dry cutting
AS10 Ceramic	Si ₃ N ₄	<ul style="list-style-type: none"> • High wear resistant grade with excellent toughness and thermal shock resistance • For general use on cast iron • Wet and dry cutting
AS20 Ceramic	Si ₃ N ₄	<ul style="list-style-type: none"> • Very tough Si₃N₄ ceramic grade with high cutting edge stability • For roughing to finishing applications with high temperature nickel based alloys • Wet and dry cutting

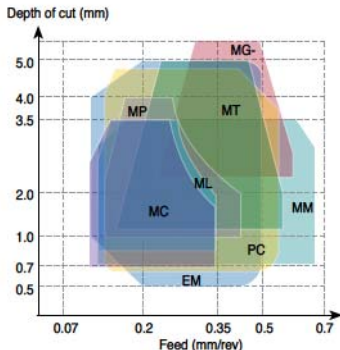
Chip Breakers

Negative Inserts

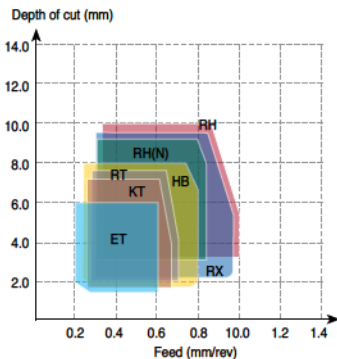
For finishing applications



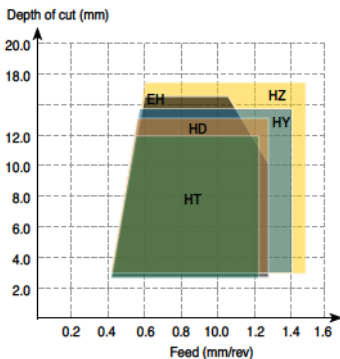
For medium applications



For roughing applications



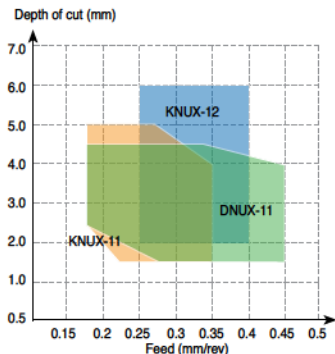
For heavy machining



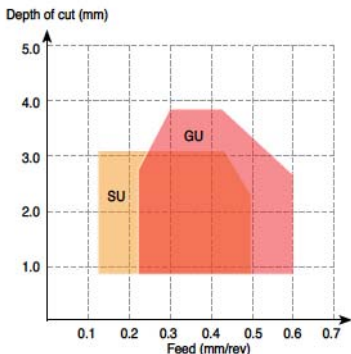
Chip Breakers

Negative inserts

KNUX / DNUX type

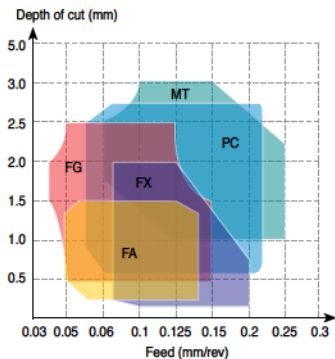


HNMG type

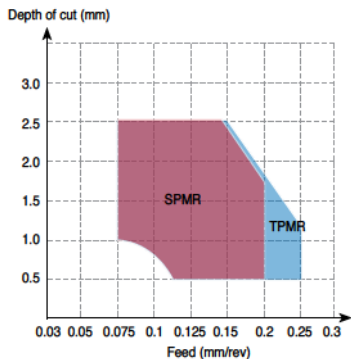


Positive inserts

For Finish to medium applications



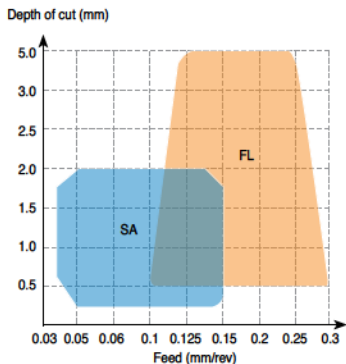
For medium applications



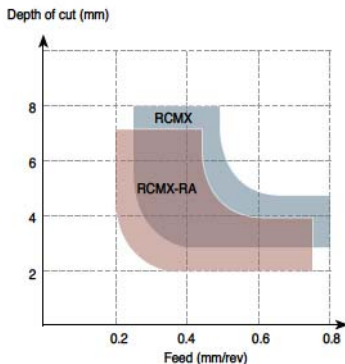
Chip Breakers

Positive inserts

Ground insert for finishing applications

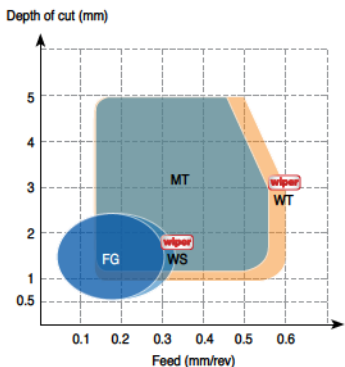


Round insert for roughing applications

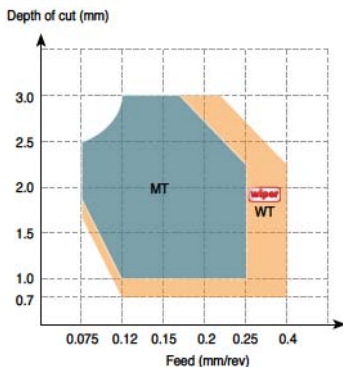


'WS' and 'WT' wiper inserts for high feed turning

Negative inserts



Positive inserts



Chip Breakers

Negative inserts






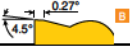







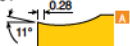












Chip breaker name and geometry			Applications and features
FA		CNMG 1204 	<ul style="list-style-type: none"> For super finish applications Steel, stainless steel and heat resistant alloy machining Excellent chip control
EA		CNMG 1204 	<ul style="list-style-type: none"> For finishing applications Exotic materials Excellent chip control at low feeds and depths of cut
FG		CNMG 1204 	<ul style="list-style-type: none"> For finish and semi finish applications Steel, stainless steel and cast iron machining Low cutting forces
SF		CNMG 1204 	<ul style="list-style-type: none"> For finishing applications Stainless steel and heat resistant alloy machining Low cutting forces
FX		VNMG 1604 	<ul style="list-style-type: none"> For finishing applications on mild steels Narrow chip breaker design for optimal chip control
FC		CNMG 1204 	<ul style="list-style-type: none"> Ideal for finishing applications Low carbon steel & low carbon alloy steel Effective chip breaking in both turning and facing operations
FM		CNMG 0904 	<ul style="list-style-type: none"> For steel machining Improved chip breaking due to 3dimension chipbreaker Solution for a wide range from semi-finishing to semi-medium machining
MC		CNMG 1204 	<ul style="list-style-type: none"> For medium applications Steel and cast iron machining Strong rake geometry Excellent chip control on medium turning applications

Chip Breakers

Negative Inserts


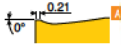



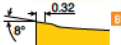

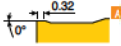
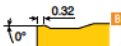

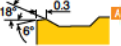
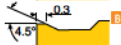




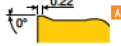





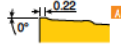
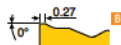


Chip breaker name and geometry		Applications and features
FT	 <p>CNMG 0904</p>  	<ul style="list-style-type: none"> • For steel machining • Strong, serrated cutting edge for excellent chip evacuation • Semi-finishing and medium machining • Excellent chip breaking for automotive components
PC	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> • For medium to semi-finishing applications • Steel & Automotive component • Positive geometry • Excellent chip control on medium applications
VF	 <p>DNMG 1504</p>  	<ul style="list-style-type: none"> • For slender workpiece applications • Vibration free • Steel and stainless steel machining • High positive rake geometry to minimize cutting forces
ML	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> • For medium light applications • Stainless steel, steel and aluminum • Very high positive rake geometry to minimize built-up-edge and cutting forces
MP	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> • For medium machining applications • Steel and stainless steel • High positive rake geometry to optimize machining and provide stable machining conditions
MM	 <p>CNMG 0904</p>  	<ul style="list-style-type: none"> • For general machining on stainless steel and steel • Positive rake angle provides excellent chip evacuation
EM	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> • For medium applications • Stainless steel machining • Sharp land design for low cutting force
MT	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> • For medium rough applications • Steel, cast iron and stainless steel • Tough rake angle for general use

Chip Breakers

Negative inserts


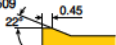
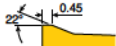

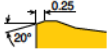

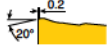
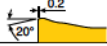

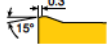


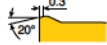



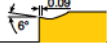

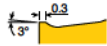
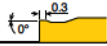


Chip breaker name and geometry			Applications and features
MG-		CNMG 1204  	<ul style="list-style-type: none"> For medium rough applications Steel and cast iron machining Strong rake geometry Suitable for manual lathes
ET		CNMG 1204  	<ul style="list-style-type: none"> For roughing applications on exotic materials Low cutting force Wide chip control range when roughing
RT		CNMG 1906  	<ul style="list-style-type: none"> For roughing applications Steel and cast iron machining Very strong rake geometry
KT		CNMG 1204  	<ul style="list-style-type: none"> For roughing applications on cast iron Stable broad supporting area Reliable, uniform performance
HB		CNMX 1607  	<ul style="list-style-type: none"> For semi heavy roughing applications Steel and alloy steel machining Double sided semi-heavy turn insert Stable contact surface with seat
RH(N)		CNMM 1906  	<ul style="list-style-type: none"> For high feed roughing applications Steel, cast iron and stainless steel machining Very strong rake geometry
RX		CNMM 1906  	<ul style="list-style-type: none"> For semi heavy roughing applications Steel, stainless steel and cast iron machining Strong cutting edge with flat land Low cutting force
RH		CNMM 1906  	<ul style="list-style-type: none"> For roughing applications Steel, stainless steel and cast iron machining Very strong rake geometry

Chip Breakers

Negative Inserts




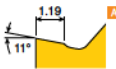
Chip breaker name and geometry		Applications and features
EH	 <p>CNMM 2509</p>  	<ul style="list-style-type: none"> • Heavy turning for stainless and mild steel • Low cutting force in stainless steel machining • Reliable & uniform performance • Excellent chip control due to the specially designed chip breaker geometry • Single sided insert
HT	 <p>CNMM 1906</p> 	<ul style="list-style-type: none"> • 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	 <p>CNMD 2509</p>  	<ul style="list-style-type: none"> • For heavy roughing applications • For all kinds of shafts, connecting-rods and ship building components • Flexible chip breaker offers excellent chip evacuation
HY	 <p>CNMM 2509</p>  	<ul style="list-style-type: none"> • 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	 <p>CNMM 2509</p>  	<ul style="list-style-type: none"> • 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	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> • For super finish applications • Steel, cast iron and stainless steel machining • Excellent chip control and low cutting forces
WT	 <p>CNMG 1204</p>  	<ul style="list-style-type: none"> • 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


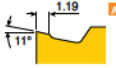

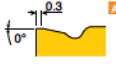


DNUX type

Chip breaker name and geometry		Applications and features
11	 <p>DNUX 1304</p> 	<ul style="list-style-type: none"> • Suitable for RhinoRush holder and 4 corners insert • For medium light to 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 and low cutting force machine


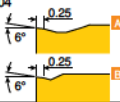

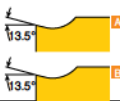


KNUX type

Chip breaker name and geometry		Applications and features
11	 <p>KNUX 1604</p> 	<ul style="list-style-type: none"> • For medium light to medium applications • Steel and stainless steel machining • Positive rake geometry to minimize cutting forces • Excellent chip control
12	 <p>KNUX 1604</p> 	<ul style="list-style-type: none"> • For medium to medium rough applications • Steel and stainless steel • Strong rake geometry • Wide chip control range
















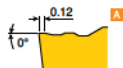



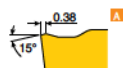

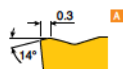
HNMG type

Chip breaker name and geometry		Applications and features
GU	 <p>HNMG 0504</p> 	<ul style="list-style-type: none"> • For medium applications • For general turning of steels and cast irons • Strong rake geometry
SU	 <p>HNMG 0504</p> 	<ul style="list-style-type: none"> • 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


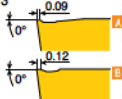


Chip breaker name and geometry			Applications and features
FA		DCMT 11T3  A  B	<ul style="list-style-type: none"> • For super finish applications • Very tight chipbreaker • Excellent chip control
FG		CCMT 09T3  A  B	<ul style="list-style-type: none"> • For finish to medium light applications • Steel and stainless steel machining • Low cutting forces • Excellent chip control
FX		VBMT 1604  A  B	<ul style="list-style-type: none"> • For finishing applications on mild steels • Narrow chip breaker design for optimal chip control
PC		CCMT 09T3  A  B	<ul style="list-style-type: none"> • For medium applications • Suitable for a wide variety of materials • Low cutting force
MT		CCMT 09T3  A	<ul style="list-style-type: none"> • For medium to medium rough applications • Steel, stainless steel and cast iron machining • Negative rake geometry for general use
PMR-		TPMR 1103  A	<ul style="list-style-type: none"> • For medium to medium rough applications • Steel, stainless steel and cast iron • Positive rake geometry
RA		RCMX 3209  A	<ul style="list-style-type: none"> • For heavy and interrupted machining applications • Steel, stainless steel and cast iron machining • Optimized chip groove geometry
CMX-		RCMX 1204  A	<ul style="list-style-type: none"> • For high feed roughing applications • Steel, stainless steel and cast iron machining • Strong rake geometry

Chip Breakers




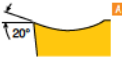






Positive inserts-pressed



Chip breaker name and geometry		Applications and features
WT	 <p>CCMT 09T3</p> 	<ul style="list-style-type: none"> • For medium to rough machining applications • Steel, cast iron and stainless steel machining • Stable cutting and low cutting forces at high feed rates

Positive inserts-ground



Chip breaker name and geometry		Applications and features
FF	 <p>CCGT 0301</p> 	<ul style="list-style-type: none"> • For finish to medium applications • For small component machining • Excellent surface finish
GF	 <p>CCET 0602</p> 	<ul style="list-style-type: none"> • For super finish applications • Steel, stainless steel and alloy steel machining
GW	 <p>CCET 0602</p> 	<ul style="list-style-type: none"> • For super finish applications • Wiper geometry for good surface finish • Steel, stainless steel and alloy steel machining
FL	 <p>CCGT 1204</p> 	<ul style="list-style-type: none"> • For finish to medium applications • Aluminum machining • Very high positive rake geometry to minimize built-up-edge
SA	 <p>CCGT 09T3</p> 	<ul style="list-style-type: none"> • For finish to medium applications • Steel & aluminum machining • Low cutting force

Turning Toolholders



[Contents](#)

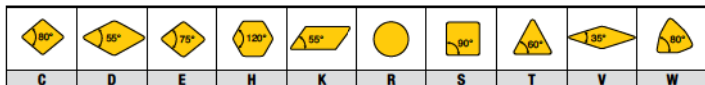
P C L N R

1 2 3 4 5























1 Clamping system



2 Insert shape

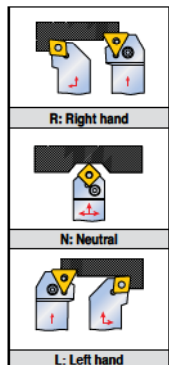


3 Approach angle

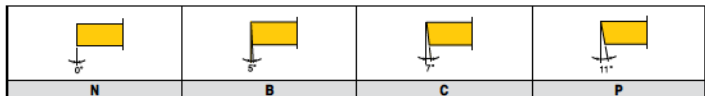
Symbol	Shape	Offset	Symbol	Shape	Offset	Symbol	Shape	Offset
A		x	J		o	V		x
			K			W		o
B		x	L		o	X	Special angle	
			M			x	C*	
D		x	N		x	H*		o
E		x	R		o	Q*		o
F		o	S		o			
G		o	T		o			
			U			o		

* TaeguTec standard

5 Hand of tool



4 Insert clearance angle



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

l (mm)	Symbol	l (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		

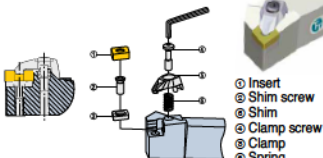
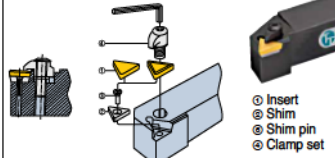
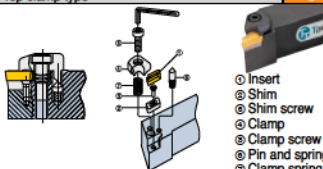
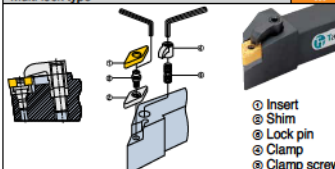
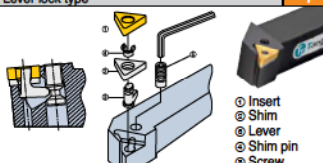
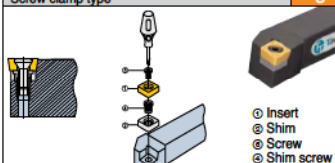
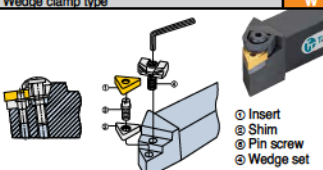
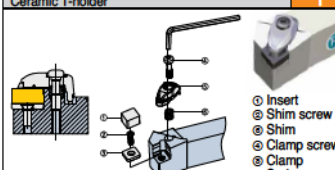
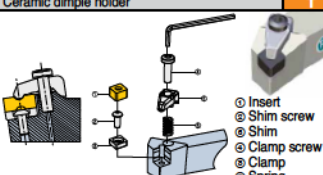
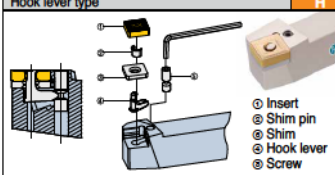
9 Cutting edge length

See page A211

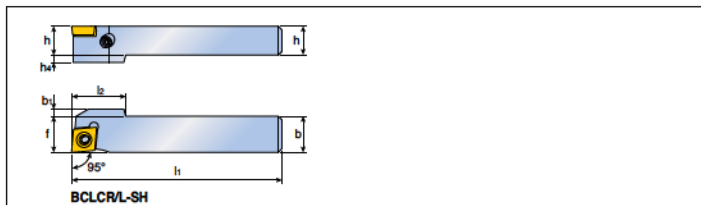
10 Qualified tool


11 Manufacturer's type designation

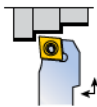
Unique to manufacturer

<p>T-holder type T</p>  <ul style="list-style-type: none"> ① Insert ② Shim screw ③ Shim ④ Clamp screw ⑤ Clamp ⑥ Spring 	<p>Top clamp type C</p>  <ul style="list-style-type: none"> ① Insert ② Shim ③ Shim pin ④ Clamp set
<p>Top clamp type C</p>  <ul style="list-style-type: none"> ① Insert ② Shim ③ Shim screw ④ Clamp ⑤ Clamp screw ⑥ Pin and spring ⑦ Clamp spring 	<p>Multi lock type M</p>  <ul style="list-style-type: none"> ① Insert ② Shim ③ Lock pin ④ Clamp ⑤ Clamp screw
<p>Lever lock type P</p>  <ul style="list-style-type: none"> ① Insert ② Shim ③ Lever ④ Shim pin ⑤ Screw 	<p>Screw clamp type S</p>  <ul style="list-style-type: none"> ① Insert ② Shim ③ Screw ④ Shim screw
<p>Wedge clamp type W</p>  <ul style="list-style-type: none"> ① Insert ② Shim ③ Pin screw ④ Wedge set 	<p>Ceramic T-holder T</p>  <ul style="list-style-type: none"> ① Insert ② Shim screw ③ Shim ④ Clamp screw ⑤ Clamp ⑥ Spring
<p>Ceramic dimple holder T</p>  <ul style="list-style-type: none"> ① Insert ② Shim screw ③ Shim ④ Clamp screw ⑤ Clamp ⑥ Spring 	<p>Hook lever type H</p>  <ul style="list-style-type: none"> ① Insert ② Shim pin ③ Shim ④ Hook lever ⑤ Screw









Mini turn holder



Approach angle	Designation	Dimension (mm)								Insert
		h	h4	b	b1	l1	f	l2		
95°	BCLCR/L	1010 K06-SH	10	-	10	-	125	10	-	CC...T 0602...
		1212 K06-SH	12	-	12	-	125	12	-	CC...T 09T3...  A247-A248
		1010 K09-SH	10	3	10	4	125	10	17	
		1212 K09-SH	12	1	12	2	125	12	17	

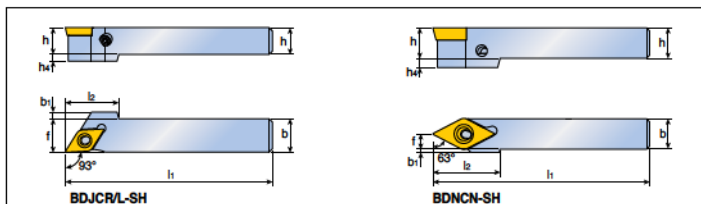


Spare parts

Designation	Lever	Lever screw	Snap ring	Wrench				
...06	 BLCL 2	 BLCS 2	 BLSR 2	 T 6				
...09	 BLCL 3	 BLCS 3	 BLSR 3	 L-W 2F				



Mini turn holder



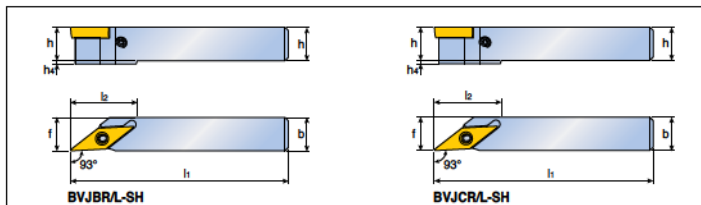
Approach angle	Designation		Dimension (mm)							Insert	
			h	h4	b	b1	l1	f	l2		
93° 	BDJCR/L	1010 K07-SH	10	-	10	-	125	10	-	DC...T 0702... A250-A251	
		1212 K07-SH	12	-	12	-	125	12	-		
		1010 K11-SH	10	3	10	4	125	10	17		DC...T 11T3...
		1212 K11-SH	12	1	12	2	125	12	17		
63° 	BDNCN	1010 K07-SH	10	-	10	-	125	5	-	DC...T 0702...	
		1212 K07-SH	12	-	12	-	125	6	-		
		1010 K11-SH	10	3	10	1	125	5	22	DC...T 11T3...	
		1212 K11-SH	12	1	12	-	125	6	22		

Spare parts

Designation	Lever	Lever screw	Snap ring	Wrench				
...07	BLCL 2	BLCS 2	BLSR 2	T 6				
...11	BLCL 3	BLCS 3	BLSR 3	L-W 2F				



Mini turn holder



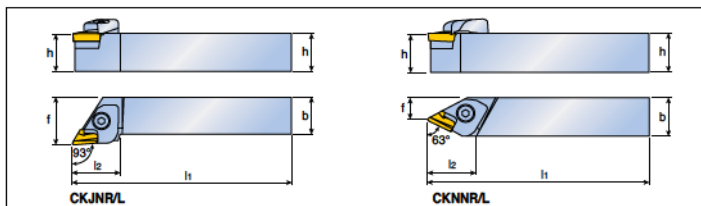
Approach angle	Designation	Dimension (mm)								Insert
		h	h4	b	l1	f	l2			
93°	BVJBR/L 1010 K11-SH	10	1	10	-	125	10	20		VB...T 1103... A259-A260
	1212 K11-SH	12	-	12	-	125	12	-		
93°	BVJCR/L 1010 K11-SH	10	1	10	125	10	20		VC...T 1103...	
	1212 K11-SH	12	-	12	125	12	-			



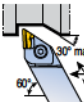
Spare parts

Designation	Lever	Lever screw	Snap ring	Wrench				
...11	BLCL 2	BLCS 2	BLSR 2	T 6				










Top clamp type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l ₁	l ₂	f		
93° 	CKJNR/L	2020 K16	20	20	125	35	25	KNUX 1604...R/L 11 KNUX 1604...R/L 12 
	2020 M16	20	20	150	35	25		
	2525 M16	25	25	150	32	32		
	3225 P16	32	25	170	33.3	32		
	3232 M16	32	32	150	33.3	40		
	3232 P16	32	32	170	33.3	40		
	4040 R16	40	40	200	33.3	50		
63° 	CKNNR/L	2525 M16	25	25	150	44.7	14.4	KNUX 1604... R/L 11 KNUX 1604... R/L 12
	3225 M16	32	25	150	44.7	14.4		

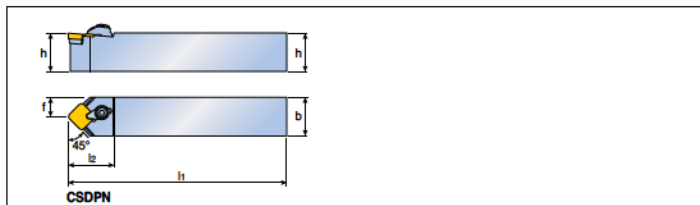
Spare parts

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



TA42-TA55

Top clamp type



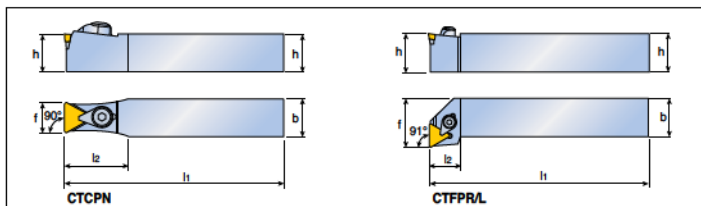
Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
45°	CSDPN 1616 H09	16	16	100	24	8.0	SPMR,SP...N 0903... SPMR,SP...N 1203... A254
	2020 K12	20	20	125	29	10	
	2525 M12	25	25	150	29	12.5	

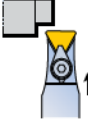
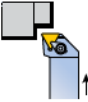
Spare parts

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		



Top clamp type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
90° 	CTCPN	2009 K11	20	9	125	20	9.4	TPMR,TP...N 1103...
		2513 Q16	25	13	180	30	14.1	TPMR,TP...N 1603...
		2020 K22	20	20	125	50	19.4	TPMR,TP...N 2204...
		2525 M22	25	25	150	50	19.4	
91° 	CTFPR/L	1616 H11	16	16	100	14.4	20	TPMR,TP...N 1103...
		2020 K11	20	20	125	16	25	
		2020 K16	20	20	125	20	25	TPMR,TP...N 1603...
		2525 M16	25	25	150	20	32	

Spare parts

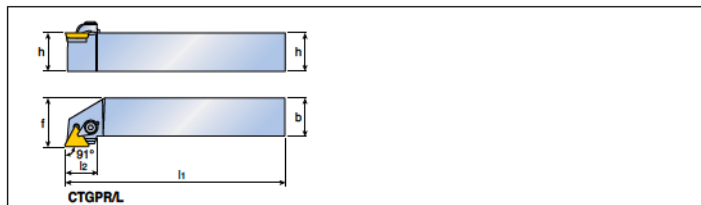
Designation	Clamp	Screw	Shim	Shim pin	Snap ring	Wrench		
CTCPN ...11	CL 2C	CLS 2C	-	-	CSR 2C	L-W 2.5		
CTCPN ...16	CL 3C	CLS 3C	CST 32	CSP 3	CSR 2	L-W 3		
CTCPN ...22	CLM 12	XNSM 0825	CST 43	CSP 16K	CSR 4	L-W 4		
CTFPR/L ...11	CL 2	CLS 2	-	-	CSR 2	L-W 2.5		
CTFPR/L ...16	CL 3	CLS 3	CST 32	CSP 3	WSR 4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

Components



TM42-TA55

Top clamp type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
91°	CTGPR/L 1212 F11	12	12	80	19	16	TPMR, TP...N 1103... A258
	1616 H11	16	16	100	19	20	
	2020 K11	20	20	125	19	25	TPMR, TP...N 1603...
	2020 K16	20	20	125	25	25	
	2525 M16	25	25	150	25	32	TPMR, TP...N 2204...
	2525 M22	25	25	150	30	32	
	3232 P22	32	32	170	30	40	

Spare parts

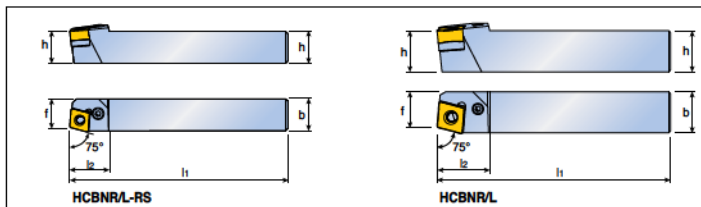
Designation	Clamp	Screw	Shim	Shim pin	Snap ring	Wrench		
...11	CL 2	CLS 2	-	-	CSR 2	L-W 2.5		
...16	CL 3	CLS 3	CST 32	CSP 3	WSR 4	L-W 3		
...22	CL 4	CLS 4	CST 43	CSP 16K	CSR 4	L-W 4		


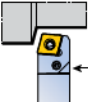
Components



TM2-TA55

Hook lever type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75° 	✓ HCBNR/L 1616 K0904-RS	16	16	125	20	14.5	CN... 0904...
75° 	✓ HCBNR/L 2020 K0904	20	20	125	23	18.5	CN... 0904...
	2525 M0904	25	25	150	23	23.5	
	* HCBNR/L 2525 M1205	25	25	150	28	22	CNMX 1205...
	3232 M1205	32	32	150	28	27	
	2525 M1607	25	25	150	32	22	CNMX 1607...
	3232 P1607	32	32	170	32	27	

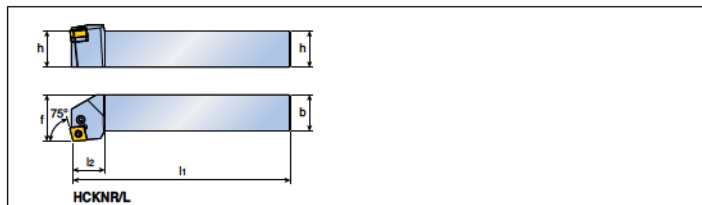
✓Marked: For RHINORUSH insert *Marked: For TURNRUSH insert

Spare parts

Designation	Lever	Screw	Shim		Shim pin	Shim pin punch	Wrench	
...0904	LCL 09-NX	LCS 3	LSC 32A	-	LSP 3A	-	L-W 2.5	
...1205	LCL 12-NX	LCS 5	-	LSC 43-NX	LSP 4	SPP 3-4	L-W 3	
...1607	LCL 16-NX	LCS 5-L25.5	-	LSC 54-NX	LSP 5	SPP 5-6	L-W 3	



Hook lever type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75°	✓ HCKNR/L 2525 M0904	25	25	150	22	32	CN... 0904...
	* HCKNR/L 2525 M1205	25	25	150	25	32	CNMX 1205... A212-A220
	3232 P1205	32	32	170	-	40	

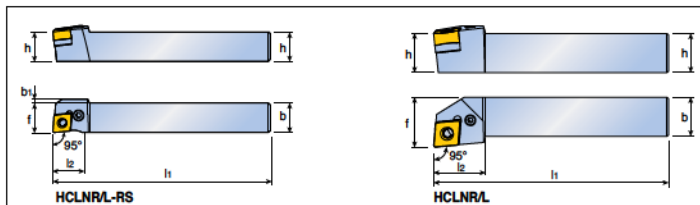
✓Marked: For RHINORUSH insert *Marked: For TURNRUSH insert

Spare parts

Designation	Lever	Screw	Shim		Shim pin	Shim pin punch	Wrench
...0904	LCL 09-NX	LCS 3	LSC 32A	-	LSP 3A	-	L-W 2.5
...1205	LCL 12-NX	LCS 5	-	LSC 43-NX	LSP 4	SPP 3-4	L-W 3



Hook lever type



Approach angle	Designation	Dimension (mm)						Insert
		h	b	b1	l1	l2	f	
95°	✓ HCLNR 1212 K0904-RS	12	16	2	125	18	12	CN... 0904... A212-A220
	✓ HCLNR/L 1616 K0904-RS	16	16	-	125	20	16	
95°	✓ HCLNR/L 1616 H0904	16	16	-	100	22	20	CN... 0904...
	2020 H0904	20	20	-	100	22	25	
	2020 K0904	20	20	-	125	22	25	
	2525 M0904	25	25	-	150	22	32	
	* HCLNR/L 2525 M1205	25	25	-	150	25	32	CNMX 1205...
	3232 P1205	32	32	-	170	-	40	
	2525 M1607	25	25	-	150	-	32	CNMX 1607...
3232 P1607	32	32	-	170	-	40		

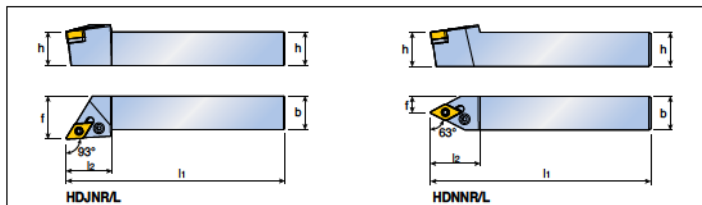
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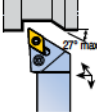

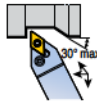
Spare parts

Designation	Lever	Screw	Shim		Shim pin	Shim pin punch	Wrench
...1212...0904	LCL 09B-NX	LCS 3	LSC 32A	-	LSP 3A	-	L-W 2.5
...0904	LCL 09-NX	LCS 3	LSC 32A	-	LSP 3A	-	L-W 2.5
...1205	LCL 12-NX	LCS 5	-	LSC 43-NX	LSP 4	SPP 3-4	L-W 3
...1607	LCL 16-NX	LCS 5-L25.5	-	LSC 54-NX	LSP 5	SPP 5-6	L-W 3








Hook lever type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
93° 	✓ HDJNR/L 2020 H1305	20	20	100	34	25	DN... 1305...  A221-A225	
	2020 K1305	20	20	125	34	25		
	2525 M1305	25	25	150	34	32		
63° 	✓ HDNNR/L 2020 K1305	20	20	125	36.5	10		
	2525 M1305	25	25	150	36.5	12		

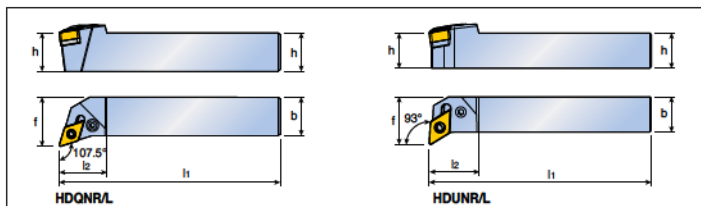
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
Spare parts

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








Hook lever type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
107.5° 	✓ HDQNR/L 2020 K1305	20	20	125	31	25	DNMG 1305...  A221-A225
	2525 M1305	25	25	150	31	32	
93° 	✓ HDUNR/L 2020 K1305	20	20	125	28	27	

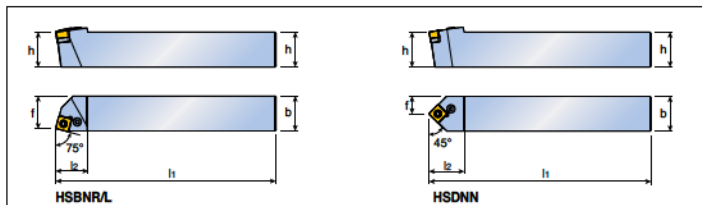
✓Marked: For RHINORUSH insert

Spare parts

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



Hook lever type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75° 	✓ HSBNR/L 2020 K0904	20	20	125	23	18.5	SNMG 0904...
	2525 M0904	25	25	150	23	23.5	
	* HSBNR/L 2525 M1507	25	25	150	-	22	SNMX 1507...
	3232 P1507	32	32	170	-	27	
45° 	✓ HSDNN 2020 K0904	20	20	125	25	10	SNMG 0904...
	2525 M0904	25	25	150	25	12.5	
	* HSDNN 2525 M1507	25	25	150	-	12.5	SNMX 1507...
	3232 P1507	32	32	170	-	16	

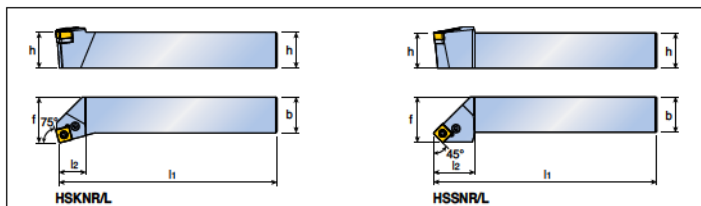
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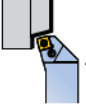


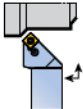
Spare parts

Designation	Lever 	Screw 	Shim 	Shim Ppin 	Shim pin punch 	Wrench 	
...0904	LCL 09-NX	LCS 3	LSS 32A	LSP 3A	LSP 3A	-	L-W 2.5
...1507	LCL 16-NX	LCS 5-L25.5	-	LSS 54-NX	LSP 5	SPP 5-6	L-W 3












Hook lever type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75° 	✓ HSKNR/L 2020 K0904	20	20	125	19	25	SNMG 0904... 
	2525 M0904	25	25	150	19	32	
	* HSKNR/L 2525 M1507	25	25	150	-	32	SNMX 1507... 
	3232 P1507	32	32	170	-	40	
45° 	✓ HSSNR/L 2020 K0904	20	20	125	21.5	25	SNMG 0904...
	2525 M0904	25	25	150	29	32	

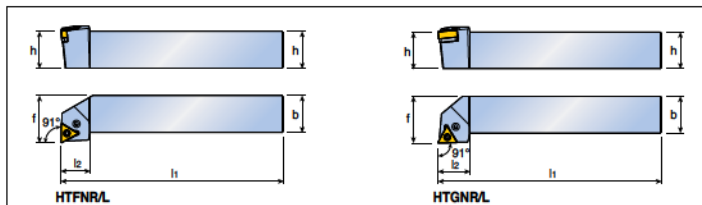
✓Marked: For RHINORUSH insert *Marked: For TURNRUSH insert

Spare parts

Designation	Lever	Screw	Shim	Shim pin	Shim pin punch	Wrench	
...0904	LCL 09-NX 	LCS 3 	LSS 32A 	-	LSP 3A 	-	L-W 2.5
...1507	LCL 16-NX 	LCS 5-L25.5 	-	LSS 54-NX 	LSP 5 	SPP 5-6 	L-W 3



Hook lever type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	lz	f	
91° 	✓ HTFNR/L 2020 K1304	20	20	125	20	25	TNMG 1304... A235-A240
	2525 M1304	25	25	150	20	32	
91° 	✓ HTGNR/L 1616 H1304	16	16	100	22	20	
	2020 H1304	20	20	100	22	25	
	2020 K1304	20	20	125	22	25	
	2525 M1304	25	25	150	22	32	

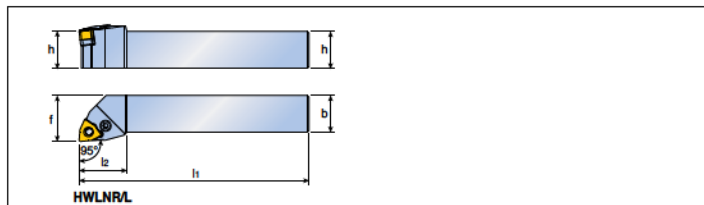
✓Marked: For RHINORUSH insert

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			



Hook lever type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
95°	✓ HWLNRL 1616 H0604	16	16	100	26	20	WNMX 0604... A245-A246
	2020 K0604	20	20	125	26	25	
	2525 M0604	25	25	150	26	32	

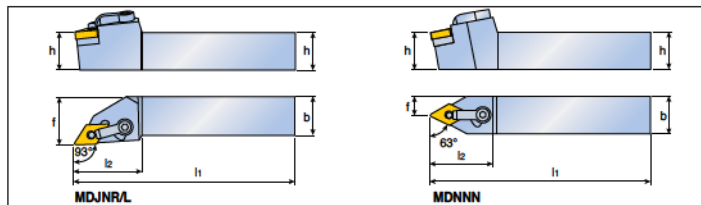
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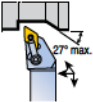

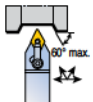
Spare parts

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



Multi lock type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
93° 	MDJNR/L						
	2020 K15	20	20	125	45	25	DN... 1504...
	2525 M15	25	25	150	45	32	DN... 1506...  A221-A225
	2020 K15A	20	20	125	45	25	
	2525 M15A	25	25	150	45	32	
	3232 P15A	32	32	170	45	40	
63° 	MDNNN						
	2525 M15	25	25	150	45	12.5	DN... 1504...
	3225 P15	32	25	170	45	12.5	
	2525 M15A	25	25	150	45	12.5	DN... 1506...

Spare parts

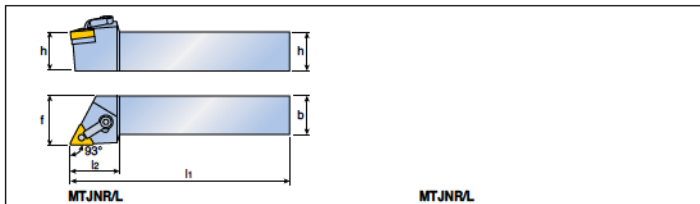
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
...15	CLM 30	XNSM 0825	S 45	MLP 4	L-W 2.5, L-W 4			
...15A	CLM 30	XNSM 0825	MSD 43	MLP 4-06	L-W 2.5, L-W 4			

Components



TM2-TA55

Multi lock type



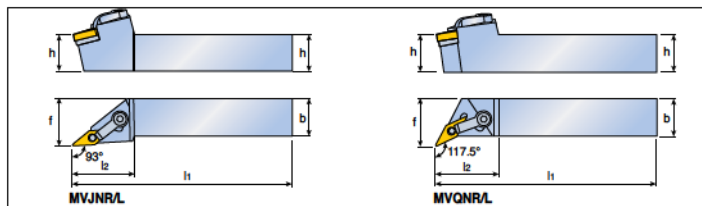
Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
93°	MTJNR/L 2020 K16	20	20	125	28	25	TN...1603... A235-A240
	2525 M16	25	25	150	28	32	
	2525 M1604	25	25	150	28	32	

Spare parts

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



Multi lock type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
93° 	MVJNR/L	2020 K16	20	20	125	42	25	VN... 1604... A241-A242
	2525 M16	25	25	150	42	32		
	3225 P16	32	25	170	42	32		
	3232 P16	32	32	170	42	40		
117.5° 	MVQNR/L	2020 K16	20	20	125	42	25	VN... 1604...
	2525 M16	25	25	150	42	32		
	3232 P16	32	32	170	42	40		

Spare parts

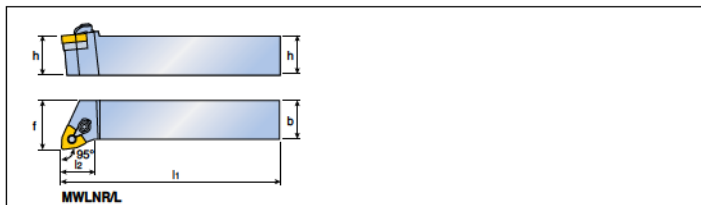
Designation	Clamp	Screw	Shim	Lock pin	Wrench			
...16	CLM 30	XNSM 0825	IVSN 324	MLP 3	L-W 2, L-W 4			

Components



TM2-TA55

Multi lock type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
95°	MWLNRL/L 1616 H06	16	16	100	19.4	16	WN...0604...
	2020 K08	20	20	125	25	25	WN...0804...
	2525 M08	25	25	150	25	32	

Spare parts

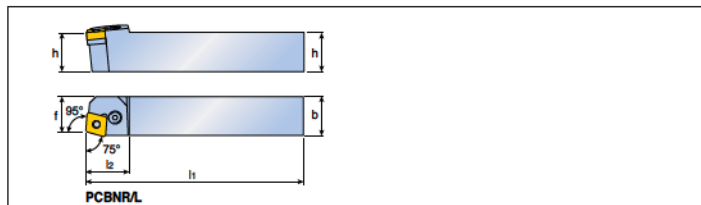
Designation	Clamp	Screw	Shim	Lock pin	Snap ring	Wrench		
...06	CL 2	CLS 2	MSW 32	MLP 3	CSR 2	L-W 2, L-W 2.5		
...08	CL 2	CLS 2	MSW 32	MLP 4	CSR 2	L-W 2.5		

Components



TM42-TAG

Lever lock type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
75°	PCBNR/L 2020 K12	20	20	125	28	17.5	CN... 1204... A212-A220
	2525 M12	25	25	150	28	22.5	
	3225 P12	32	25	170	28	22.5	
	2525 M16	25	25	150	32	22	CN... 1606...
	3232 P16	32	32	170	32	27	CN... 1906...
	3232 P1906D	32	32	170	37	27	
	4040 S1906D	40	40	250	37	37	CN... 2509...
	4040 S2509D	40	40	250	50	37	
	5050 T2509D	50	50	300	50	47	

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

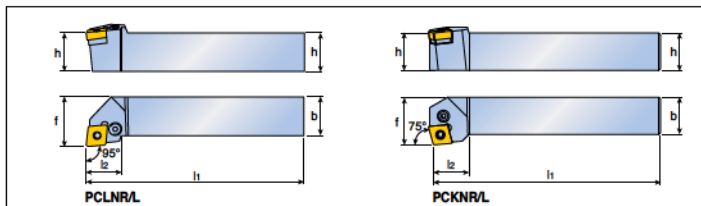
Spare parts

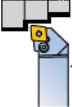

Designation	Lever	Screw	Shim	Shim pin	Wrench			
...12	LCL 4	LCS 4	LSC 42	LSP 4	L-W 3			
...16	LCL 5	LCS 5	LSC 53	LSP 5	L-W 3			
...1906	LCL 6D	LCS 25C	LSC 64D	LSP 6	L-W 4			
...2509	LCL 8	LCS 8	LSC 84D	LSP 8	L-W 5			

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



Lever lock type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
 95°	PCLNR/L 1616 H12 2020 K12 2525 M12 3225 P12 3232 P12 2525 M16 3225 P16 3232 P16 2525 M1906D 3225 P1906D 3232 P1906D 4040 S1906D 4040 S2509D 5050 T2509D	16	16	100	27	20	CN... 1204... CN... 1606... CN... 1906... CN... 2509...
		20	20	125	27	25	
		25	25	150	27	32	
		32	25	170	27	32	
		32	32	170	27	40	
		25	25	150	33	32	
		32	25	170	33	32	
		32	32	170	33	40	
		25	25	150	38	32	
		32	25	170	38	32	
		32	32	170	38	40	
		40	40	250	38	50	
		40	40	250	47	50	
		50	50	300	47	60	
 75°	PCKNR/L 2020 K12 2525 M12	20	20	125	27	25	CN... 1204...
		25	25	150	24	32	

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

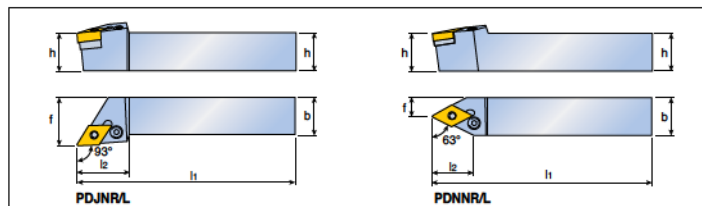
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Wrench			
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			

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



Lever lock type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
 93°	PDJNR/L 1616 H11	16	16	100	30	20	DN... 1104...
	2020 K11	20	20	125	30	25	
	2525 M11	25	25	150	30	32	DN... 1506...
	2020 K15	20	20	125	34	25	
	2525 M15	25	25	150	34	32	
	3225 P15	32	25	170	34	32	
	3232 P15	32	32	170	34	40	DN... 1504...
	2020 K15A	20	20	125	34	25	
2525 M15A	25	25	150	34	32		
 63°	PDNNR/L 2020 K15	20	20	125	36.5	10	DN... 1506...
	2525 M15	25	25	150	36.5	12	
	3232 P15	32	32	170	36.5	16.8	

Spare parts

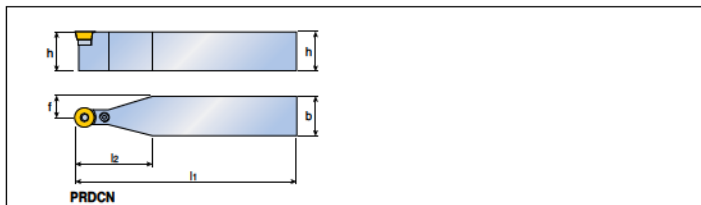
Designation	Lever	Screw	Shim	Shim pin	Wrench			
...11	LCL 12C	LCS 3	LSD 32	LSP 3A	L-W 2.5			
...15	LCL 4A	LCS 4	LSD 42	LSP 4	L-W 3			
...15A	LCL 4A	LCS 4	LSD 42	LSP 4	L-W 3			

Components



TAM2-TA55

Lever lock type



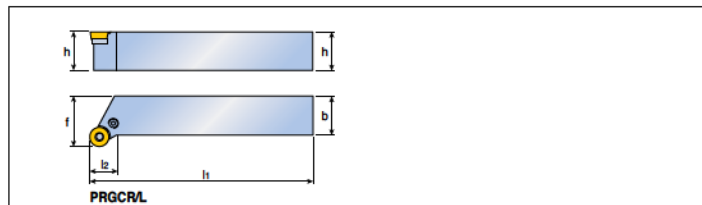
Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l ₁	l ₂	f		
45° 	PRDCN	2020 M10	20	20	150	50	10.0	RC...X 100300
	2525 M10	25	25	150	50	12.5		
	2020 K12	20	20	125	50	10.0	RC...X 120400	
	2525 M12	25	25	150	50	12.5		
	3225 Q12	32	25	180	50	12.5		
	2525 Q16	25	25	180	50	12.5	RC...X 160600	
	3225 Q16	32	25	180	50	12.5		
	3232 Q16	32	32	180	50	16.0		
	3232 S20	32	32	250	60	16.0	RC...X 200600	
	4040 S20	40	40	250	70	20.0		
	4040 S25	40	40	250	80	20.0	RC...X 250700	
	4040 T25	40	40	300	80	20.0		
	5050 U32	50	50	350	90	25.0	RC...X 320900	

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			



Lever lock type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
<p>27° max.</p>	PRGCR/L 2020 K10	20	20	125	14.5	25	RC...X 100300
	2525 M10	25	25	150	17.5	32	
	3225 P10	32	25	170	17	32	
	2020 K12	20	20	125	18	25	RC...X 120400
	2525 M12	25	25	150	18	32	
	3225 P12	32	25	170	18	32	
	2525 M16	25	25	150	23	32	RC...X 160600
	3225 P16	32	25	170	23	32	
	3232 P16	32	32	170	23	40	
	4040 P16	40	40	170	23	50	RC...X 200600
	3232 P20	32	32	170	27.5	40	
	4040 S25	40	40	250	33.5	50	
		4040 S32	40	40	250	41	50

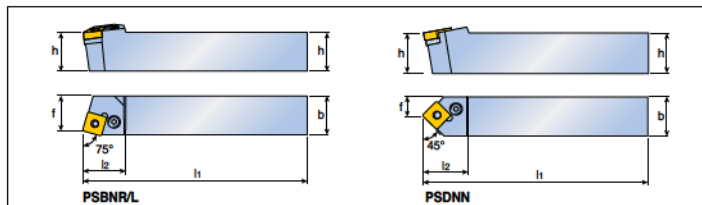
Spare parts

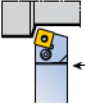

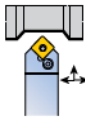
Designation	Lever	Screw	Shim	Shim pin	Wrench			
...10	LCL 10C	LCS 2	LSR 32	LSP 3A	L-W 2			
...12	LCL 12C	LCS 3	LSR 1203	LSP 3A	L-W 2.5			
...16	LCL 16C	LCS 16C	LSR 1604	LSP 16C	L-W 2.5			
...20	LCL 20C	LCS 5	LSR 2004	LSP 5	L-W 3			
...25	LCL 25C	LCS 25C	LSR 2506	LSP 6	L-W 4			
...32	LCL 32C	LCS 8	LSR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

Components








Lever lock type




Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
75° 	PSBNR/L 2020 K12	20	20	125	28	17	SN... 1204...  A228-A234	
	2525 M12	25	25	150	28	22		
	3225 P12	32	25	170	28	22		
	2525 M15	25	25	150	34	22		SN... 1506...
	3232 P1906D	32	32	170	39	27		SN... 1906...
	4040 S1906D	40	40	250	39	35		
	4040 S2509D	40	40	250	48	35		SN... 2509...
5050 T2509D	50	50	300	48	43			
45° 	PSDNN 2020 K12	20	20	125	28	10.0	SN... 1204...	
	2525 M12	25	25	150	28	12.5		
	3225 P12	32	25	170	28	12.5		
	2020 K15	20	20	125	34	10.0	SN... 1506...	
	2525 M15	25	25	150	34	12.5		
	3225 P1906D	32	25	170	40.5	12.5	SN... 1906...	
	3232 P1906D	32	32	170	40.5	16.0		
	4040 S1906D	40	40	250	40.5	20.0		
	5050 S1906D	50	50	250	40.5	25.0		
	4040 S2509D	40	40	250	49	20.0	SN... 2509...	
5050 T2509D	50	50	300	49	25.0			

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

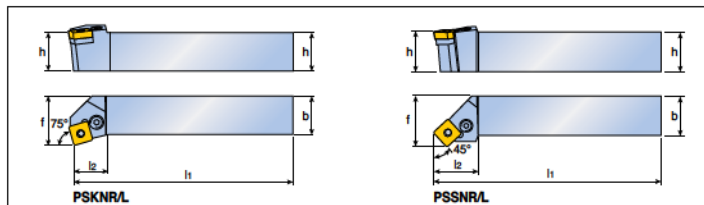
Spare parts

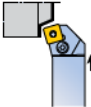
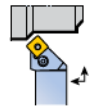
Designation	Lever 	Screw 	Shim 	Shim pin 	Wrench 			
...12	LCL 4	LCS 4	LSS 42	LSP 4	L-W 3			
...15	LCL 5	LCS 5	LSS 53	LSP 5	L-W 3			
...1906	LCL 6D	LCS 25C	LSS 64D	LSP 6	L-W 4			
...2509	LCL 8	LCS 8	LSS 84D	LSP 8	L-W 5			

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

TAM2-TAS2

Lever lock type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
 75°	PSKNR/L	2020 K12	20	20	125	25	25	SN... 1204... A228-A234
		2525 M12	25	25	150	25	32	
		2525 M15	25	25	150	32	32	
		3232 P15	32	32	170	32	40	
		3232 P1906D	32	32	170	38	40	
		4040 S1906D	40	40	250	38	50	
		4040 S2509D	40	40	250	42	50	
		5050 T2509D	50	50	300	42	60	
 45°	PSSNR/L	2020 K12	20	20	125	30	25	SN... 1204...
		2525 K12	25	25	125	30	32	
		2525 M12	25	25	150	30	32	
		3225 P12	32	25	170	30	32	
		3232 P12	32	32	170	32	40	
		3232 P15	32	32	170	37	40	
		3232 P1906D	32	32	170	42	40	
		4040 S1906D	40	40	250	42	50	
4040 S2509D	40	40	250	53	50			

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

Spare parts

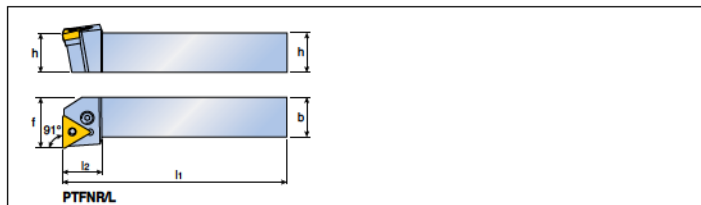
Designation	Lever	Screw	Shim	Shim pin	Wrench			
...12	LCL 4	LCS 4	LSS 42	LSP 4	L-W 3			
...15	LCL 5	LCS 5	LSS 53	LSP 5	L-W 3			
...1906	LCL 6D	LCS 25C	LSS 64D	LSP 6	L-W 4			
...2509	LCL 8	LCS 8	LSS 84D	LSP 8	L-W 5			

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



TAM2-TA55

Lever lock type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
91°	PTFNR/L 1616 H16	16	16	100	20	20	TN... 1604... A235-A240
	2020 K16	20	20	125	20	25	
	2525 M16	25	25	150	20	32	
	2525 M22	25	25	150	25	32	
	3232 P22	32	32	170	25	40	
	4040 S27	40	40	250	33	50	TN... 2706...

Spare parts

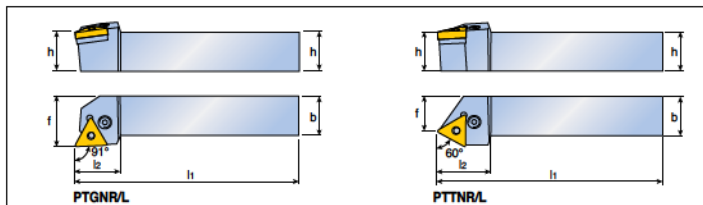
Designation	Lever	Screw	Shim	Shim pin	Wrench			
...16	LCL 3	LCS 3	LST 31.8	LSP 3A	L-W 2.5			
...22	LCL 4	LCS 4	LST 42	LSP 4	L-W 3			
...27	LCL 5	LCS 5	LST 53	LSP 5	L-W 3			

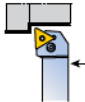

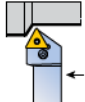
Components



TA42-TA55

Lever lock type



Approach angle	Designation	Dimension (mm)					Insert		
		h	b	l1	l2	f			
 91°	PTGNR/L	1010 E11	10	10	70	15	12	TN... 1103...  A235-A240	
		1212 F11	12	12	80	15	16		
		2525 M11	25	25	150	30	32		
		1616 H16	16	16	100	22	20		TN... 1604...
		2020 K16	20	20	125	22	25		
		2525 M16	25	25	150	22	32		
		3225 P16	32	25	170	22	32		
		3232 P16	32	32	170	22	40		
		2525 M22	25	25	150	29	32		TN... 2204...
		3225 P22	32	25	170	29	32		
		3232 P22	32	32	170	29	40		
		4040 S27	40	40	250	35	50		TN... 2706...
 60°	PTTNR/L	1616 H16	16	16	100	24	13	TN... 1604...	
		2020 K16	20	20	125	24	17		
		2525 M16	25	25	150	24	22		
		2525 M22	25	25	150	34	22	TN... 2204...	

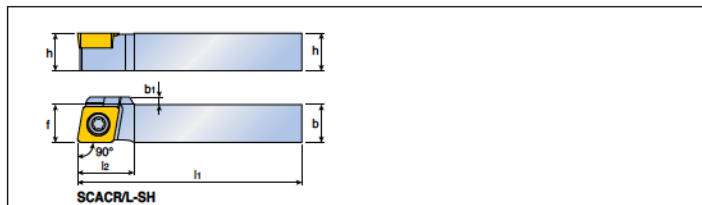
Spare parts

Designation	Lever	Screw	Shim	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			
...27	LCL 5	LCS 5	LST 53	LSP 5	L-W 4			

Components • *LSR 2B is snap ring



Screw type



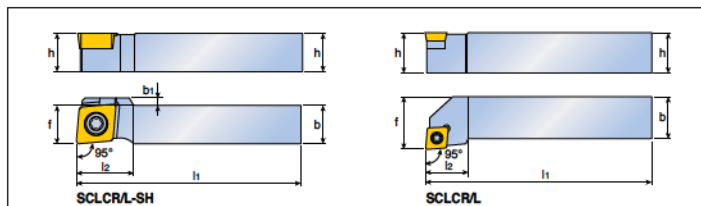
Approach angle	Designation	Dimension (mm)						Insert
		h	b	l ₁	l ₂	f	b ₁	
90°	SCACR/L 0808 K06-SH	8	8	125	8	8	-	CC...T 0602... A247-A248
	1010 K06-SH	10	10	125	10	10	-	
	1010 K09-SH	10	10	125	15	10	2	
	1212 K09-SH	12	12	125	15	12	-	
	1616 K09-SH	16	16	125	16	16	-	


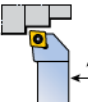
Spare parts

Designation	Screw	Wrench						
	...06	SO 25065I	T 7					
...09	SO 35080I	T 15						

Components
TA42-TA53

Screw type



Approach angle	Designation	Dimension (mm)						Insert	
		h	b	l1	l2	f	b1		
 95°	SCLCR/L	0808 K06-SH	8	8	125	8	8	-	CC...T 0602...
		1010 K06-SH	10	10	125	10	10	-	CC...T 09T3... A247-A248
		1010 K09-SH	10	10	125	15	10	2	
		1212 K09-SH	12	12	125	15	12	-	
		1616 K09-SH	16	16	125	16	16	-	
 95°	SCLCR/L	0808 F06	8	8	80	10	10	-	CC...T 0602...
		1010 F06	10	10	80	10	12	-	CC...T 09T3...
		1212 F09	12	12	80	16	16	-	
		1616 H09	16	16	100	16	20	-	
		2020 K09	20	20	125	20	25	-	
		2525 M09	25	25	150	20	32	-	CC...T 1204...
		2020 K12	20	20	125	25	25	-	
		2525 M12	25	25	150	26	32	-	

Spare parts

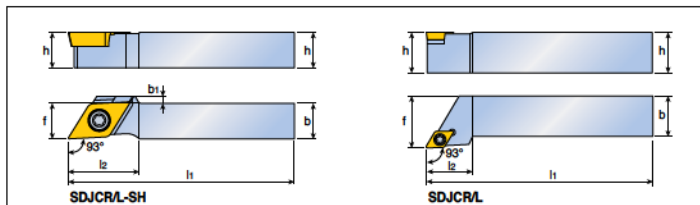
Designation	Screw	Shim	Shim screw	Wrench				
...06	SO 25065I	-	-	T 7				
...09-SH	SO 35080I	-	-	T 15				
...F09	SO 35080I	-	-	T 15				
...09	SO 35124I	SSC 32	SO 50090S	T 15				
...12	SO 45130I	SSC 43N	SO 60105S	T 20				

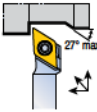

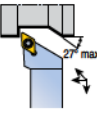
Components







TA42-TA58

Screw type



Approach angle	Designation	Dimension (mm)						Insert
		h	b	l ₁	l ₂	f	b ₁	
93° 	SDJCR/L 0808 K07-SH	8	8	125	12.7	8	-	DC...T 0702...  A250-A251
	1010 K07-SH	10	10	125	15	10	-	
	1010 K11-SH	10	10	125	20	10	2	
	1212 K11-SH	12	12	125	20	12	-	
	1616 K11-SH	16	16	125	20	16	-	
93° 	SDJCR/L 0808 E07	8	8	70	13	10	-	DC...T 0702...
	1212 F07	12	12	80	15	16	-	
	1616 H07	16	16	100	15	20	-	
	2020 K07	20	20	125	20	25	-	
	1616 H11	16	16	100	24	20	-	DC...T 11T3...
	2020 K11	20	20	125	24	25	-	
	2525 M11	25	25	150	28	32	-	

Spare parts

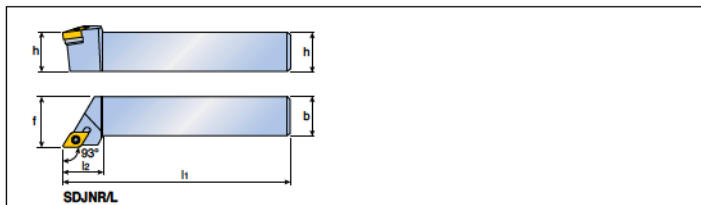
Designation	Screw 	Shim 	Shim screw 	Wrench 			
...07	SO 25065I	-	-	T 7			
...11-SH	SO 35080I	-	-	T 15			
...11	SO 35124I	SSD 32	SO 50090S	T 15			


Components

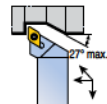


TA42-TA55

Screw type



Approach angle	Designation	Dimension (mm)						Insert
		h	b	l ₁	l ₂	f	b ₁	
93°	SDJNR/L 1616 H11	16	16	100	25	20	-	DN... 1104...  A221-A225
	2020 K11	20	20	125	25	25	-	
	2525 M11	25	25	150	25	32	-	



Spare parts

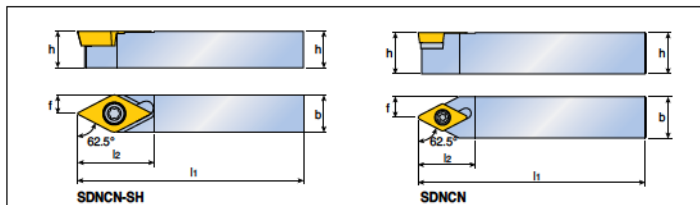
Designation	Screw	Shim	Shim screw	Wrench				
...11	SO 35120I	SSD 32	SO 50090S	T 10				

Components



TA42-TA58

Screw type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l ₁	l ₂	f		
62.5°	SDNCN-SH 0808 K07-SH	8	8	125	15	4	DC...T 0702... A250-A251	
	1010 K07-SH	10	10	125	15	5		
	1010 K11-SH	10	10	125	22	5		
	1212 K11-SH	12	12	125	22	6		
	1616 K11-SH	16	16	125	22	8		
62.5°	SDNCN 0808 F07	8	8	80	15	4	DC...T 0702... DC...T 11T3...	
	1010 F07	10	10	80	15	5		
	1616 H11	16	16	100	22	8		
	2525 M11	25	25	150	22	12.5		

Spare parts

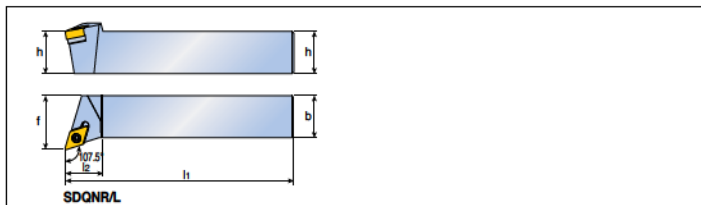
Designation	Screw	Shim	Shim screw	Wrench				
...07	SO 25065I	-	-	T 7				
...11-SH	SO 35080I	-	-	T 7				
...11	SO 35080I	SSD 32	SO 50090S	T 15				

Components



TA42-TA55

Screw type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
107.5°	SDQNR/L 1616 H11	16	16	100	22	20	DN... 1104... A221-A225
	2020 K11	20	20	125	22	25	
	2525 M11	25	25	150	22	32	

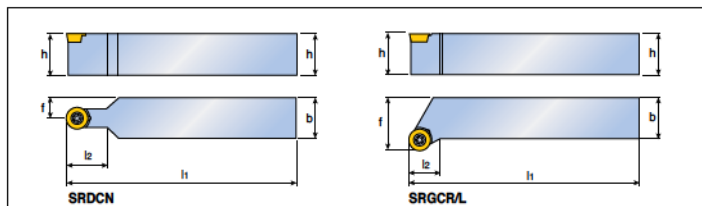
Spare parts

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

Components



Screw type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l ₁	l _z	f		
45° 	SRDCN	1616 H10	16	16	100	17.2	8	RC...T 10T3... A252
		2020 K10	20	20	125	22.5	10	
		2525 M10	25	25	150	27.5	12.5	
		2525 M12	25	25	150	27.5	12.5	
								RC...T 1204...
90° 	SRGCR/L	1616 H10	16	16	100	16.7	20	RC...T 10T3...
		2020 K10	20	20	125	15	25	
		2525 M10	25	25	150	15	32	

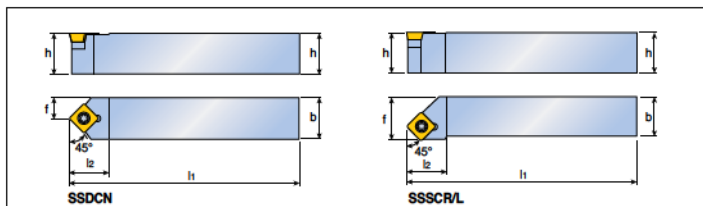
Spare parts

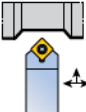

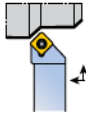
Designation	Screw	Wrench						
	...10	TS 40097I	T 15					
...12	TS 40050I	T 15						

Components





 TA42-TA58

Screw type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
45° 	SSDCN	1212 F09	12	12	80	15.5	6	SC...T 09T3...  A253
		1616 H09	16	16	100	15.5	8	
45° 	SSSCR/L	1212 F09	12	12	80	15.5	14	SC...T 09T3...
		1616 H09	16	16	100	15.5	17	
		2020 K12	20	20	125	24	22	SC...T 1204...
		2525 M12	25	25	150	24	27	

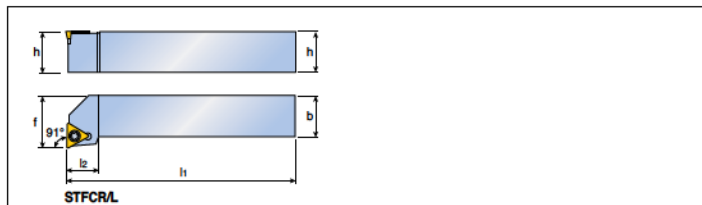
Spare parts

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				

Components



Screw type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
91°	STFCR/L 1212 F11	12	12	80	14	16	TC...T 1102... A256
	1616 H11	16	16	100	14	20	
	1616 H16	16	16	100	19	20	
	2020 K16	20	20	125	19	25	
	2525 M16	25	25	150	20	32	

Spare parts

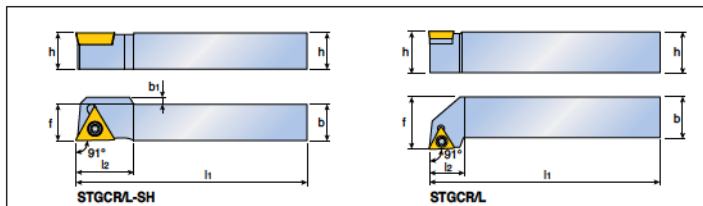
Designation	Screw	Shim	Shim screw	Wrench			
...11	SO 25065I	-	-	T 7			
...16	SO 35124I	SST 32	SO 50090S	T 15			

Components



TA42-TA55

Screw type



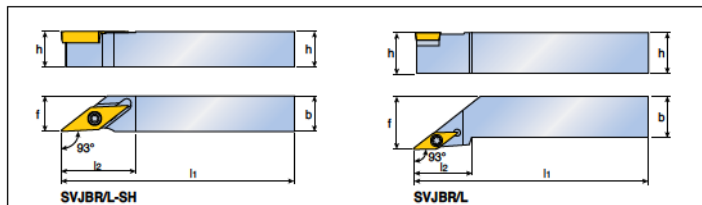
Approach angle	Designation	Dimension (mm)						Insert
		h	b	l1	l2	f	b1	
	STGCR/L 1010 K11-SH 1212 K11-SH 1616 K11-SH	10	10	125	16	10	2	TC...T 1103... A256
		12	12	125	16	12	-	
		16	16	125	16	16	-	
	STGCR/L 1010 E09 1212 F11 1616 H11 1616 H16 2020 K16 2525 M16	10	10	70	11	12	-	TC...T 0902...
		12	12	80	14.3	16	-	TC...T 1102...
		16	16	100	14.3	20	-	
		16	16	100	21	20	-	TC...T 16T3...
		20	20	125	21	25	-	
		25	25	150	21	32	-	

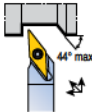

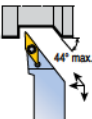
Spare parts

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				



Screw type



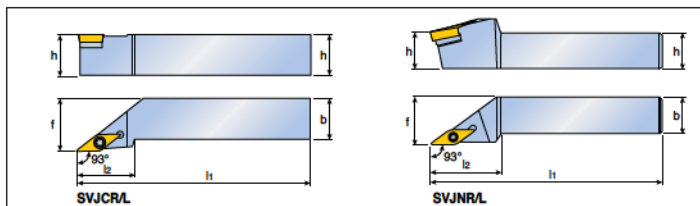
Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l ₁	l ₂	f		
93° 	SVJBR/L	1010 K11-SH	10	10	125	21	10	VB...T 1103...  A259-A260
		1212 K11-SH	12	12	125	21	12	
		1616 K11-SH	16	16	125	21	16	
93° 	SVJBR/L	2020 K16	20	20	125	36	25	VB...T 1604...
		2525 M16	25	25	150	35	32	
		3225 P16	32	25	170	36	32	
		3232 P16	32	32	170	35	40	

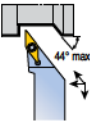

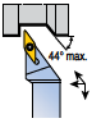

Spare parts

Designation	Screw	Shim	Shim screw	Wrench				
...11	SO 25065I	-	-	T 7				
...16	SO 35124I	SSV 32	TS 5035062S	T 15				







Screw type



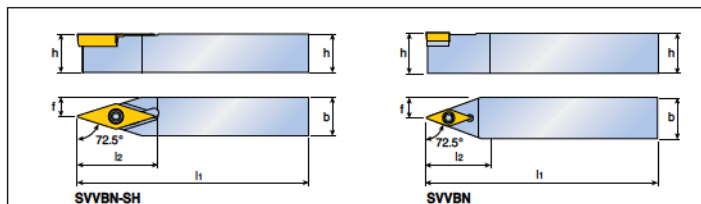
Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l ₁	l ₂	f		
93° 	SVJCR/L	2020 K16	20	20	125	35	25	VC...T 1604...  A260
		2525 M16	25	25	150	35	32	
		3225 P16	32	25	170	35	32	
		3232 P16	32	32	170	47	40	
93° 	SVJNR/L	1616 H13	16	16	100	30	20	VN... 1304...  A241-A242
		2020 K13	20	20	125	35	25	
		2525 M13	25	25	150	43	32	

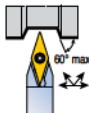

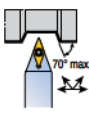
Spare parts

Designation	Screw 	Shim 	Shim screw 	Wrench 				
...13	SO 35120I	SSVN 2.522	TS 5035062S	T 10				
...16	SO 35124I	SSV 32	TS 5035062S	T 15				







Screw type



Approach angle	Designation	Dimension (mm)						Insert
		h	b	l ₁	l ₂	f		
72.5° 	SVVBN	1010 K11-SH	10	10	125	22	5	VB...T 1103...  A259-A260
		1212 K11-SH	12	12	125	22	6	
		1616 K11-SH	16	16	125	22	8	
72.5° 	SVVBN	2020 K16	20	20	125	31.5	10.0	VB...T 1604...
		2525 M16	25	25	150	31.5	12.5	
		3225 P16	32	25	170	31.5	12.5	

Spare parts

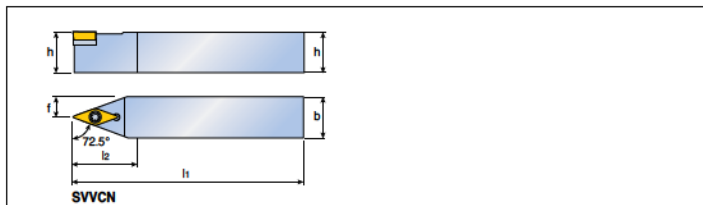
Designation	Screw 	Shim 	Shim screw 	Wrench 				
...11	SO 25065I	-	-	T 7				
...16	SO 35124I	SSV 32	SO 50090S	T 15				


Components







TM2-TA55

Screw type



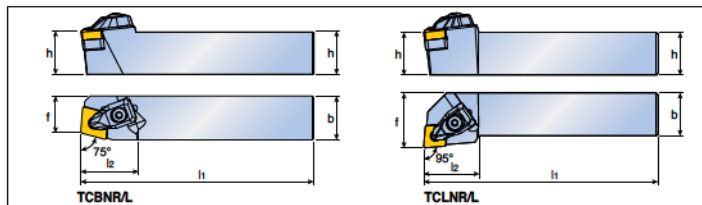
Approach angle	Designation	Dimension (mm)					Insert	
		h	b	li	lz	f		
72.5°	SVVCN	2020 K16	20	20	125	31.5	10.0	VC...T 1604... 
	2525 M16	25	25	150	31.5	12.5		
	3225 P16	32	25	170	31.5	12.5		
	3232 P16	32	32	170	32	16.0		

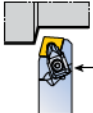

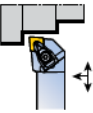
Spare parts

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









T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75° 	✓ TCBNR/L 2020 K0904	20	20	125	26	18.5	CNMA 0904...
	2525 M0904	25	25	150	26	23.5	CNMG 0904...  A212-A220
	TCBNR/L 2525 M12	25	25	150	32	22.5	CN... 1204...
	3232 P19	32	32	170	42	27	CN... 1906...
95° 	✓ TCLNR/L 2020 H0904	20	20	100	25	25	CNMA 0904...
	2020 K0904	20	20	125	25	25	CNMG 0904...
	2525 M0904	25	25	150	25	32	
	TCLNR/L 2020 K12	20	20	125	32	25	CN... 1204...
	2525 M12	25	25	150	32	32	
	3225 P12	32	25	170	32	32	
	3232 P12	32	32	170	32	40	
	2525 M16	25	25	150	36	32	CN... 1606...
	3232 P19	32	32	170	42	40	CN... 1906...
4040 S19	40	40	250	42	50		

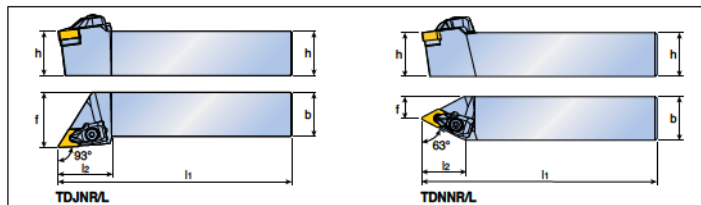
✓Marked: For RHINORUSH insert

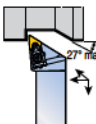
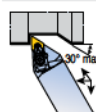
Spare parts

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









T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
93° 	TDJNR/L 2020 K11	20	20	125	30	25	DN... 1104...
	2525 M11	25	25	150	30	32	
	✓ TDJNR/L 2020 H1305	20	20	100	33	25	DNMG 1305...
	2020 K1305	20	20	125	33	25	DNUX 1305...
	2525 M1305	25	25	150	36	32	
	TDJNR/L 2020 K15	20	20	125	39	25	DN... 1506...
	2525 M15	25	25	150	39	32	
	2525 M1504	25	25	150	39	32	DN... 1504...
63° 	TDNNR/L 2525 M11	25	25	150	30	12.5	DN... 1104...
	✓ TDNNR/L 2020 K1305	20	20	125	34	10	DNMG 1305...
	2525 M1305	25	25	150	34	12.5	DNUX 1305...

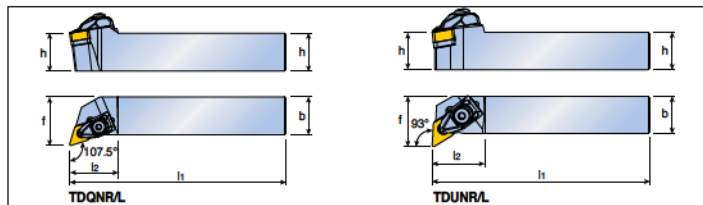
✓Marked: For RHINORUSH insert



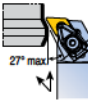
Spare parts

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










T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	lt	lz	f	
107.5° 	✓ TDQNR/L 2020 K1305	20	20	125	32	25	DNMG 1305... DNUX 1305...  A221-A225
	2525 M1305	25	25	150	32	32	
93° 	✓ TDUNR/L 2020 K1305	20	20	125	28	27	
	2525 M1305	25	25	150	28	32	

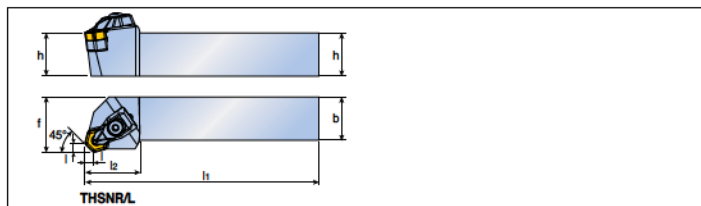
✓Marked: For RHINORUSH insert

Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...1305	 DLM 3.5-NX	 DLS 4	 LSD 3.52	 SO 500901	 DSP 4	 L-W 3	 T 20



T-holder type



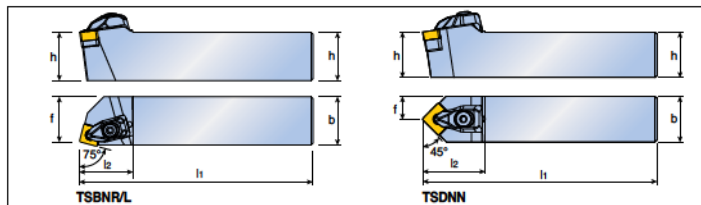
Approach angle	Designation	Dimension (mm)						Insert
		h	b	l ₁	l ₂	f	l	
45°	THSNR/L 2525 M05	25	25	150	32	32	4.2	HN... 0504...
	2525 M10	25	25	150	42	32	6.5	HN... 1006...
	3232 P05	32	32	170	32	40	4.2	HN... 0504...
	3232 P10	32	32	170	42	40	6.5	HN... 1006...



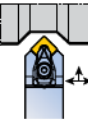
Spare parts

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









T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75° 	✓ TSBNR/L 2020 K0904	20	20	125	27.5	18.5	SNMG 0904...  A228-A234
	2525 M0904	25	25	150	27.5	23.5	
45° 	✓ TSDNN 2020 K0904	20	20	125	28	10	SN... 1204... SN... 1906...
	2525 M0904	25	25	150	28	12.5	
	TSDNN 2525 M12	25	25	150	34	12.5	
	3232 P19	32	32	170	44	16	

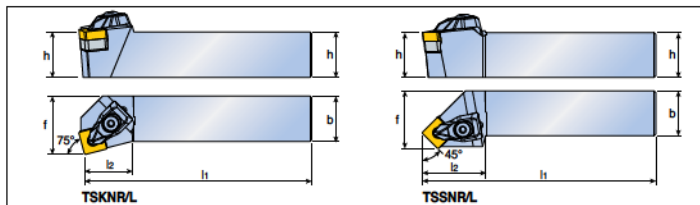
✓Marked: For RHINORUSH insert

Spare parts

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



T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75°	✓ TSKNR/L 2020 K0904	20	20	125	23	25	SNMG 0904... A228-A234
	2525 M0904	25	25	150	23	32	
	TSKNR/L 2525 M12	25	25	150	27	32	
45°	✓ TSSNR/L 2020 K0904	20	20	125	29	25	SNMG 0904... SN... 1204...
	2525 M0904	25	25	150	29	32	
	TSSNR/L 2525 M12	25	25	150	35	32	

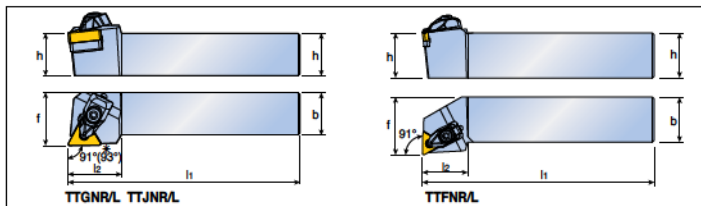
✓Marked: For RHINORUSH insert

Spare parts

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



T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
91°	✓ TTGNR/L 2020 H1304	20	20	100	25	25	TNGG 1304...
	2020 K1304	20	20	125	25	25	TNMG 1304...
	2525 M1304	25	25	150	25	32	
	TTGNR/L 2525 M16	25	25	150	25	32	TN... 1604...
	✓ TTJNR/L 2525 M1304	25	25	150	25	32	TNG(M)G 1304...
	TTJNR/L 2020 K16	20	20	125	25	25	TN... 1604...
	2525 M16	25	25	150	25	32	
91°	✓ TTFNR/L 2020 K1304	20	20	125	25	25	TNGG 1304...
	2525 M1304	25	25	150	25	32	TNMG 1304...

✓Marked: For RHINORUSH insert *Approach angle of TTJNR/L is 93 degrees

Spare parts

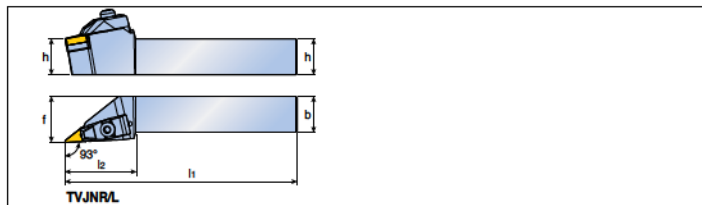
Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...1304	DLM 2.5-NX	DLS 3	LST 2.52	SO 40085I	DSP 3	L-W 2.5	T 15
...16	DLM3	DLS 3	TST 33	SO 35080I	DSP 3	L-W 2.5	T 15



TA4-TA8

TA2-TA58

T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
93°	TVJNR/L 2020 K13	20	20	125	49	25	VN... 1304... A241-A242
	2525 M13	25	25	150	49	32	
	2020 K16	20	20	125	49	25	
	2525 M16	25	25	150	49	32	

Spare parts

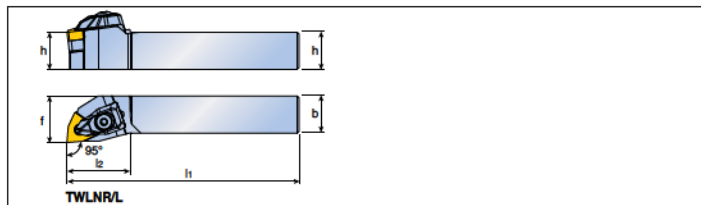
Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...13	DLM 3V	DLS 5	MSV 2.522	SC 4-SH	DSP 5	L-W 4	T 15
...16	DLM 3V	DLS 5	TSV 33	SO 35080I	DSP 5	L-W 4	T 15

Components



TM42-TA55

T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
95°	✓ TWLNR/L 2020 K0604	20	20	125	26	25	WNMX 0604...
	2525 M0604	25	25	150	26	32	
	TWLNR/L 2020 K06	20	20	125	26	25	WNMG 0604...
	2525 M06	25	25	150	26	32	
	2020 K08	20	20	125	34.2	25	WN... 0804...
	2525 M08	25	25	150	34.2	32	
	3232 P08	32	32	170	34.2	40	

✓Marked: For RHINORUSH insert

Spare parts

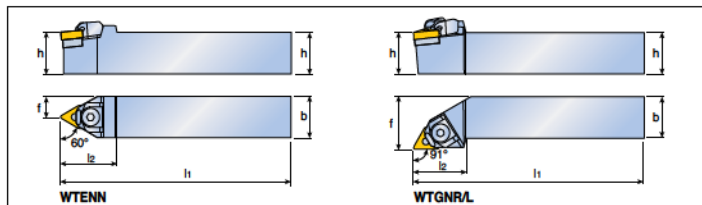
Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...0604	DLM 3-NX	DLS 3	LSW 32A	SO 40085I	DSP 3	L-W 2.5	T 15
...06	DLM 3	DLS 3	PSW 32	SO 40090I	DSP 3	L-W 2.5	T 15
...08	DLM 4	DLS 4	TSW 44	SO 40050I	DSP 4	L-W 3	T 15



TAA-TAB

TAA2-TA5B

Wedge clamp type



Approach angle	Designation	Dimension (mm)						Insert
		h	b	l ₁	l ₂	f		
 60°	✓ WTENN 2020 K1304	20	20	125	28	10.0	TNMG 1304...	
	2525 M1304	25	25	150	28	12.5	TNGG 1304...	
	WTENN 2020 K16	20	20	125	35	10.0	TN... 1604...	
	2525 M16	25	25	150	35	12.5		
	2525 M22	25	25	150	38	12.5	TN... 2204...	
	3225 P22	32	25	170	38	12.5		
	3232 P22	32	32	170	38	16.0		
 91°	✓ WTGNR/L 2020 K1304	20	20	125	27	25	TNMG 1304...	
	2525 M1304	25	25	150	27	32	TNGG 1304...	
	WTGNR/L 2020 K16	20	20	125	32	25	TN... 1604...	
	2525 M16	25	25	150	32	32		
	2525 M22	25	25	150	38	32	TN... 2204...	
	3232 P22	32	32	170	38	40		

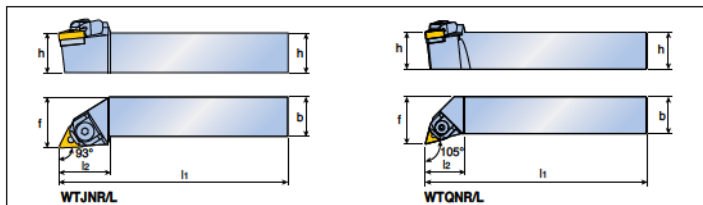
✓Marked: For RHINORUSH insert

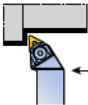
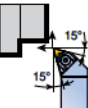
Spare parts

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		



Wedge clamp type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
 93°	✓ WTJNR/L 2020 K1304	20	20	125	28	10	TNMG 1304...
	2525 M1304	25	25	150	28	12.5	TNGG 1304...
	WTJNR/L 2020 K16	20	20	125	32	25	TN... 1604...
	2525 M16	25	25	150	32	32	
	3225 P16	32	25	170	32	32	
	3232 P16	32	32	170	38	40	
	2525 M22	25	25	150	38	32	TN... 2204...
	3232 P22	32	32	170	38	40	
 105°	✓ WTQNR/L 2020 K1304	20	20	125	27	25	TNMG 1304...
	2525 M1304	25	25	150	27	32	TNGG 1304...

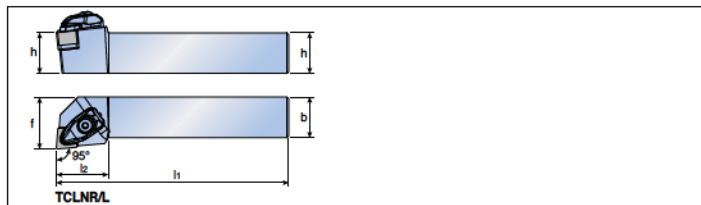
✓Marked: For RHINORUSH insert

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		



Ceramic T-holder type



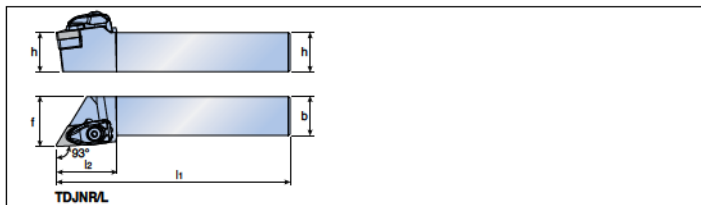
Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
95°	TCLNR/L 2525 M0903-F	25	25	150	25	32	CN...N 0903...
	2020 K1204-F	20	20	125	32	25	CN...N 1204...
	2525 M1204-F	25	25	150	32	32	
	3232 P1204-F	32	32	170	32	40	
	2020 K1207-F	20	20	125	32	25	CN...N 1207...
	2525 M1207-F	25	25	150	32	32	
	3232 P1207-F	32	32	170	32	40	

Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...0903	DCL S-3F	DLS 3	LSC 32	SO 400851	DSP 3	L-W 2.5	T 15
...1204	DCL S-4F	DLS 4	TSC 44	SO 400501	DSP 4	L-W 3	T 15
...1207	DCL S-4F	DLS 4	TSC 42	SO 400501	DSP 4	L-W 3	T 15

Components
TA42-TAS5

Ceramic T-holder type



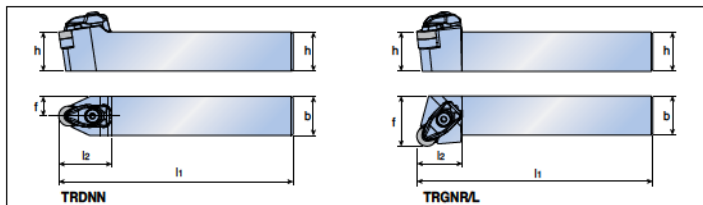
Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
93°	TDJNR/L 2525 M1504-F	25	25	150	39	32	DN...N 1504... A273
	3232 P1504-F	32	32	170	39	40	
	2525 M1507-F	25	25	150	39	32	DN...N 1507...
	3232 P1507-F	32	32	170	39	40	

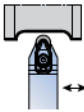

Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...1504	DCL S-4F	DLS 4	TSD 44	SO 400501	DSP 4	L-W 3	T 15
...1507	DCL S-4F	DLS 4	TSD 42	SO 400501	DSP 4	L-W 3	T 15



Ceramic T-holder type



Approach angle	Designation		Dimension (mm)					Insert
			h	b	lt	lz	f	
45° 	TRDNN	2525 M1203-F	25	25	150	34	10	RN...N 1203...
		2020 K1204-F	20	20	125	34	10	RN...N 1204...
		2525 M1204-F	25	25	150	34	12.5	
		2020 K1207-F	20	20	125	34	10	RN...N 1207...
		2525 M1207-F	25	25	150	34	12.5	
		3225 P1207-F	32	25	170	34	12.5	
90° 	TRGNR/L	2020 K1204-F	20	20	125	29	25	RN...N 1204...
		2525 M1204-F	25	25	150	29	32	
		2020 K1207-F	20	20	125	29	25	RN...N 1207...
		2525 M1207-F	25	25	150	29	32	
		3225 P1207-F	32	25	170	29	32	

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

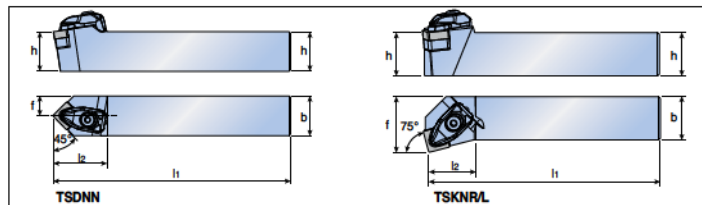
Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench		
...1203	 DCL S-4F	 DLS 4	 S 43	 BH M5x0.8x8	 DSP 4	 L-W 3		
...1204	 DCL S-4F	 DLS 4	 S 43-T8	 BH M5x0.8x10	 DSP 4	 L-W 3		
...1207	 DCL S-4F	 DLS 4	 S 43	 BH M5x0.8x8	 DSP 4	 L-W 3		

Components



Ceramic T-holder type



Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
	TSDNN	2525 M0903-F	25	25	150	28	12.5	SN...N 0903... SN...N 1204...
		2020 K1204-F	20	20	125	34	10	
		2525 M1204-F	25	25	150	34	12.5	SN...N 1207...
		2525 M1207-F	25	25	150	34	12.5	
		3225 P1207-F	32	25	170	34	12.5	
		3232 P1207-F	32	32	170	34	16	
	TSKNR/L	2525 M1204-F	25	25	150	27	32	SN...N 1204...
		3232 P1204-F	32	32	170	27	40	SN...N 1207...
		2525 M1207-F	25	25	150	27	32	
		3232 P1207-F	32	32	170	27	40	

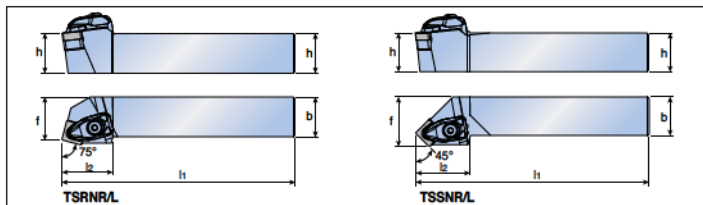
Spare parts

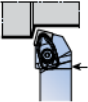
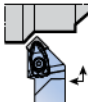
Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...0903	DCL S-3F	DLS 3	LSS 32	SO 400851	DSP 3	L-W 2.5	T 15
...1204	DCL S-4F	DLS 4	TSS 44	SO 400501	DSP 4	L-W 3	T 15
...1207	DCL S-4F	DLS 4	TSS 42	SO 400501	DSP 4	L-W 3	T 15

Components

















Ceramic T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75° 	TSRNR/L 2525 M1204-F	25	25	150	32	27	SN...N 1204...
	3232 P1204-F	32	32	170	32	35	
	2525 M1207-F	25	25	150	32	27	SN...N 1207...
	3225 P1207-F	32	25	170	32	27	
	3232 P1207-F	32	32	170	32	35	
45° 	TSSNR/L 2525 M1204-F	25	25	150	35	32	SN...N 1204...
	3232 P1204-F	32	32	170	35	40	
	2525 M1207-F	25	25	150	35	32	SN...N 1207...
	3232 P1207-F	32	32	170	35	40	

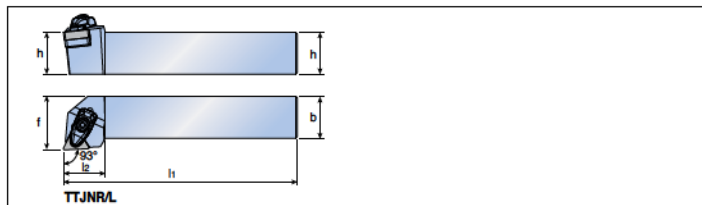
Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench	
...1204	 DCL S-4F	 DLS 4	 TSS 44	 SO 400501	 DSP 4	 L-W 3	 T 15
...1207	 DCL S-4F	 DLS 4	 TSS 42	 SO 400501	 DSP 4	 L-W 3	 T 15

Components

 TA42-TA55

Ceramic T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
93°	TTJNR/L 2020 K1604-F	20	20	125	25	25	TN...N 1604...
	2525 M1604-F	25	25	150	25	32	TN...N 1607...
	2020 K1607-F	20	20	125	25	25	
	2525 M1607-F	25	25	150	25	32	

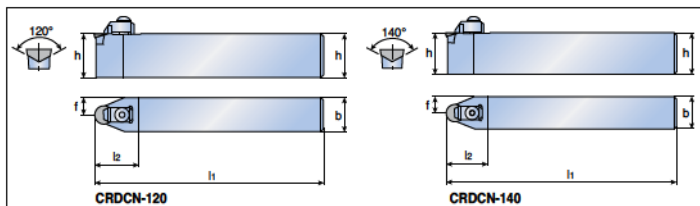
• TNGN 1604/1607 inserts are not exchangeable on same holder

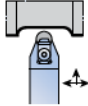
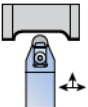
Spare parts

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







Components
TA42-TA55

Ceramic holder type



Approach angle	Designation	Dimension (mm)						Insert	
		h	b	l1	l2	f			
 45°	CRDCN	2525 M06-120	25	25	150	28	12.5	RCGX 060600 A281	
		3225 P06-120	32	25	170	28	12.5		
		3225 P09-120	32	25	170	30	12.5		RCGX 090700
		3225 P12-120	32	25	170	32	12.5		RCGX 120700
 45°	CRDCN	2525 M06-140	25	25	150	28	12.5	RCGX 060300-FT A293	
		3225 P06-140	32	25	170	28	12.5		
		3225 P09-140	32	25	170	30	12.5		RCGX 090300-FT
		3225 P12-140	32	25	170	32	12.5		RCGX 120400-FT

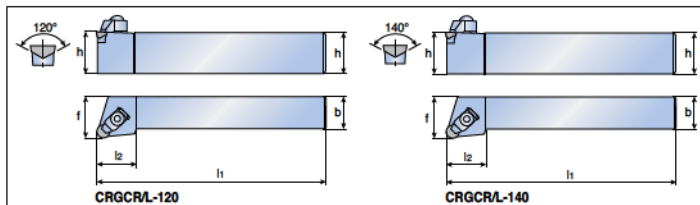
Spare parts

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

Components



Ceramic holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l ₁	l ₂	f	
	CRGCR/L 2525 M06-120	25	25	150	28	32	RCGX 060600 RCGX 090700 RCGX 120700 A281
	3225 P06-120	32	25	170	28	32	
	3225 P09-120	32	25	170	30	32	
	3225 P12-120	32	25	170	32	32	
	CRGCR/L 2525 M06-140	25	25	150	28	32	RCGX 060300-FT RCGX 090300-FT RCGX 120400-FT A293
	3225 P06-140	32	25	170	28	32	
	3225 P09-140	32	25	170	30	32	
	3225 P12-140	32	25	170	32	32	

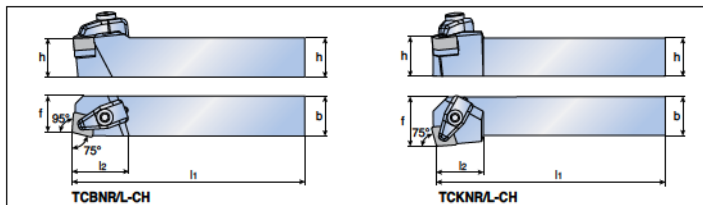
Spare parts


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

Components






Ceramic dimple holder type



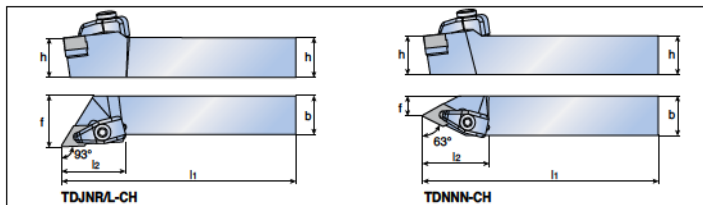
Approach angle	Designation	Dimension (mm)					Insert	
		h	b	l1	l2	f		
75°	TCBNR/L	2525 M12-CH	25	25	150	34.4	22	CNGX 1207...CH 
		3225 P12-CH	32	25	170	34	22	
75°	TCKNR/L	2525 M12-CH	25	25	150	28	32	
		3225 P12-CH	32	25	170	28	32	



Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench		
...12	 CCL 4	 CSC 4	 S 48	 BH M5x0.8x10	 DSP 5	 L-W 4, L-W 3		





Ceramic dimple holder type



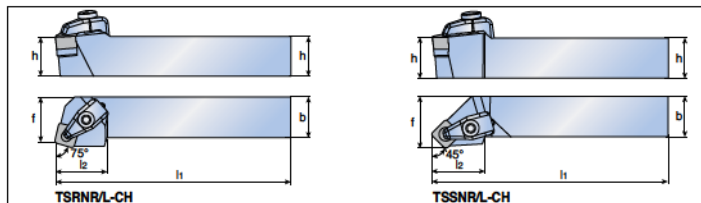
Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
93°	TDJNR/L 2525 M15-CH	25	25	150	38	32	DNGX 1507...CH 
	3225 P15-CH	32	25	170	38	32	
63°	TDNNN 2525 M15-CH	25	25	150	40	12.5	A273 
	3225 P15-CH	32	25	170	40	12.5	

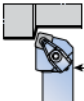

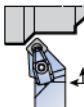
Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench		
...15	 CCL 4	 CSC 4	 S 45	 BH M5x0.8x10	 DSP 5	 L-W 4, L-W 3		









Ceramic dimple holder type



Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
75° 	TSRNR/L 2525 M12-CH	25	25	150	32	27	SNGX 1207...CH  A277
	3225 P12-CH	32	25	170	32	27	
45° 	TSSNR/L 2525 M12-CH	25	25	150	36	32	SNGX 1507...CH
	3232 P12-CH	32	32	170	35	40	
	3225 P15-CH	32	25	170	36	32	

Spare parts

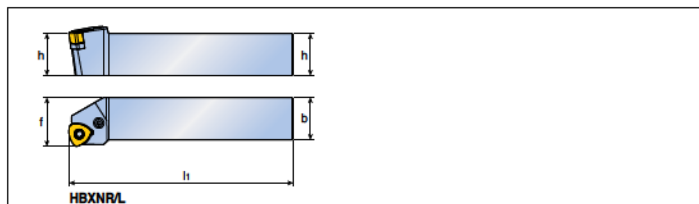
Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Wrench		
...12	 CCL 4	 CSC 4	 S 40	 BH M5x0.8x10	 DSP 5	 L-W 4, L-W 3		
...15	CCL 4	CSC 4	S 50	BH M5x0.8x10	DSP 5	L-W 4, L-W 3		

Components



TM42-TAS5

TOPFEED holder



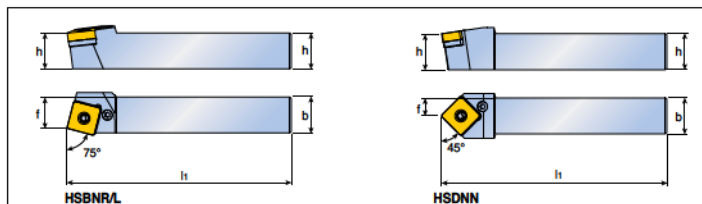
Approach angle	Designation	Dimension (mm)				Insert
		h	b	l ₁	f	
	HBXNR/L 2525 M1507	25	25	150	30	BNMX 150720R/L-HF A264
	3232 P1507	32	32	170	37	


Spare parts

Designation	Lever	Screw	Shim	Shim pin	Shim pin punch	Wrench		
...1507	LCL 16-NX	LCS 5-L25.5	LSB 53 R/L	LSP 5	SPP 5-6	L-W 3		








TOPDUTY holder



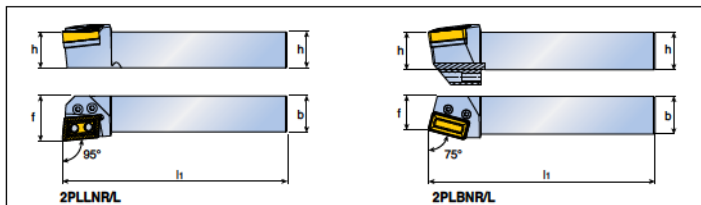
Approach angle	Designation	Dimension (mm)				Insert
		h	b	l1	f	
75°	HSBNR/L 4040 S3109	40	40	250	35	SNM...3109...  A228-A229
	5050 T3109	50	50	300	43	
45°	HSDNN 4040 S3109	40	40	250	20	SNM...3109...
	5050 T3109	50	50	300	25	

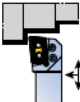

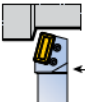

Spare parts

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








TOPDUTY holder



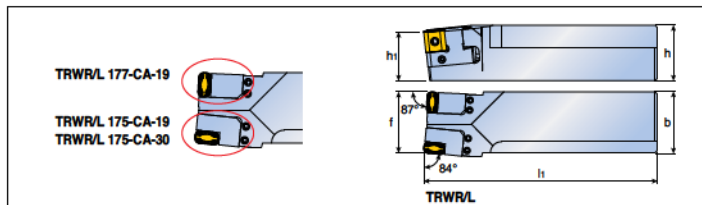
Approach angle	Designation	Dimension (mm)				Insert
		h	b	l1	f	
 95°	2PLLNR/L 4040 S4012	40	40	250	50	LNMM 401224R/L-HX 
	5050 T4012	50	50	300	60	
 75°	2PLBNR/L 5050 T5014	50	50	300	45	LNMX 501432 

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		

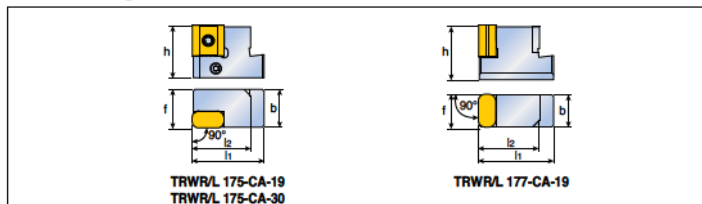


TOPRAIL holder



Approach angle	Designation	Dimension (mm)					Cartridge
		h	h1	b	l1	f	
	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

TOPRAIL cartridge



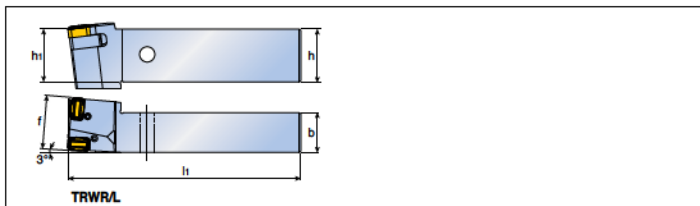
Approach angle	Designation	Dimension (mm)					Insert
		h	b	l1	l2	f	
90°	TRWR/L 175-CA-19	32	22.6	43	35	23	LNX 191940...
	TRWR/L 175-CA-30	32	22.6	43	35	23	LNX 301940...
	TRWR/L 177-CA-19	32	18.6	43	35	19	LNX 191940...

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			



TOPRAIL holder



Approach angle	Designation	Dimension (mm)					Insert
		h	h1	b	l1	f	
	TRWR/L 57.2-76.2 LD	76.2	76.2	57.2	254	76.2	SRR...

• Holder can be supplied by quotation

Spare parts

Designation	Shim1	Shim2	Screw	Wrench				
..LD	SRR-SHIM	SRR-SH-R/L	SRR-SCR	L-W 5				



C4 - T C L N R

1
2
3
4
5
6

1 Coupling size

	Symbol	ss(mm)
	C4	40
	C5	50
	C6	63

2 Clamping system

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

3 Insert shape

C	D	E	H	K	R	S	T	V	W

4 Approach angle

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

* TaeguTec standard

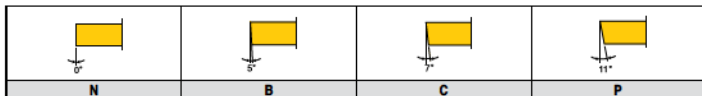
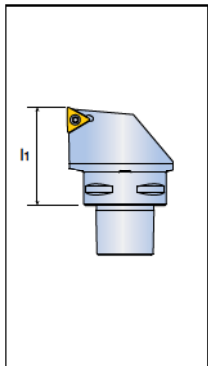
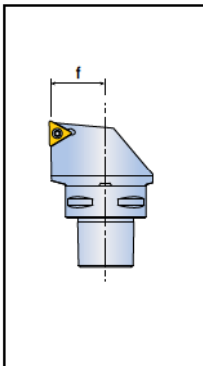
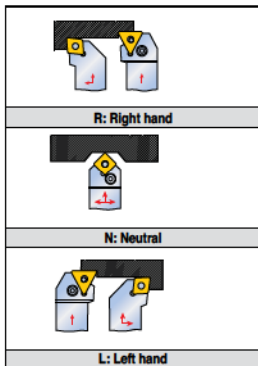
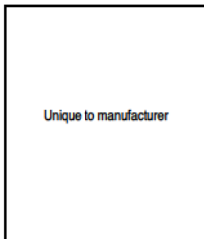
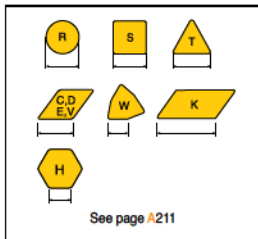
27 055 - 09

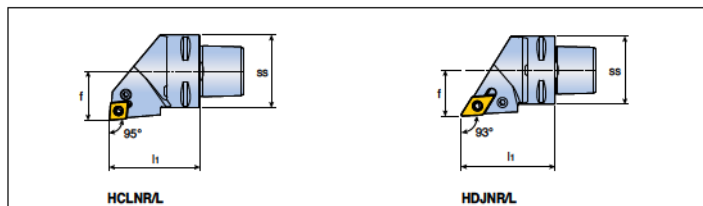
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

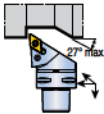
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9

10








5 Insert clearance angle**6** Hand of tool**7** f dimension (mm)**8** Tool length (mm)**9** Cutting edge length**10** Manufacturer's type designation



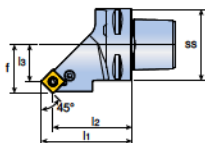
Approach angle	Designation	Dimension (mm)			Insert
		ss	f	h	
95°	✓ C4-HCLNR/L 27050-0904	40	27	50	CNMA 0904... CNMG 0904...  A212-A220
					
93°	✓ C4-HDJNR/L 27055-1305	40	27	55	DNMG 1305... DNUX 1305...  A221-A225
					

✓Marked: For RHINORUSH insert

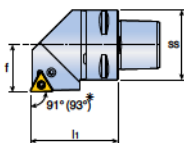
Spare parts

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








HSSNR/L

















HTGNR/L HTJNR/L

Approach angle	Designation	Dimension (mm)					Insert
		ss	f	l1	l2	l3	
45°	✓ C4-HSSNR/L 27042-0904	40	27	50.3	44	20.6	SNMG 0904...  A228-A234
91°	✓ C4-HTGNR/L 27050-1304	40	27	50	-	-	TNGG 1304...  A235-A240
	✓ C4-HTJNR/L 27050-1304	40	27	50	-	-	TNMG 1304...  A235-A240

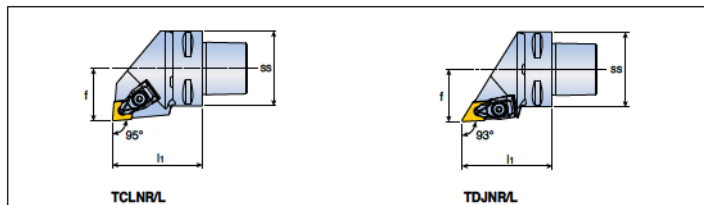
✓Marked: For RHINORUSH insert *Approach angle of HTJNR/L is 93 degrees

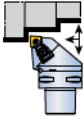

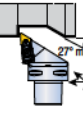

Spare parts

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 










T-holder type



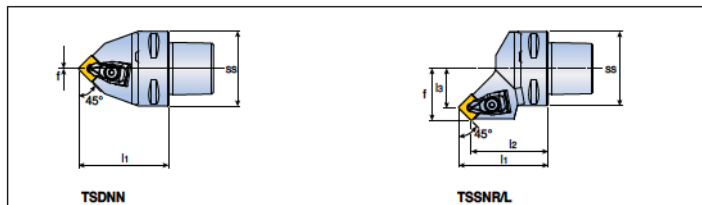
Approach angle	Designation	Dimension (mm)			Insert
		ss	f	l	
 95°	C4-TCLNR/L 27050-12	40	27	50	CN...1204... 
	C5-TCLNR/L 35060-12	50	35	60	
	C6-TCLNR/L 45065-12	63	45	65	CN...1606... CN...1906...
	C4-TCLNR/L 27055-16	40	27	55	
	C5-TCLNR/L 35060-19	50	35	60	
	C6-TCLNR/L 45065-19	63	45	65	
 93°	C4-TDJNR/L 27055-1504	40	27	55	DN...1504... 
	C4-TDJNR/L 27055-1506	40	27	55	
	C5-TDJNR/L 35060-1504	50	35	60	DN...1506... DN...1504... DN...1506... DN...1504... DN...1506... DN...1506...
	C5-TDJNR/L 35060-1506	50	35	60	
	C6-TDJNR/L 45065-1504	63	45	65	
	C6-TDJNR/L 45065-1506	63	45	65	


Spare parts

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










T-holder type



Approach angle	Designation	Dimension (mm)					Insert
		ss	f	l1	l2	l3	
45°	C4-TSDNN 00050-12	40	-	50	-	-	SN...1204...  A228-A234
	C5-TSDNN 00060-12	50	-	60	-	-	
	C6-TSDNN 00065-12	63	-	65	-	-	
45°	C4-TSSNR/L 27042-12	40	27	50.3	42	18.7	
	C5-TSSNR/L 35052-12	50	35	60.3	52	26.7	
	C6-TSSNR/L 45056-12	63	45	64.3	56	36.7	

Spare parts

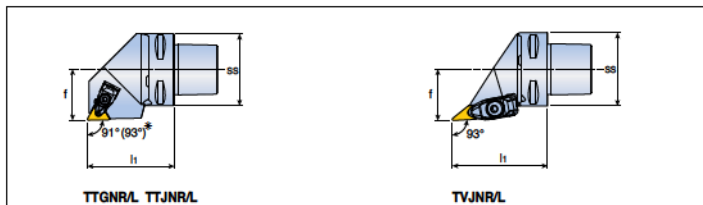
Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Nozzle	Wrench	
C4 ...12								
...12	DLM 4	DLS 4	TSS 44	SO 40050I	DSP 4	NZ 83	L-W 3	
C4 ...16	DLM 4	DLS 4	TSS 44	SO 40050I	DSP 4	NZ 83	L-W 3	
...16	DLM 4	DLS 4	TSS 44	SO 40050I	DSP 4	NZ 104	L-W 3	

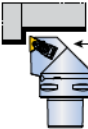

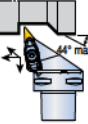

Components



TA42-TA58








T-holder type



Approach angle	Designation	Dimension (mm)			Insert
		ss	f	l1	
91° 	C4-TTGNR/L 27050-16	40	27	50	TN...1604...  A235-A240
	C5-TTGNR/L 35060-16	50	35	60	
	C6-TTGNR/L 45065-16	63	45	65	
	C4-TTJNR/L 27050-16	40	27	50	
	C5-TTJNR/L 35060-16	50	35	60	
	C6-TTJNR/L 45065-16	63	45	65	
93° 	C4-TVJNR/L 27062-16	40	27	62	VN...1604...  A241-A242
	C5-TVJNR/L 35065-16	50	35	65	
	C6-TVJNR/L 45068-16	63	45	68	

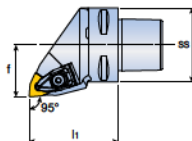
* Approach angle of TTJNR/L is 93 degrees

Spare parts

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



T-holder type



TWLNRL

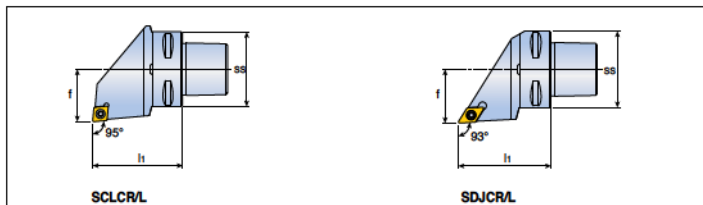
Approach angle	Designation	Dimension (mm)			Insert
		ss	f	lt	
95°	C4-TWLNRL 27050-06	40	27	50	WN...G 0604... WN...0804... A243-A245
	C4-TWLNRL 27050-08	40	27	50	
	C5-TWLNRL 35060-08	50	35	60	
	C6-TWLNRL 45065-08	63	45	65	

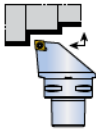

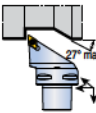

Spare parts

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



Screw type



Approach angle	Designation	Dimension (mm)			Insert
		ss	f	h	
 95°	C4-SCLCR/L 27050-09	40	27	50	CC...T 09T3...  A247-A248
	C5-SCLCR/L 35060-09	50	35	60	
	C6-SCLCR/L 45065-09	63	45	65	
	C4-SCLCR/L 27050-12	40	27	50	
	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...T 11T3...  A250-A251
	C5-SDJCR/L 35060-11	50	35	60	
	C6-SDJCR/L 45065-11	63	45	65	

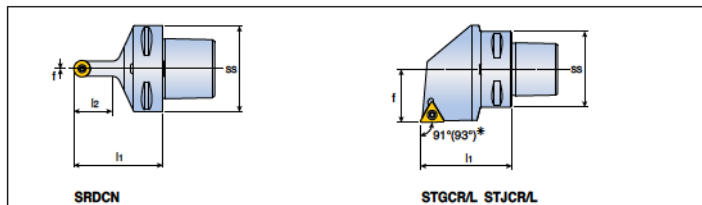
Spare parts


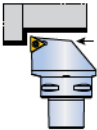
Designation	Screw	Shim	Shim screw	Nozzle	Wrench		
C4...09	SO 35124I	SSC 32	-	SO 50090S	NZ 83	T 15	
...09	SO 35124I	SSC 32	-	SO 50090S	NZ 104	T 15	
C4...11	SO 35124I	-	SSD 32	SO 50090S	NZ 83	T 15	
...11	SO 35124I	-	SSD 32	SO 50090S	NZ 104	T 15	
C4...12	SO 45130I	-	SSC 43N	SO 60105S	NZ 83	T 20	
...12	SO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

Components



Screw type



Approach angle	Designation	Dimension (mm)				Insert
		ss	f	l1	l2	
45° 	C4-SRDCN 00050-10A	40	-	50	25	RC...T 10T300
	C5-SRDCN 00060-10A	50	-	60	25	
	C6-SRDCN 00065-10A	63	-	65	25	RC...T 120400
	C4-SRDCN 00050-12A	40	-	50	28	
	C5-SRDCN 00060-12A	50	-	60	28	
	C6-SRDCN 00065-12A	63	-	65	28	
91° 	C4-STGCR/L 27050-16	40	27	50	-	TC...T 16T3...
	C5-STGCR/L 35060-16	50	35	60	-	
	C4-STJCR/L 27050-16	40	27	50	-	
	C5-STJCR/L 35060-16	50	35	60	-	

* Approach angle of STJCR/L is 93 degrees

Spare parts

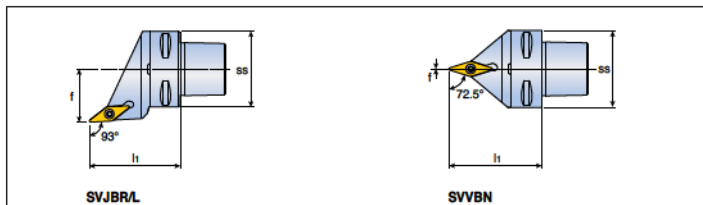
Designation	Screw	Shim	Shim screw	Nozzle	Wrench		
C4...10A	TS 40097I	TRC 3-0	-	SR TC-3	NZ 83	T 15	
...10A	TS 40097I	TRC 3-0	-	SR TC-3	NZ 104	T 15	
C4...12A	SO 40050I	TRC 4-0	-	SR TC-4S	NZ 83	T 15	
...12A	SO 40050I	TRC 4-0	-	SR TC-4S	NZ 104	T 15	
C4...16	SO 35124I	-	SST 32	SO 50090S	NZ 83	T 15	
...16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

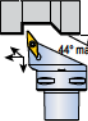

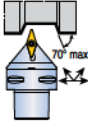
Components



TA42-TAS8

Screw type



Approach angle	Designation	Dimension (mm)			Insert
		ss	f	l1	
 93°	C4-SVJBR/L 27050-16	40	27	50	VB...T 1604...  A259-A260
	C5-SVJBR/L 35060-16	50	35	60	
	C6-SVJBR/L 45065-16	63	45	65	
 72.5°	C4-SVVBN 00050-16	40	-	50	
	C5-SVVBN 00060-16	50	-	60	
	C6-SVVBN 00065-16	63	-	65	

Spare parts

Designation	Screw	Shim	Shim screw	Nozzle	Wrench			
C4...16	SO 35124I	SSV 32	TS 5035062S	NZ 83	T 15			
...16	SO 35124I	SSV 32	TS 5035062S	NZ 104	T 15			

Components

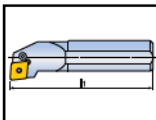
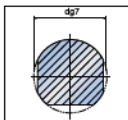


S 32 S - C T F P R - 16 -

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



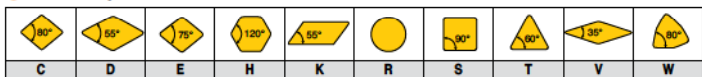
K	125	U	350
M	150	V	400
Q	180	W	450
R	200	Y	500
S	250	X	Special
T	300		

2 Bar diameter 3 Tool length

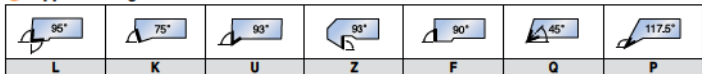
4 Clamping system



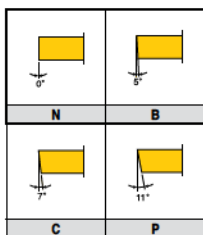
5 Insert shape



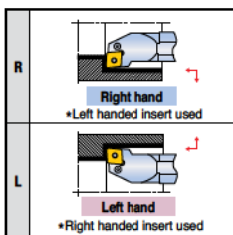
6 Approach angle



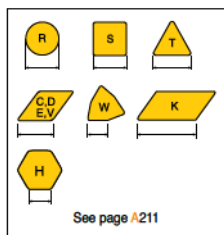
7 Insert clearance angle



8 Hand of tool



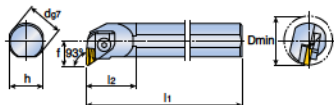
9 Cutting edge length



10 Manufacturer's type designation

Unique to manufacturer

Top clamp type



S-CKUNR/L

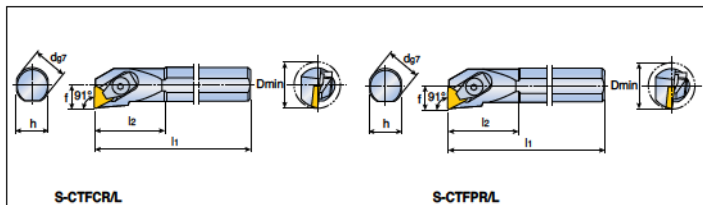
Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
93°	S32T CKUNR/L 16	32	30	300	45	22	44	KNUX 1604...RAL A226
	S40T CKUNR/L 16	40	38	300	55	27	54	
	S40V CKUNR/L 16	40	38	400	55	27	54	
	S50U CKUNR/L 16	50	48	350	60	35	67.2	

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 M3 X 0.5 X 10	KSP 48 KP 48S	L-W 4	



Top clamp type



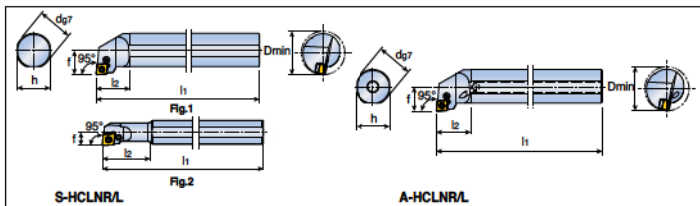
Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
91°	S10K CTFCR/L 06	10	9	125	25	6.5	12	TCGR 0601... A256-A258
91°	S10K CTFPR/L 06	10	9	125	25	6.5	12	TPGR 0601... A257-A258
	S12M CTFPR/L 06	12	11	150	30	9	16	
	S12M CTFPR/L 09	12	11	150	25	9	16	TPGN, TP...R 0902...
	S16R CTFPR/L 09	16	15	200	25	11	20	
	S12M CTFPR/L 11	12	11	150	30	9	16	TPMR, TP...N 1103...
	S16M CTFPR/L 11	16	15	150	30	11	20	
	S16R CTFPR/L 11	16	15	200	30	11	20	TPMR, TP...N 1603...
	S20S CTFPR/L 11	20	18	250	35	13	25	
	S16R CTFPR/L 16	16	15	200	40	11	20	
	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		











Hook lever type



Approach angle	Designation	Dimension (mm)						Fig	Insert
		dg7	h	li	lz	f	Dmin		
 95°	✓ S16Q HCLNR/L 0904	16	15	180	25	11	20	1	CNMA 0904...
	✓ S20Q HCLNR/L 0904	20	18	180	28	13	25	1	CNMG 0904...
	✓ S20Q HCLNR/L 0904-D20	20	18	180	28	11	20	2	
	✓ S25R HCLNR/L 0904	25	23	200	31	17	32	1	
	✓ S32S HCLNR/L 0904	32	30	250	31	22	40	1	
	✓ S40T HCLNR/L 0904	40	37	300	55	27	50	1	
	* S32S HCLNR/L 1205	32	30	250	45	22	40	1	CNMX 1205...HB
	* S40T HCLNR/L 1205	40	37	300	55	27	50	1	
 95°	✓ A16Q HCLNR/L 0904	16	15	180	25	11	20		CNMA 0904...
	✓ A20Q HCLNR/L 0904	20	18	180	28	13	25		CNMG 0904...
	✓ A25R HCLNR/L 0904	25	23	200	31	17	32		
	✓ A32S HCLNR/L 0904	32	30	250	31	22	40		
	* A32S HCLNR/L 1205	32	30	250	45	22	40		CNMX 1205...HB
	* A40T HCLNR/L 1205	40	37	300	55	27	50		

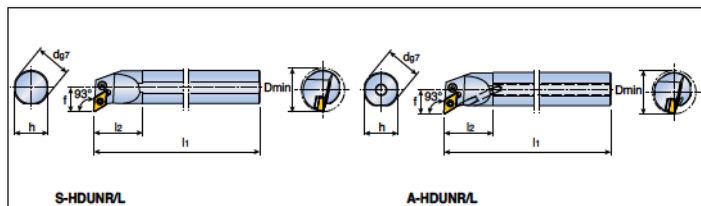
✓ Marked: For RHINORUSH insert *Marked: For TURNRUSH insert


Spare parts

Designation	Lever	Screw	Shim		Shim pin	Shim pin punch	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
...1205	LCL 12-NX	LCS 5	-	LSC 42-NXS	LSP 4	SPP 3-4	-	L-W 3








Hook lever type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
93°	✓ S32S HDUNR/L 1305	32	30	250	45	22	40	DNMG 1305... DNUX 1305... 
	✓ S40T HDUNR/L 1305	40	37	300	55	27	50	
93°	✓ A32S HDUNR/L 1305	32	30	250	45	22	40	
	✓ A40T HDUNR/L 1305	40	37	300	55	27	50	

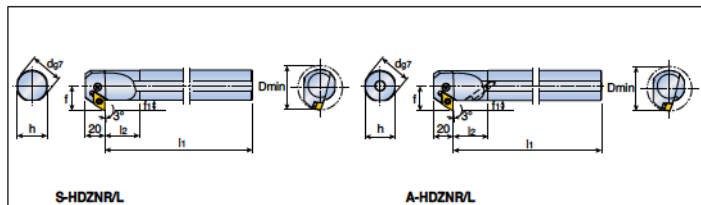
✓Marked: For RHINORUSH insert

Spare parts

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



Hook lever type



Approach angle	Designation	Dimension (mm)							Insert
		dg7	h	l1	l2	f	f1	Dmin	
93°	✓ S32S HDZNR/L 1305	32	30	250	36	25	10.5	45	DNMG 1305... A221-A225
	✓ S40T HDZNR/L 1305	40	37	300	40	29	10.5	50	
93°	✓ A32S HDZNR/L 1305	32	30	250	36	25	10.5	45	
	✓ A40T HDZNR/L 1305	40	37	300	40	29	10.5	50	

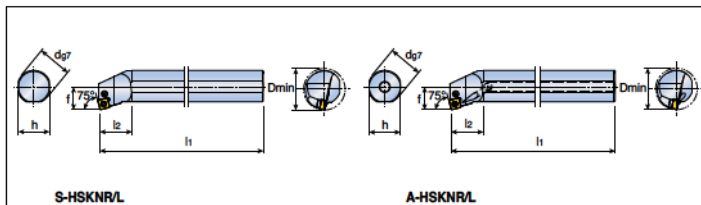
✓Marked: For RHINORUSH insert

Spare parts

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



Hook lever type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
75°	✓ S25R HSKNR/L 0904	25	23	200	31	17	32	SNMG 0904...
	✓ S32S HSKNR/L 0904	32	30	250	31	22	40	
75°	✓ A25R HSKNR/L 0904	25	23	200	31	17	32	A228-A234
	✓ A32S HSKNR/L 0904	32	30	250	31	22	40	

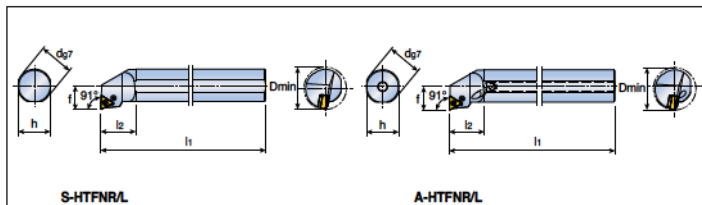
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
Spare parts

Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
...25R ...0904	LCL 09B-NX	LCS 3B	-	-	LSR 3B	L-W 2		
...32S ...0904	LCL 09-NX	LCS 3	LSS 32	LSP 3A	-	L-W 2.5		















Hook lever type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
91°	✓ S16Q HTFNR/L 1304	16	15	180	25	11	20	TNGG 1304... TNMG 1304...  A235-A240
	✓ 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	

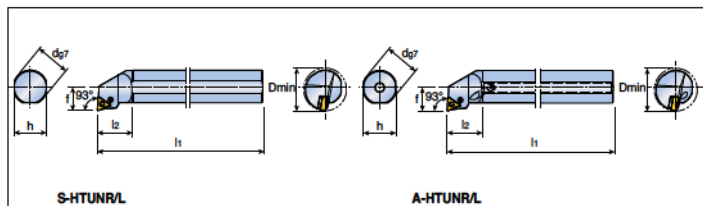
✓Marked: For RHINORUSH insert




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		















Hook lever type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
 93°	✓ S16Q HTUNR/L 1304	16	15	180	25	11	20	TNGG 1304... TNMG 1304...  A235-A240
	✓ 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	

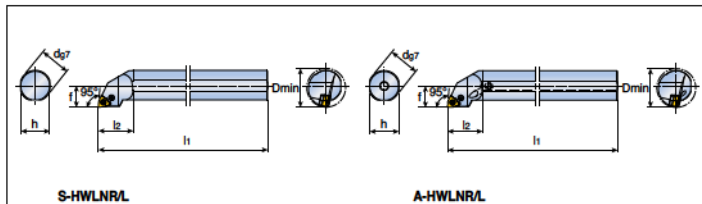
✓Marked: For RHINORUSH insert

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		



Hook lever type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
95°	✓ S16Q HWLNRL/L 0604	16	15	180	30	11	20	WNMX 0604... A243-A245
	✓ S20Q HWLNRL/L 0604	20	18	180	33	13	25	
	✓ S25R HWLNRL/L 0604	25	23	200	36	17	32	
	✓ S32S HWLNRL/L 0604	32	30	250	36	22	40	
95°	✓ A16Q HWLNRL/L 0604	16	15	180	30	11	20	
	✓ A20Q HWLNRL/L 0604	20	18	180	33	13	25	
	✓ A25R HWLNRL/L 0604	25	23	200	36	17	32	
	✓ A32S HWLNRL/L 0604	32	30	250	36	22	40	

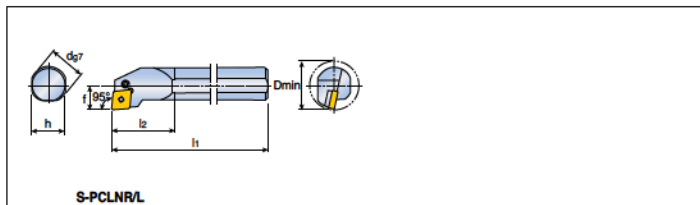
✓Marked: For RHINORUSH insert

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		



Lever lock type



Approach angle	Designation	Dimension (mm)							Insert
		dg7	h	l1	l2	f	Dmin		
95°	S25T PCLNR/L 12	25	23	300	40	17	32	CN...1204... A212-A220	
	S32S PCLNR/L 12	32	30	250	45	22	40		
	S32T PCLNR/L 12	32	30	300	45	22	40		
	S40T PCLNR/L 12	40	37	300	55	27	50		
	S50U PCLNR/L 12	50	47	350	70	35	63		
	S50U PCLNR/L 16	50	47	350	70	35	63		
	S50U PCLNR/L 19	50	47	350	70	35	63	CN...1606... CN...1906...	

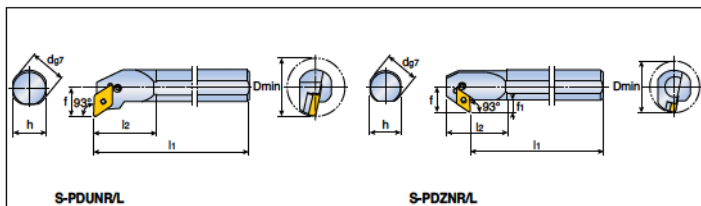
Spare parts

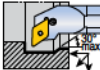
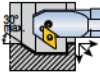
Designation	Lever	Screw	Shim	Shim pin	Snap ring	Wrench		
S25T ...12	LCL 4B	LCS 4B	-	-	LSR 4B	L-W 2.5		
S32 ...12	LCL 4	LCS 4S	LSC 42	LSP 4	-	L-W 3		
...12	LCL 4	LCS 4	LSC 42	LSP 4	-	L-W 3		
...16	LCL 5	LCS 5	LSC 53	LSP 5	-	L-W 3		
...19	LCL 6D	LCS 6	LSC 63	LSP 6	-	L-W 4		

Components



Lever lock type



Approach angle	Designation	Dimension (mm)							Insert
		dg7	h	l1	l2	f	f1	Dmin	
 93°	S32T PDUNR/L 15	32	30	300	45	22	-	40	DN...1506... A221-A225
	S40T PDUNR/L 15	40	37	300	55	27	-	50	
	S50U PDUNR/L 15	50	47	350	70	35	-	63	DN...1504...
	S32T PDUNR/L 15-A	32	30	300	45	22	-	40	
 93° For back boring	S32T PDZNR/L 15	32	30	300	30	25	9	45	
	S40T PDZNR/L 15	40	37	300	35	29	9	50	
	S50U PDZNR/L 15	50	47	350	40	35	10	63	

Spare parts

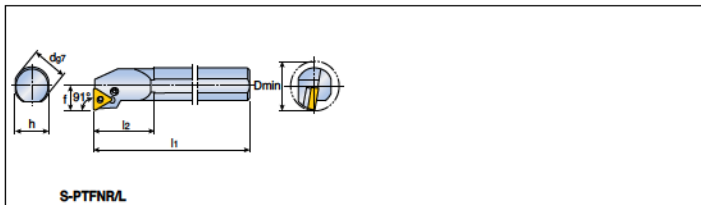
Designation	Lever	Screw	Shim	Shim pin	Wrench			
S32T ...15	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			
S40T PDZ ...15	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			
...15	LCL 4A	LCS 4	LSD 42	LSP 4	L-W 3			
...15A	LCL 4A	LCS 4S	LSD 42	LSP 4	L-W 3			

Components

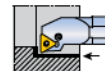


TM42-TA50

Lever lock type



Approach angle	Designation	Dimension (mm)							Insert
		dg7	h	l1	l2	f	Dmin		
91°	S20Q PTFNR/L 11	20	18	180	40	13	25	TN...1103...	
	S25T PTFNR/L 16	25	23	300	40	17	32	TN...1604...	
	S32T PTFNR/L 16	32	30	300	45	22	40		
	S40T PTFNR/L 16	40	37	300	60	27	50		
	S50U PTFNR/L 16	50	47	350	70	35	63		
	S40T PTFNR/L 22	40	37	300	70	27	50	TN...2204...	
	S50U PTFNR/L 22	50	47	350	70	35	63		



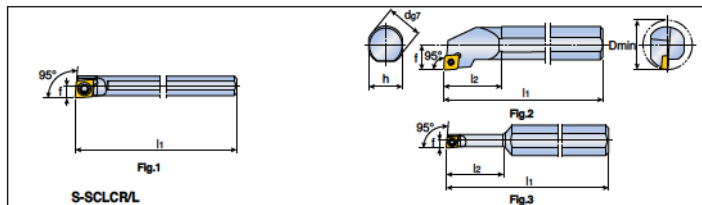
Spare parts

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		

Components



Screw type



Approach angle	Designation	Dimension (mm)						Fig	Insert
		dg7	h	l1	l2	f	Dmin		
95°	S04F SCLCR/L 03-D05	4	3.75	80	-	2.5	5	1	CC...T 0301...
	S05G SCLCR/L 03-D06	5	4.75	90	-	3	6	1	CC...T 0401...
	S06H SCLCR/L 04-D07	6	5.5	130	-	3.5	7	1	CC...T 0602...
	S07J SCLCR/L 04-D08	7	6.5	110	-	4	8	1	CC...T 0301...
	S10H SCLCR/L 03-D05	10	9	130	15	2.5	5	3	CC...T 0602...
	S08K SCLCR/L 06	8	7	125	18	6	11	2	
	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...T 09T3...
	S16M SCLCR/L 09	16	15	150	30	11	20	2	
	S16R SCLCR/L 09	16	15	200	30	11	20	2	
	S20R SCLCR/L 09	20	18	200	32	13	25	2	
	S20S SCLCR/L 09	20	18	250	32	13	25	2	
	S25T SCLCR/L 12	25	23	300	42	17	32	2	CC...T 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

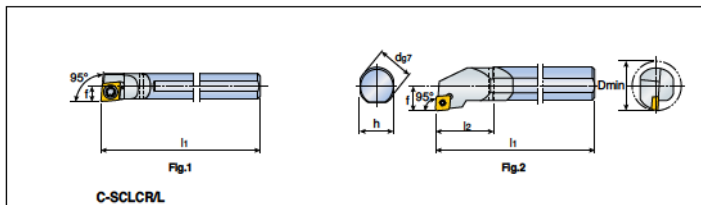
Designation	Screw	Shim	Shim screw	Wrench			
...03	TS 160311	-	-	T 6			
...04	TS 20038I/HG-P	-	-	T 6P			
S...K ...06	SO 25050I	-	-	T 7			
...06	SO 25065I	-	-	T 7			
...09	SO 35080I	-	-	T 15			
S25T ...12	SO 45100I	-	-	T 20			
...12	SO 45130I	SSC 43N	SO 60105S	T 20			

Components



TM2-TA55

Screw type



C-SCLCR/L

Approach angle	Designation	Dimension (mm)						Fig	Insert
		dg7	h	l1	l2	f	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	CC...T 0301...
	✓ 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	CC...T 0401...
	✓ C08K SCLCR/L 06	8	7	125	15	6	11	2	CC...T 0602...
	✓ C10K SCLCR/L 06	10	9	125	15	7	13	2	CC...T 0602...
	✓ C12K SCLCR/L 06	12	11	125	20	9	16	2	CC...T 0602...
	✓ C12M SCLCR/L 06	12	11	150	20	9	16	2	CC...T 0602...
	✓ C12M SCLCR/L 09	12	11	150	20	9	16	2	CC...T 09T3...
	✓ C16R SCLCR/L 09	16	15	200	25	11	20	2	CC...T 09T3...
✓ C20S SCLCR/L 09	20	18	250	25	13	25	2	CC...T 09T3...	

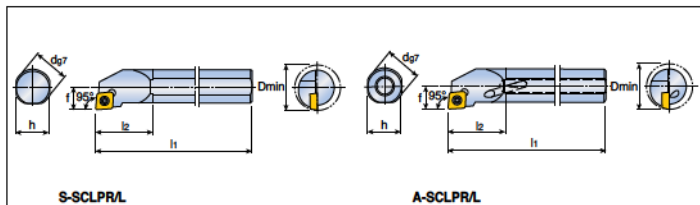
✓Marked: Designates carbide shank • L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

Designation	Screw	Wrench					
	...03	TS 16031I	T 6				
...04	TS 20038I/HG-P	T 6P					
...06	SO 25050I	T 7					
...09	SO 35080I	T 15					



Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
 95°	S10K SCLPR/L 08	10	9	125	20	6	12	CP...T 0802... A249
	S10M SCLPR/L 08	10	9	150	20	6	12	
	S12M SCLPR/L 08	12	11	150	23	8	16	CP...T 0903...
	S16N SCLPR/L 09	16	15	160	30	10	20	
	S16R SCLPR/L 09	16	15	200	30	10	20	
	S20N SCLPR/L 09	20	18	160	32	12.5	25	
	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	CP...T 0903...
	A12M SCLPR/L 0903	12	11	150	19	9	16	
	A16Q SCLPR/L 0903	16	15	180	21.5	11	20	CP...T 09T3...
	A20R SCLPR/L 0903	20	18	200	22	13	25	
	A12M SCLPR/L 09T3	12	11	150	19	9	16	
	A16Q SCLPR/L 09T3	16	15	180	20	11	20	
	A20R SCLPR/L 09T3	20	18	200	22	13	25	

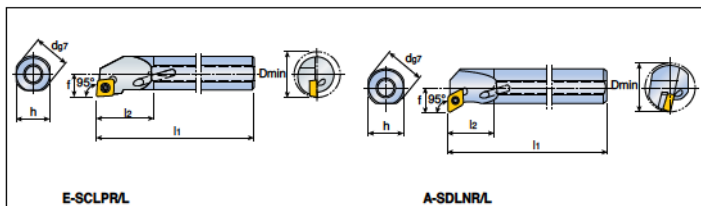
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder



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				



Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
 95°	✓ E08K SCLPR/L 06	8	7	125	15	6	11	CP...T 0602... CP...T 0903... CP...T 09T3...
	✓ E10K SCLPR/L 06	10	9	125	15	7	13	
	✓ E12M SCLPR/L 0903	12	11	150	19	9	16	
	✓ E16R SCLPR/L 0903	16	15	200	21.73	11	20	
	✓ E12M SCLPR/L 09T3	12	11	150	19	9	16	
	✓ E16R SCLPR/L 09T3	16	15	200	21.5	11	20	
 90°	A20S SDLNR/L 11	20	18	250	31	13	24	DN...1104...
	A25T SDLNR/L 11	25	23	300	30	17	31	

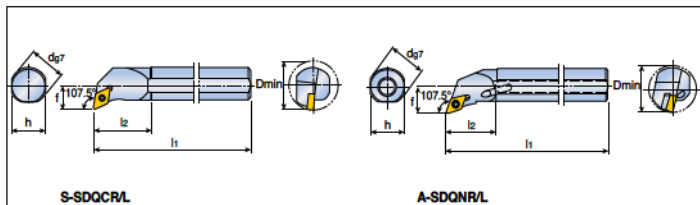
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



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	PL 25			



Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
107.5° 	S10K SDQCR/L 07	10	9	125	20	7	13	DC...T 0702...  A250-A251
	S10M SDQCR/L 07	10	9	150	20	7	13	
	S12M SDQCR/L 07	12	11	150	22	9	16	
	S16R SDQCR/L 07	16	15	200	27	11	20	
	S20N SDQCR/L 11	20	18	160	40	13	25	
	S20S SDQCR/L 11	20	18	250	40	13	25	
	S25T SDQCR/L 11	25	23	300	50	17	32	DC...T 11T3...
107.5° 	A16S SDQNR/L 11	16	15	250	30	13	23	DN... 1104...  A221-A225
	A20S SDQNR/L 11	20	18	250	31	15	27	
	A25T SDQNR/L 11	25	23	300	35	19	33	
	A32T SDQNR/L 11	32	30	300	44	26	44	

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

Spare parts

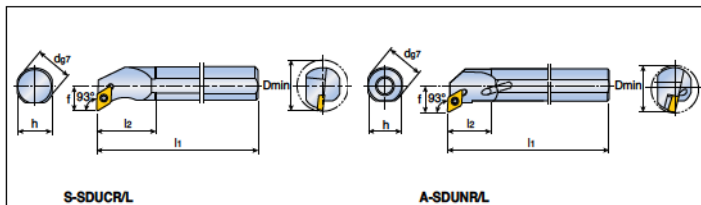
Designation	Screw	Shim	Shim screw	Wrench	Seal			
S10 ...07	SO 250501	-	-	T 7	-			
S ...07	SO 250651	-	-	T 7	-			
S ...11	SO 350801	-	-	T 15	-			
A16S...11	SO 351201	-	-	T 10	PL 16			
A20S...11	SO 351201	SSD 32	SO 50090S	T 10	PL 20			
A25T...11	SO 351201	SSD 32	SO 50090S	T 10	PL 25			
A32T...11	SO 351201	SSD 32	SO 50090S	T 10	PL 32			





Components



TM2-TA52

Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	lt	lz	f	Dmin	
 93°	S10K SDUCR/L 07	10	9	125	20	7	13	DC...T 0702...  A250-A251
	S12M SDUCR/L 07	12	11	150	23	9	16	
	S16M SDUCR/L 07	16	15	150	30	11	20	
	S16R SDUCR/L 07	16	15	200	30	11	20	
	S16R SDUCR/L 11	16	15	200	27	11	20	
	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	DC...T 11T3...  A221-A225	
 93°	A20S SDUNR/L 11	20	18	250	30	15		27
	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

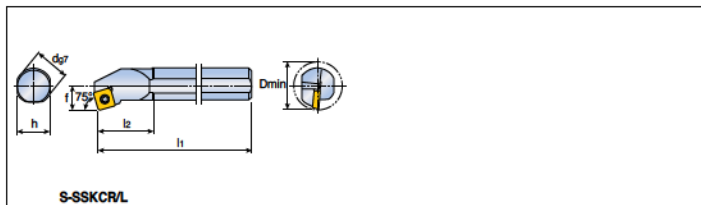
Designation	Screw	Shim	Shim screw	Wrench	Seal		
S10K ...06	SO 250501	-	-	T 7	-		
S ...11	SO 350801	-	-	T 15	-		
A20S ...11	SO 351201	-	-	T 10	PL 20		
A25T ...11	SO 351201	SSD 32	SO 50090S	T 10	PL 25		
A32T ...11	SO 351201	SSD 32	SO 50090S	T 10	PL 32		

Components

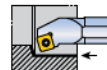


TM42-TA55



Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
75°	S16R SSKCR/L 09	16	15	200	28	11	20	SC...T 09T3... A253
	S20S SSKCR/L 09	20	18	250	30	13	25	
	S25T SSKCR/L 12	25	23	300	39	17	32	



Spare parts

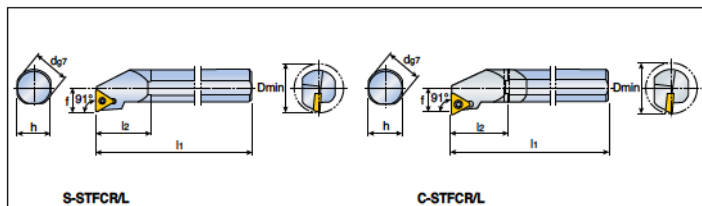
Designation	Screw	Wrench					
							
...09	SO 350801	T 15					
...12	SO 451001	T 20					

Components



TA42-TA55

Screw type



Approach angle	Designation	Dimension (mm)							Insert
		dg7	h	l1	l2	f	Dmin		
91° 	S06H STFCR/L 06T1	6	5.4	100	12	4.5	8	TC...T 06T1... A256	
	S08K STFCR/L 09	8	7	125	20	6	11		
	S10K STFCR/L 09	10	9	125	22.5	7	13	TC...T 0902...	
	S12M STFCR/L 09	12	11	150	30	9	16		
	S16R STFCR/L 09	16	15	200	35	11	20	TC...T 1102...	
	S12M STFCR/L 11	12	11	150	25	9	16		
	S16R STFCR/L 11	16	15	200	35	11	20	TC...T 16T3...	
	S20S STFCR/L 11	20	18	250	36	13	25		
	S20S STFCR/L 16	20	18	250	36	13	25	TC...T 16T3...	
	S25T STFCR/L 16	25	23	300	49	17	32		
	S32T STFCR/L 16	32	30	300	45	22	40	TC...T 0902...	
	S40T STFCR/L 16	40	37	300	60	27	50		
91° 	✓ C10K STFCR/L 09	10	9	125	15	7	13	TC...T 0902...	
	✓ C10K STFCR/L 11	10	9	125	15	7	13	TC...T 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

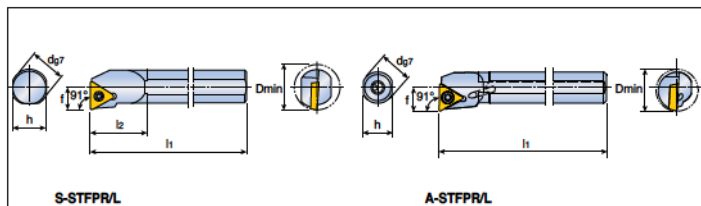
Designation	Screw	Shim	Shim screw	Wrench				
...06T1	TS 20038I	-	-	T 6				
S08K...09	TS 22046I	-	-	T 7				
...09	SO 22050I	-	-	T 7				
...11	SO 25065I	-	-	T 7				
C10K...11	SO 25050I	-	-	T 7				
S20S...16	SO 35080I	-	-	T 15				
S25T...16	SO 35080I	-	-	T 15				
S32T...16	SO 35124I	SST 32	SO 50090S	T 15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

Components



TM2-TA55

Screw type



Approach angle	Designation	Dimension (mm)						Insert	
		dg7	h	lt	lz	f	Dmin		
	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...	
	S10K STFPR/L 11	10	9	125	25	6	12	TP...T 1103...	
	S10M STFPR/L 11	10	9	150	25	6	12		
	S12M STFPR/L 11	12	11	150	30	8	16		
	S16N STFPR/L 11	16	15	160	35	10	20		
	S16R STFPR/L 11	16	15	200	35	10	20		
	S16N STFPR/L 16	16	15	160	30	10	20		TP...T 1604...
	S20N STFPR/L 16	20	18	160	35	12.5	25		
	S20S STFPR/L 16	20	18	250	36	12.5	25		
	A08H STFPR/L 09	8	7	100	-	6	11	TP...T 0902...	
	A10K STFPR/L 1102	10	9	125	-	7	13	TP...T 1102...	
	A12M STFPR/L 1102	12	11	150	-	9	16	TP...T 1103...	
	A16Q STFPR/L 1102	16	15	180	-	11	20		
	A12M STFPR/L 1103	12	11	150	-	9	16	TP...T 1103...	
	A16Q STFPR/L 1103	16	15	180	-	11	20		
	A20R STFPR/L 16T3	20	18	200	-	13	25	TP...T 16T3...	

- TPGX type inserts are available with alternate screw. (TPGX 1103 → SO 300811)
- L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

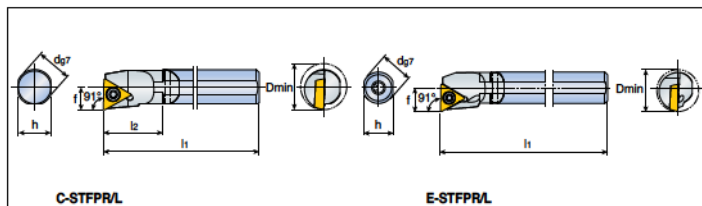
Spare parts

Designation	Screw	Wrench					
...09-X01	SO 250611	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 30055I	T 9					
...16T3	TS 35070I/HG	T 15					
...16	SO 35124I	T 15					



TA42-TA59

Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
91°	✓ C10K STFPR/L 11	10	9	125	15	6	12	TPGT 1103... A257-A258
	✓ C12M STFPR/L 11	12	11	150	20	8	16	
91°	✓ E08K STFPR/L 09	8	7	125	-	6	11	TP...T 0902...
	✓ E10K STFPR/L 1102	10	9	125	-	7	13	TP...T 1102...
	✓ E12M STFPR/L 1102	12	11	150	-	9	16	
	✓ E16R STFPR/L 1102	16	15	200	-	11	20	
	✓ E12M STFPR/L 1103	12	11	150	-	9	16	TP...T 1103...
	✓ E16R STFPR/L 1103	16	15	200	-	11	20	

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

Spare parts

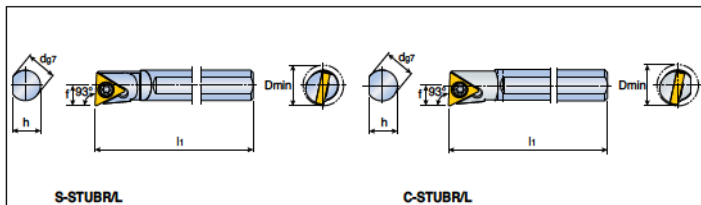
Designation	Screw	Wrench					
...09	TS 22046I	T 7					
C10K ...11	SO 30055I	T 9					
C12M ...11	SO 30100I	T 9					
...1102	SO 25050I	T 7					
...1103	SO 30055I	T 9					

Components



TM42-TA55

Screw type



Approach angle	Designation	Dimension (mm)					Insert
		dg7	h	l1	f	Dmin	
93°	S06H STUBR/L 06-D08	6	5.5	100	4	8	TB...T 0601... A255
93°	✓ C06J STUBR/L 06-D08	6	5.5	110	4	8	

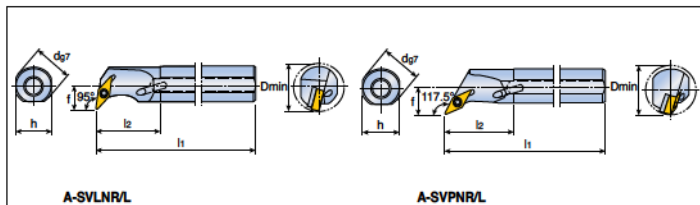
✓Marked: Designates carbide shank • L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder


Spare parts

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



Screw type



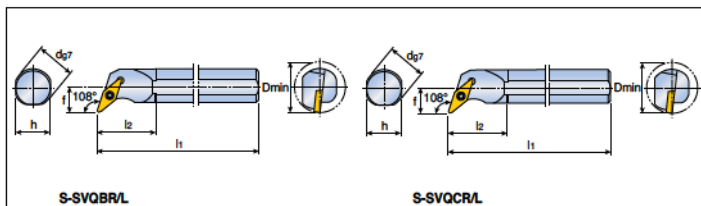
Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
95°	A25T SVLNR/L 13	25	23	300	40	16	31	VN... 1304...  A241-A242
	A32T SVLNR/L 13	32	30	300	45	20	38	
117.5°	A25T SVPNR/L 13	25	23	300	45	19	33	
	A32T SVPNR/L 13	32	30	300	47	26	44	

Spare parts

Designation	Screw	Shim	Shim screw	Wrench	Seal			
A25T ...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	PL 25			
A32T ...13	SO 35120I	SSVN 2.523	TS 5035062S	T 10	PL 32			



Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
108°	S25T SVQBR/L 16	25	23	300	40	17	32	VB...T 1604... A259-A260
	S32T SVQBR/L 16	32	30	300	45	22	40	
	S40T SVQBR/L 16	40	38	300	55	27	50	
108°	S32T SVQCR/L 16	32	30	300	45	22	40	
	S40T SVQCR/L 16	40	38	300	55	27	50	

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

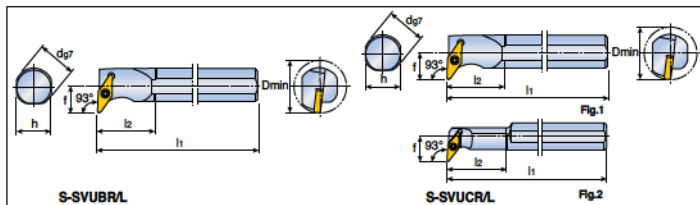
Spare parts

Designation	Screw	Shim	Shim screw	Wrench				
S25T ...16	SO 350801	-	-	T 15				
...16	SO 351241	SSV 32	SO 50090S	T 15				



TA42-TA59

Screw type



Approach angle	Designation	Dimension (mm)						Fig	Insert
		dg7	h	l1	l2	f	Dmin		
93°	S32T SVUBR/L 16	32	30	300	45	22	40		VB...T 1604... A259-A260
	S40T SVUBR/L 16	40	38	300	55	27	50		
93°	S12M SVUCR/L 08-D16	12	11	150	26	11	16	2	VC...T 0802... A260
	S16Q SVUCR/L 11-D20	16	15	180	32	15.5	20	2	VC...T 1103...
	S20R SVUCR/L 11-D25	20	18	200	40	17.5	25	2	
	S32T SVUCR/L 16	32	30	300	45	22	40	1	VC...T 1604...
	S40T SVUCR/L 16	40	38	300	60	27	50	1	

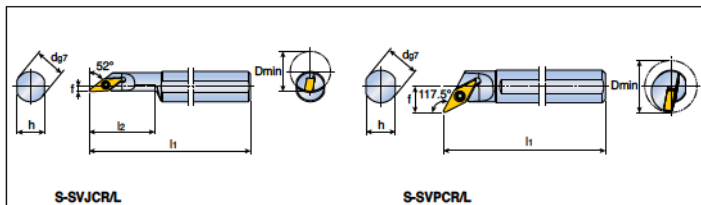
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder



Spare parts

Designation	Screw	Shim	Shim screw	Wrench				
...08-...	TS 200381VHG-P	-	-	T 6P				
...11-...	SO 25065I	-	-	T 7				
...16	SO 35124I	SSV 32	SO 50090S	T 15				





Screw type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
52°	S12M SVJCR/L 08-D16	12	11	150	26	2	16	VC...T 0802...  A260
	S16Q SVJCR/L 08-D20	16	15	180	36	2	20	
117.5°	S10K SVPCR/L 08-D16	10	9	125	-	8	16	VC...T 1103... 
	S12M SVPCR/L 11-D20	12	11	150	-	10	20	

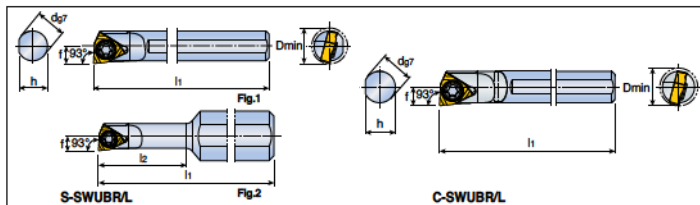
• L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

Designation	Screw	Wrench					
	...08-...	 TS 20038I/HG-P	 T 6P				
...11-...	SO 25065I	T 7					



Screw type



Approach angle	Designation	Dimension (mm)						Fig	Insert
		dg7	h	lt	lz	f	Dmin		
93°	S05G SWUBR/L 06-D06	5	4.75	90	-	3	6	1	WB...T 0601... A261
	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		

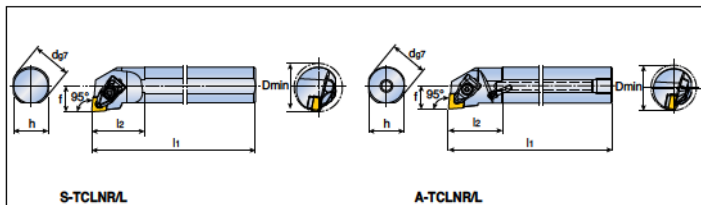
✓Marked: Designates carbide shank • L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder


Spare parts

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









T-holder type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
95°	✓ S25R TCLNR/L 0904	25	23	200	35	17	32	CNMA 0904... CNMG 0904...  A212-A220
	✓ S32S TCLNR/L 0904	32	30	250	35	22	40	
	✓ S40T TCLNR/L 0904	40	37	300	45	27	50	
95°	✓ A25R TCLNR/L 0904	25	23	200	35	17	32	CN... 1204...
	✓ A32S TCLNR/L 0904	32	30	250	35	22	40	
	A25T TCLNR/L 12	25	23	300	45	17	32	
	A32T TCLNR/L 12	32	30	300	45	22	40	
	A40T TCLNR/L 12	40	37	300	45	27	50	
	A50U TCLNR/L 12	50	47	350	45	35	63	

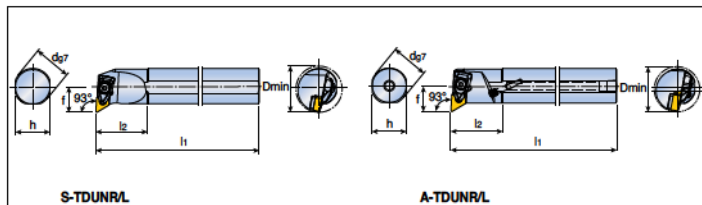
✓Marked: For RHINORUSH insert



Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Nozzle	Wrench	
S25R...0904							L-W 2.5	T 15
S32S,S40T...0904	DLM 3-NX	DLS 3	LSC 32	SO 40073I	DSP 3	-	L-W 2.5	T 15
A25R...0904	DLM 3-NX	DLS 3	LSC 32	SO 40073I	DSP 3	NZ 62	L-W 2.5	T 15
A32S...0904	DLM 3-NX	DLS 3	LSC 32	SO 40085I	DSP 3	NZ 62	L-W 2.5	T 15
A25T...12	DLM 4	DLS 4	LSC 42	TS 50A105I	DSP 4	NZ 62	L-W 3	T 20
A32T...12	DLM 4	DLS 4	LSC 42	TS 50A105I	DSP 4	NZ 62	L-W 3	T 20
A40T...12	DLM 4	DLS 4	TSC 44	SO 40050I	DSP 4	NZ 62	L-W 3	T 15
A50U...12	DLM 4	DLS 4	TSC 44	SO 40050I	DSP 4	NZ 62	L-W 3	T 15











T-holder type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
93°	✓ S32S TDUNR/L 1305	32	30	250	45	22	40	DNMG 1305...  A221-A225
	✓ S40T TDUNR/L 1305	40	37	300	55	27	50	
93°	✓ A32S TDUNR/L 1305	32	30	250	45	22	40	DN... 1506... 
	✓ A40T TDUNR/L 1305	40	37	300	55	27	50	
	A32T TDUNR/L 15	32	30	300	45	22	40	
	A40T TDUNR/L 15	40	37	300	45	27	50	
	A50U TDUNR/L 15	50	47	350	45	35	63	

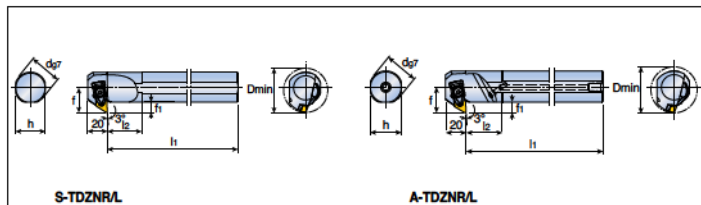
✓Marked: For RHINORUSH insert


Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Nozzle	Wrench	
S ...1305								
A32S...1305	DLM 3.5-NX	DLS 4	LSD 3.52B	TS 50A105I	DSP 4	-	L-W 3	T 15
A32S...1305	DLM 3.5-NX	DLS 4	LSD 3.52B	TS 50A105I	DSP 4	NZ 62	L-W 3	T 15
A40T...1305	DLM 3.5-NX	DLS 4	LSD 3.52B	TS 50A105I	DSP 4	NZ 104	L-W 3	T 15
...15	DLM 4	DLS 4	TSD 43	TS 50A105I	DSP 4	NZ 62	L-W 3	T 20









T-holder type



Approach angle	Designation	Dimension (mm)							Insert
		dg7	h	l1	l2	f	f1	Dmin	
93°	✓ S32S TDZNR/L 1305	32	30	250	35	25	10.5	45	DNMG 1305...  A221-A225
	✓ S40T TDZNR/L 1305	40	37	300	40	29	10.5	50	
93°	✓ A32S TDZNR/L 1305	32	30	250	35	25	10.5	45	
	✓ A40T TDZNR/L 1305	40	37	300	40	29	10.5	50	

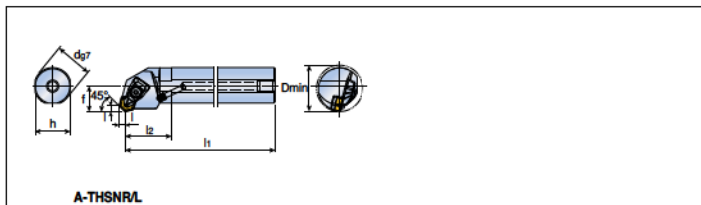
✓Marked: For RHINORUSH insert

Spare parts

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



T-holder type



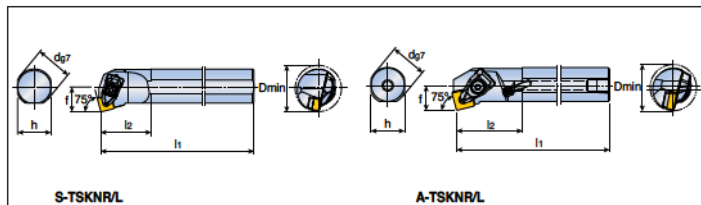
Approach angle	Designation	Dimension (mm)							Insert
		dg7	h	l1	l2	f	Dmin	l	
45°	A32T THSNR/L 05	32	30	300	40	22	40	4.2	HN...G 0504... A226
	A40T THSNR/L 05	40	37	300	45	27	50	4.2	
	A50U THSNR/L 05	50	47	350	45	35	63	4.2	


Spare parts

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



T-holder type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
75°	✓ S25R TSKNR/L 0904	25	23	200	35	17	32	SNMG 0904...  A228-A234
	✓ S32S TSKNR/L 0904	32	30	250	35	22	40	
75°	✓ A25R TSKNR/L 0904	25	23	200	35	17	32	SN... 1204...
	✓ A32S TSKNR/L 0904	32	30	250	35	22	40	
	A25T TSKNR/L 12	25	23	300	45	17	32	

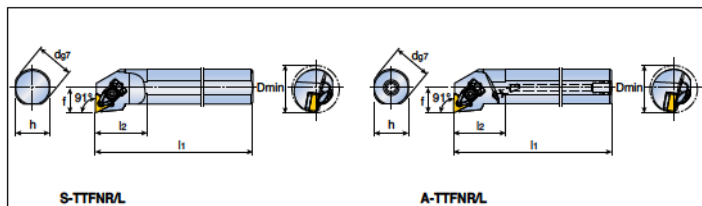
✓Marked: For RHINORUSH insert • L-hand insert for R-hand toolholder, R-hand insert for L-hand toolholder

Spare parts

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



T-holder type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
91°	✓ S25R TTFNR/L 1304	25	23	200	35	17	32	TNMG 1304... A235-A240
	✓ S32S TTFNR/L 1304	32	30	250	35	22	40	
91°	✓ A25R TTFNR/L 1304	25	23	200	35	17	32	
	✓ A32S TTFNR/L 1304	32	30	250	35	22	40	

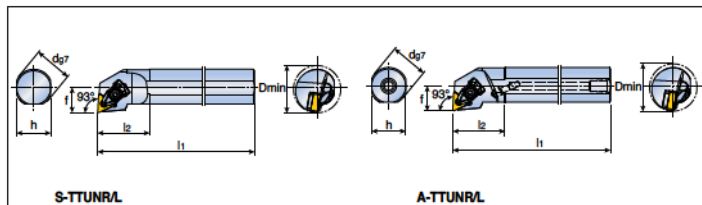
✓Marked: For RHINORUSH insert


Spare parts

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



T-holder type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
93°	✓ S25R TTUNR/L 1304	25	23	200	35	17	32	TNMG 1304... 
	✓ S32S TTUNR/L 1304	32	30	250	35	22	40	
93°	✓ A25R TTUNR/L 1304	25	23	200	35	17	32	A235-A240
	✓ A32S TTUNR/L 1304	32	30	250	35	22	40	

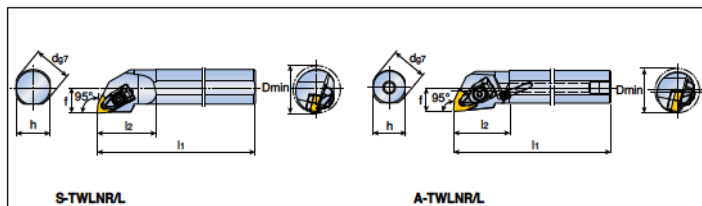
✓Marked: For RHINORUSH insert

Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Nozzle	Wrench	
S25R...1304	DLM 2.5-NX	DLS 3	LST 2.52B	SO 400731	DSP 3	-	L-W 2.5	T 15
S32S...1304	DLM 2.5-NX	DLS 3	LST 2.52B	SO 400851	DSP 3	-	L-W 2.5	T 15
A25R...1304	DLM 2.5-NX	DLS 3	LST 2.52B	SO 400731	DSP 3	NZ 62	L-W 2.5	T 15
A32S...1304	DLM 2.5-NX	DLS 3	LST 2.52B	SO 400851	DSP 3	NZ 62	L-W 2.5	T 15



T-holder type



Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
95°	✓ S25R TWLNRL/ 0604	25	23	200	40	17	32	WNMX 0604... A243-A245
	✓ S32S TWLNRL/ 0604	32	30	250	45	22	40	
95°	✓ A25R TWLNRL/ 0604	25	23	200	40	17	32	WN...0604...
	✓ A32S TWLNRL/ 0604	32	30	250	45	22	40	
	A20S TWLNRL/ 06	20	18	250	35	13	25	
	A25T TWLNRL/ 06	25	23	300	40	17	32	
	A32T TWLNRL/ 06	32	30	300	45	22	40	WN...0804...
	A25T TWLNRL/ 08	25	23	300	40	17	32	
	A32T TWLNRL/ 08	32	30	300	45	22	40	
	A40T TWLNRL/ 08	40	37	300	45	27	50	

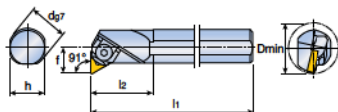
✓Marked: For RHINORUSH insert

Spare parts

Designation	Clamp	Clamp screw	Shim	Shim screw	Spring	Nozzle	Wrench	
S25R...0604							L-W 2.5	T 15
S32S...0604							L-W 2.5	T 15
A25R...0604							L-W 2.5	T 15
A32S...0604							L-W 2.5	T 15
A20S...06			-	-			L-W 2.5	-
...06							L-W 2.5	T 15
...08							L-W 3	T 20
A40T...08							L-W 3	T 15



Wedge clamp type



S-WTFNR/L

Approach angle	Designation	Dimension (mm)						Insert
		dg7	h	l1	l2	f	Dmin	
91°	✓ S25R WTFNR/L 1304	25	23	200	40	17	32	TN... 1304...
	✓ S32S WTFNR/L 1304	32	30	250	45	22	40	TN... 1304...
	S25T WTFNR/L 16	25	23	300	50	17	32	TN... 1604...
	S32T WTFNR/L 16	32	30	300	55	22	40	TN... 1604...
	S40T WTFNR/L 16	40	37	300	60	27	50	TN... 1604...
	S40T WTFNR/L 22	40	37	300	60	27	50	TN... 2204...
	S50U WTFNR/L 22	50	47	350	65	35	63	TN... 2204...

✓Marked: For RHINORUSH insert

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		

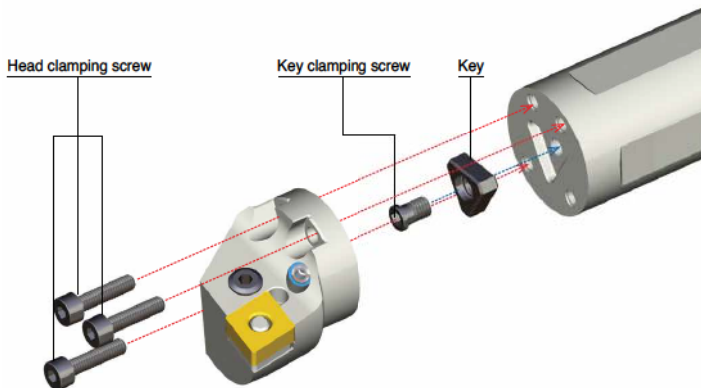


HE - D32 - PCLNR 12

1

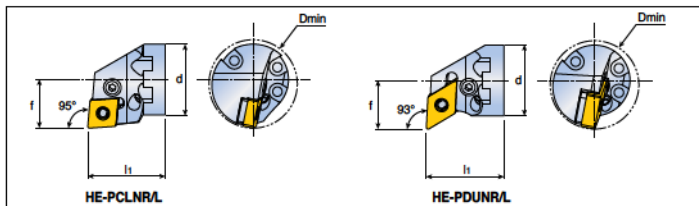
2

3

1 Head**2** Shank diameter**3** Designation follows boring bar system, see page A139

- Triangular detachable anti-rotator induces auto-centering and durability
- High repeatability during head change
- Possibility of inner coolant
- Head for ISO turning

Lever lock type



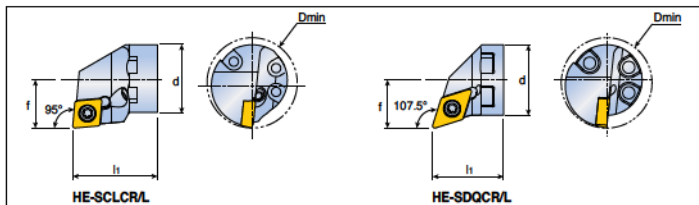
Approach angle	Designation	Dimension (mm)				Insert
		d	lt	f	Dmin	
95°	HE-D32-PCLNR/L 12	32	35	22	40	CN...1204... A212-A220
93°	HE-D32-PDUNR/L 15	32	35	22	40	DN...1506... A221-A225

Spare parts

Designation	Lever	Screw	Shim	Shim pin	Nozzle	Wrench	
...12	LCL 4	LCS 4S	LSC 42	-	LSP 4	NZ 62	L-W 3
...15	LCL 4A	LCS 4S	-	LSD 42	LSP 4	NZ 62	L-W 3



Screw type



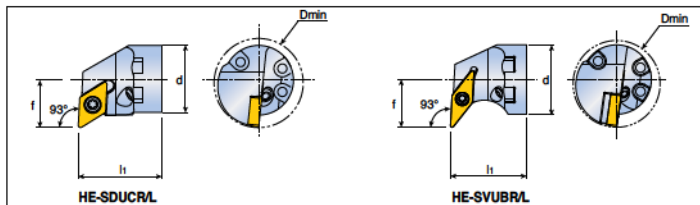
Approach angle	Designation	Dimension (mm)				Insert
		d	l _t	f	D _{min}	
95°	HE-D25-SCLCR/L 09	25	23	300	45	CC...T 09T3...
	HE-D32-SCLCR/L 12	32	30	300	45	CC...T 1204... A247-A248
107.5°	HE-D25-SDQCR/L 11	25	25	17	32	DC...T 11T3... A250-A251



Spare parts

Designation	Screw	Shim	Shim screw	Nozzle	Wrench			
...09	SO 350801	-	-	-	T 15			
...11	SO 350801	-	-	-	T 15			
...12	SO 451301	SSC 43N	SO 60105S	NZ 62	T 20			



Screw type



Approach angle	Designation	Dimension (mm)				Insert
		d	l ₁	f	D _{min}	
93°	HE-D25-SDUCR/L 11	25	25	17	32	DC...T 11T3...  A250-A251
	HE-D32-SDUCR/L 11	32	35	22	40	
93°	HE-D32-SVUBR/L 16	32	35	22	40	VB...T 1604...  A259-A260

Spare parts

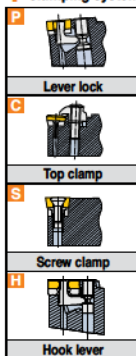
Designation	Screw	Shim	Shim screw	Nozzle	Wrench			
...D25 ...11	SO 350801	-	-	-	T 15			
...D32 ...11	SO 350801	-	-	NZ 62	T 15			
...16	SO 351241	SSV 32	SO 50090S	NZ 62	T 15			



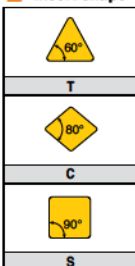
P C L N R - 16 C A - 12

1 2 3 4 5 6 7 8 9

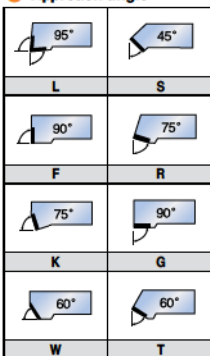
1 Clamping system



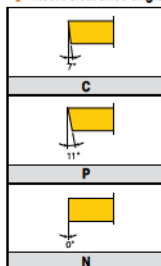
2 Insert shape



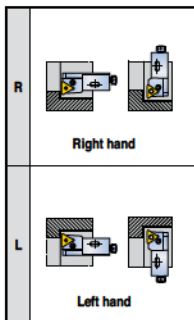
3 Approach angle



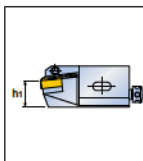
4 Insert clearance angle



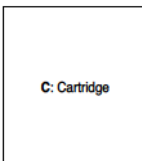
5 Hand of tool



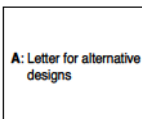
6 Shank height



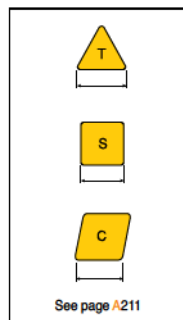
7 Type of tool



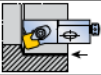
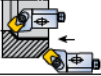
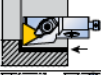

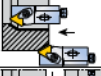
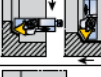
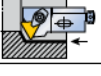
8 Type of design



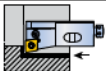
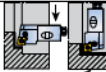
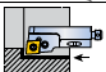
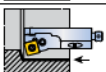
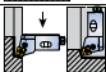
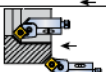
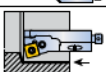
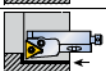
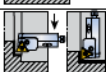
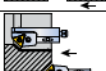
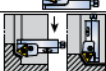
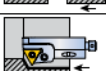
9 Cutting edge length



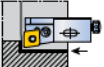
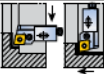
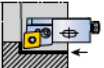
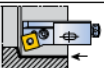
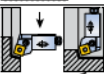
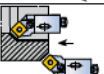
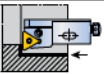
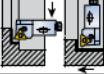


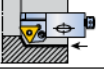
Top clamp type

Approach angle	Style	Cartridge size				
		10CA	12CA	16CA	20CA	25CA
75°	 CSKPR/L	10CA 09	12CA 12	16CA 12		
45°	 CSSPR/L		12CA 12	16CA 12		
90°	 CTFFPR/L	10CA 11	12CA 16	16CA 16		
90°	 CTGPR/L	10CA 11	12CA 16	16CA 16		
45°	 CTSPR/L	10CA 11	12CA 16	16CA 16		
60°	 CTTPR/L	10CA 11	12CA 16	16CA 16		
60°	 CTWPR/L	10CA 11	12CA 16	16CA 16		

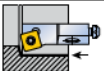
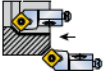
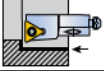
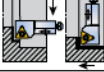
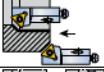
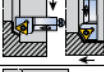
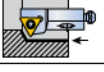
Hook lever lock type

Approach angle	Style	Cartridge size				
		10CA	12CA	16CA	20CA	25CA
90°				16CA 0904		
90°				16CA 0904		
95°			12CA 0904	16CA 0904		
75°		10CA 0904	12CA 0904			
75°				16CA 0904		
45°			12CA 0904	16CA 0904		
85°		10CA 0904	12CA 0904			
90°			12CA 1304	16CA 1304		
90°			12CA 1304	16CA 1304		
45°			12CA 1304	16CA 1304		
60°			12CA 1304			
60°			12CA 1304			

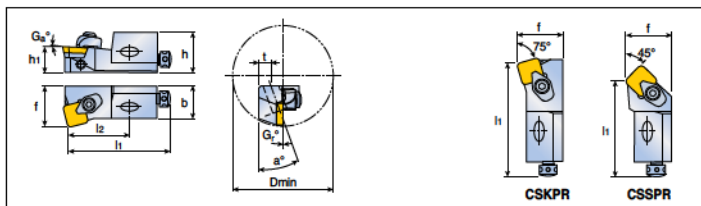
Lever lock type

Approach angle	Style	Cartridge size				
		10CA	12CA	16CA	20CA	25CA
90°	 PCFNR/L			16CA 12		25CA 19
90°	 PCGNR/L			16CA 12		25CA 19
95°	 PCLNR/L			16CA 12		25CA 19
75°	 PSKNR/L		12CA 12	16CA 12	20CA 15	25CA 19
75°	 PSRNR/L			16CA 12	20CA 15	
45°	 PSSNR/L		12CA 12	16CA 12	20CA 15	
90°	 PTFNR/L	10CA 11	12CA 16	16CA 16	20CA 22	25CA 27
90°	 PTGNR/L	10CA 11	12CA 16	16CA 16	20CA 22	
45°	 PTSNR/L	10CA 11	12CA 16	16CA 16	20CA 22	
60°	 PTTNR/L	10CA 11	12CA 16	16CA 16	20CA 22	
60°	 PTWNR/L	10CA 11	12CA 16	16CA 16	20CA 22	

Screw clamp type

Approach angle	Style	Cartridge size				
		10CA	12CA	16CA	20CA	25CA
75°	 SSKCR/L	10CA 09	12CA 09			
45°	 SSSCR/L	10CA 09	12CA 12			
90°	 STFCR/L	10CA 11	12CA 16	16CA 16		
90°	 STGCR/L	10CA 11	12CA 16	16CA 16		
45°	 STSCR/L	10CA 11	12CA 16	16CA 16		
60°	 STTCR/L	10CA 11	12CA 16	16CA 16		
60°	 STWCR/L	10CA 11	12CA 16	16CA 16		

Top clamp type



Approach angle	Designation	Dimension (mm)											Insert	
		h	h1	b	li	lz	f	Ga°	Gr°	t	a°	Dmin		
75°	CSKPR/L 10CA 09	15	10	11	50	30	14	6	2	5	20	40	SPMR, SP...N 0903... SPMR, SP...N 1203...	
	12CA 12	20	12	15	55	35	20	6	2	6	20	50		
	16CA 12	21	16	20	63	36	25	6	2	-	45	55		
45°	CSSPR/L 12CA 12	20	12	15	47	27	20	4	4	6	20	50		
	16CA 12	21	16	20	53	26	25	3	3	-	45	55		

• All cartridges are to be ordered as specials

Spare parts

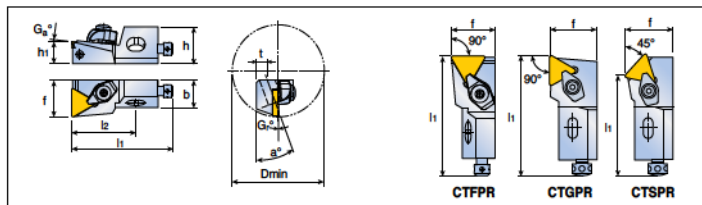
Designation	Clamp	Screw	Shim	Shim pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 09	CL 2C	CLS 2C	-	-	CSR 2C	AJM 5F	RSS M4	BH M6x1x20	-	L-W 2.5
...12CA 12	CL 3C	CLS 3C	-	-	CSR 2	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 3
...16CA 12	CL 3C	CLS 3C	CSS 42	CSP 3	CSR 2	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 3

Components



TM42-TA55

Top clamp type



Approach angle	Designation	Dimension (mm)											Insert
		h	h1	b	lt	lz	f	Ga°	Gr°	t	a°	Dmin	
90° 	CTFPR/L 10CA 11	15	10	11	50	30	14	6°	0°	5	20°	40	TPMR 1103... TPMR 1603... A257-A258
	12CA 16	20	12	15	55	35	20	6°	0°	6	20°	50	
	16CA 16	21	16	20	63	38	25	6°	0°	-	45°	55	
90° 	CTGPR/L 10CA 11	15	10	11	50	30	14	0°	4°	5	20°	40	TPMR 1103... TPMR 1603...
	12CA 16	20	12	15	55	35	20	0°	4°	6	20°	50	
	16CA 16	21	16	20	63	38	25	0°	4°	-	45°	60	
45° 	CTSPR/L 10CA 11	15	10	11	44	24	14	3°	3°	5	20°	40	TPMR 1103... TPMR 1603...
	12CA 16	20	12	15	47	27	20	3°	3°	6	20°	50	
	16CA 16	21	16	20	53	28	25	3°	3°	-	45°	55	

• All cartridges are to be ordered as specials

Spare parts

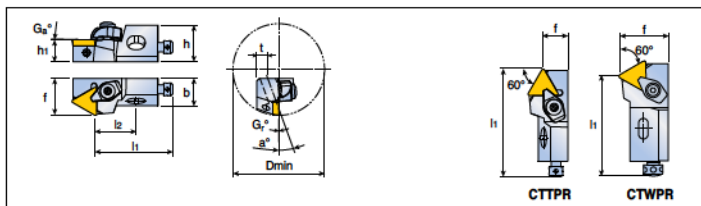
Designation	Clamp	Screw	Shim	Shim pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 11										
...10CA 11	CL 2C	CLS 2C	-	-	CSR 2C	AJM 5F	RSS M4	BH M6x1x20	-	L-W 2.5
...12CA 16	CL 3C	CLS 3C	-	-	CSR 2	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 3
...16CA 16	CL 3C	CLS 3C	CST 32	CSP 3	CSR 2	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 3

Components



TM42-TAS5

Top clamp type



Approach angle	Designation	Dimension (mm)											Insert
		h	h1	b	lt	lz	f	Ga°	Gr°	t	a°	Dmin	
60°	CTTPR/L 10CA 11	15	10	11	50	30	9	3°	4°	5	20°	40	TPMR 1103... TPMR 1603... A257-A258
	12CA 16	20	12	15	55	35	13	3°	4°	6	20°	50	
	16CA 16	21	16	20	63	36	15	2°	3°	-	45°	60	
60°	CTWPR/L 10CA 11	15	10	11	44	24	14	5°	3°	5	20°	40	TPMR 1103... TPMR 1603...
	12CA 16	20	12	15	47	27	20	5°	3°	6	20°	50	
	16CA 16	21	16	20	53	26	25	3°	2°	-	45°	55	

• All cartridges are to be ordered as specials

Spare parts

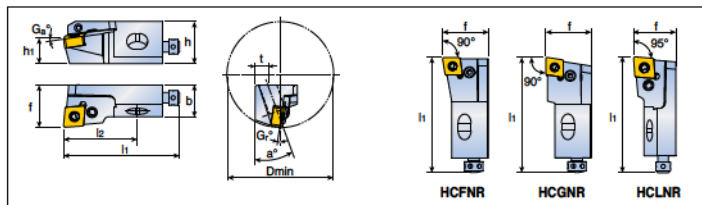
Designation	Clamp	Screw	Shim	Shim pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 11										
...10CA 11	CL 2C	CLS 2C	-	-	CSR 2C	AJM 5F	RSS M4	BH M6x1x20	-	L-W 2.5
...12CA 16										
...12CA 16	CL 3C	CLS 3C	-	-	CSR 2	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 3
...16CA 16										
...16CA 16	CL 3C	CLS 3C	CST 32	CSP 3	CSR 2	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 3

Components



TM42-TA58

Hook lever type



Approach angle	Designation	Dimension (mm)											Insert
		h	h1	b	l1	l2	f	G _α °	G _r °	t	a°	Dmin	
90°	✓ HCFNR/L 16CA 0904	25	16	20	63	38	25	-6°	-8°	-	45°	55	CNMA 0904... CNMG 0904...
90°	✓ HCGNR/L 16CA 0904	25	16	20	63	38	25	-10°	-8°	-	45°	55	
95°	✓ HCLNR/L 12CA 0904	20	12	15	55	35	20	-8°	-8°	6	20°	50	
	16CA 0904	25	16	20	63	38	25	-8°	-8°	-	45°	55	

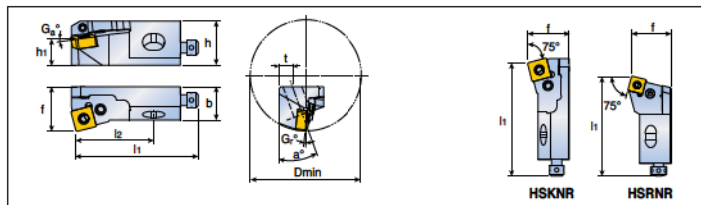
✓Marked: For RHINORUSH insert • All cartridges are to be ordered as specials

Spare parts

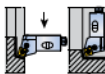
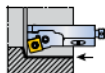
Designation	Hook lever	Screw	Shim	Shim pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...12CA 0904	LCL 09B-NX	LCS 3B	-	-	LSR 3B	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 2
...16CA 0904	LCL 09-NX	LCS 3	LSC 32	LSP 3A	-	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 2.5



Hook lever type



Approach angle	Designation	Dimension (mm)										Insert	
		h	h1	b	l1	l2	f	G _α °	G _β °	t	a°		Dmin
75°	✓ HSKNR/L 10CA 0904	17	10	11	50	30	14	- 4°	- 9°	5	20°	40	SNMG 0904... A228-A234
	12CA 0904	20	12	15	55	35	20	- 4°	- 9°	6	20°	50	
75°	✓ HSRNR/L 16CA 0904	25	16	20	63	38	25	- 11°	- 3°	-	45°	60	



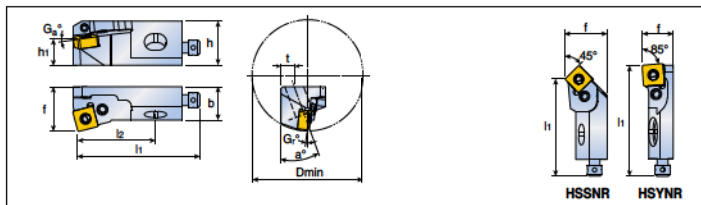
✓ Marked: For RHINORUSH insert • All cartridges are to be ordered as specials

Spare parts

Designation	Hook lever	Screw	Shim	Shim pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 0904 ...12CA 0904	LCL 09B-NX	LCS 3B	-	-	LSR 3B	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 2
...16CA 0904	LCL 09-NX	LCS 3	LSS 32	LSP 3A	-	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 2.5



Hook lever type



Approach angle	Designation	Dimension (mm)										Insert	
		h	h1	b	l1	l2	f	G _α °	G _β °	t	a°		Dmin
45°	✓ HSSNR/L 12CA 0904	20	12	15	47	27	20	- 9°	- 8°	6	20°	50	SNMG 0904... A228-A234
	16CA 0904	25	16	20	53	28	25	- 8°	- 8°	-	45°	55	
85°	✓ HSYNR/L 10CA 0904	17	10	11	50	30	14	- 5°	- 9°	5	20°	40	
	12CA 0904	20	12	15	55	35	20	- 4°	- 9°	6	20°	50	

✓Marked: For RHINORUSH insert • All cartridges are to be ordered as specials

Spare parts

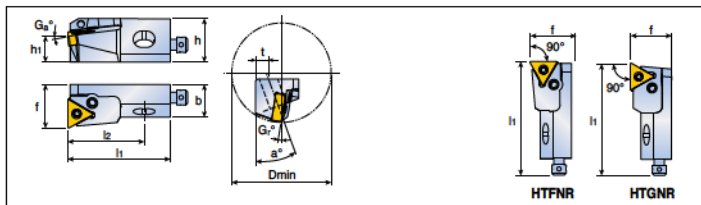
Designation	Hook lever	Screw	Shim	Shim pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 0904 ...12CA 0904	LCL 09B-NX	LCS 3B	-	-	LSR 3B	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 2
...16CA 0904	LCL 09-NX	LCS 3	LSS 32	LSP 3A	-	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 2.5




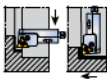
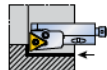
TA4-TA8

TA2-TA5B

Hook lever type























Approach angle	Designation	Dimension (mm)										Insert	
		h	ht	b	li	lb	f	Ga°	Gv°	t	a°		Dmin
90°	✓ HTFNR/L 12CA 1304	20	12	15	55	35	20	-6°	-9°	6	20°	50	TN...1304...  A235-A240
	16CA 1304	25	16	20	63	38	25	-6°	-8°	-	45°	55	
90°	✓ HTGNR/L 12CA 1304	20	12	15	55	35	20	-10°	-8°	6	20°	50	
	16CA 1304	25	16	20	63	38	25	-10°	-8°	-	45°	60	



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Spare parts

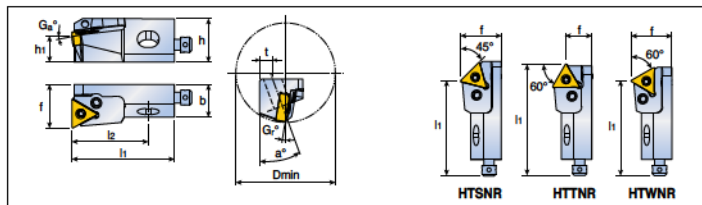
Designation	Hook lever	Screw	Shim	Shim pin	Snap ring	Axial adj.screw	Radial adj.screw	Mounting screw	Washer	Wrench
...12CA 1304	 LCL 08B-NX	 LCS 3B	 -	 -	 LSR 3B	 AJM 5F	 RSS M4	 BH M6x1x25	 MW 6.4x12	 L-W 2
...16CA 1304	 LCL 08-NX	 LCS 3-NX	 LST 2.51.8B	 LSP 3B	 -	 ASM 6	 RSS M5	 BH M8x1.25x30	 MW 8.4x18	 L-W 2.5



TAM-TAB

TAM-TASB

Hook lever type



Approach angle	Designation	Dimension (mm)											Insert		
		h	h1	b	l	l2	f	G α°	G α°	t	a $^\circ$	Dmin			
45°	✓ HTSNR/L 12CA 1304	20	12	15	47	27	20	-5°	-9°	6	20°	50	TN...1304... A235-A240		
	16CA 1304	25	16	20	53	28	25	-8°	-8°	-	45°	55			
60°	✓ HTTNR/L 12CA 1304	20	12	15	55	35	13	-6°	-7°	6	20°	50		TN...1304... A235-A240	
60°	✓ HTWNR/L 12CA 1304	20	12	15	47	27	20	-3°	-9°	6	20°	50			TN...1304... A235-A240

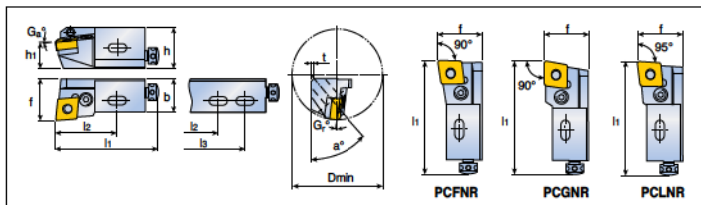
✓ Marked: For RHINORUSH insert • All cartridges are to be ordered as specials

Spare parts

Designation	Hook lever	Screw	Shim	Shim pin	Snap ring	Axial adj.screw	Radial adj.screw	Mounting screw	Washer	Wrench
...12CA 1304	LCL 08B-NX	LCS 3B	-	-	LSR 3B	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 2
...16CA 1304	LCL 08-NX	LCS 3-NX	LST 2.51.8B	LSP 3B	-	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 2.5



Lever lock type



Approach angle	Designation	Dimension (mm)											Insert	
		h	h1	b	l1	l2	l3	f	G ₂	G ₁	t	a°		Dmin
90°	PCFNR/L 16CA 12	25	16	20	63	36	-	25	-6°	-8°	-	45°	55	CN... 1204...
	25CA 19	38	25	25	100	50	70	32	-6°	-8°	-	45°	100	CN... 1906...
90°	PCGNR/L 16CA 12	25	16	20	63	36	-	25	-10°	6°	-	45°	55	CN... 1204...
	25CA 19	38	25	25	100	50	70	32	-8°	6°	-	45°	100	CN... 1906...
95°	PCLNR/L 16CA 12	25	16	20	63	36	-	25	-8°	-8°	-	45°	55	CN... 1204...
	25CA 19	38	25	25	100	50	70	32	-8°	-8°	-	45°	100	CN... 1906...

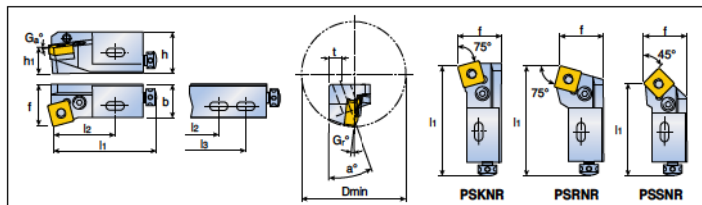
• All cartridges are to be ordered as specials

Spare parts

Designation	Lever	Screw	Shim	Shim pin	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...16CA 12	LCL 4	LCS 4S	LSC 42	LSP 4	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 3
...25CA 19	LCL 6D	LCS 6	LSC 63	LSP 6	ASM 6	RSS M5	BH M10x1.5x40	MW 10.4x21	L-W 4



Lever lock type



Approach angle	Designation	Dimension (mm)											Insert	
		h	h1	b	l1	l2	l3	f	G _α °	G _γ °	t	a°		Dmin
75°	PSKNR/L 12CA 12	20	12	15	55	35	-	20	-4°	-9°	6	20°	50	SN...1204...
	16CA 12	25	16	20	63	38	-	25	-4°	-8°	-	45°	55	SN...1506...
	20CA 15	30	20	20	70	40	-	25	-4°	-9°	-	45°	70	SN...1506...
	25CA 19	38	25	25	100	50	70	32	-4°	-8°	-	45°	100	SN...1906...
75°	PSRRR/L 16CA 12	25	16	20	63	38	-	25	-11°	-3°	-	45°	60	SN...1204...
	20CA 15	30	20	20	70	40	-	25	-11°	-3°	-	45°	70	SN...1506...
45°	PSSNR/L 12CA 12	20	12	15	47	27	-	20	-9°	-5°	6	20°	50	SN...1204...
	16CA 12	25	16	20	53	28	-	25	-9°	-5°	-	45°	55	SN...1506...
	20CA 15	30	20	20	60	30	-	25	-9°	-5°	-	45°	70	SN...1506...

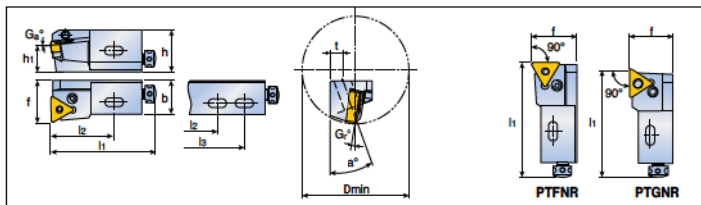
• All cartridges are to be ordered as specials

Spare parts

Designation	Lever	Screw	Shim	Shim pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...12CA 12	LCL 4B	LCS 4B	-	-	LSR 4B	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 2.5
...16CA 12	LCL 4	LCS 4S	LSS 42	LSP 4	-	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 3
...20CA 15	LCL 5	LCS 5	LSS 53	LSP 5	-	ASM 6	RSS M5	BH M8x1.25x35	MW 8.4x18	L-W 3
...25CA 19	LCL 5	LCS 5	LSS 53	LSP 5	-	ASM 6	RSS M5	BH M10x1.5x40	MW 10.4x20	L-W 3



Lever lock type



Approach angle	Designation	Dimension (mm)													Insert
		h	h1	b	l1	l2	l3	f	G _a °	G _r °	t	a°	Dmin		
90°	PTFNR/L	10CA 11	17	10	11	50	30	-	14	-6°	-8°	5	20°	40	TN...1103...
		12CA 16	20	12	15	55	35	-	20	-6°	-9°	6	20°	50	TN...1604...
		16CA 16	25	16	20	63	38	-	25	-6°	-8°	-	45°	55	TN...2204...
		20CA 22	30	20	20	70	40	-	25	-6°	-8°	-	45°	70	TN...2706...
		25CA 27	38	25	25	100	50	70	32	-6°	-9°	-	45°	100	
90°	PTGNR/L	10CA 11	17	10	11	50	30	-	14	-10°	-6°	5	20°	40	TN...1103...
		12CA 16	20	12	15	55	35	-	20	-10°	-6°	6	20°	50	TN...1604...
		16CA 16	25	16	20	63	38	-	25	-10°	-6°	-	45°	60	TN...2204...
		20CA 22	30	20	20	70	40	-	25	-8°	-6°	-	45°	70	

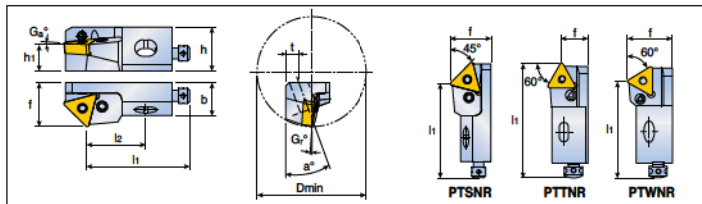
• All cartridges are to be ordered as specials




Spare parts

Designation	Lever	Screw	Shim	Shim pin	Snap ring	Axial adj.screw	Radial adj.screw	Mounting screw	Washer	Wrench
...10CA 11	LCL 2B	LCS 2B	-	-	LSR 2B	AJM 5F	RSS M4	BH M6x1x20	-	L-W 2
...12CA 16	LCL 3BH	LCS 3B	-	-	LSR 3B	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 2
...16CA 16	LCL 3	LCS 3	LST 31.8	LSP 3A	-	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 2.5
...20CA 22	LCL 4	LCS 4	LST 42	LSP 4	-	ASM 6	RSS M5	BH M8x1.25x35	MW 8.4x18	L-W 3
...25CA 27	LCL 5	LCS 5	LST 53	LSP 5	-	ASM 6	RSS M5	BH M10x1.5x40	MW 10.4x20	L-W 3



Lever lock type



Approach angle	Designation	Dimension (mm)											Insert
		h	h ₁	b	l ₁	l ₂	f	G _α °	G _β °	t	a°	Dmin	
	PTSNR/L 10CA 11	17	10	11	44	24	14	- 5°	- 9°	5	20°	40	TN...1103...
	12CA 16	20	12	15	47	27	20	- 5°	- 9°	6	20°	50	TN...1604...
	16CA 16	25	16	20	53	28	25	- 8°	- 8°	-	45°	55	TN...2204...
	20CA 22	30	20	20	60	30	25	- 8°	- 8°	-	45°	70	TN...2204...
	PTTNR/L 10CA 11	17	10	11	50	30	9	- 6°	- 7°	5	20°	40	TN...1103...
	12CA 16	20	12	15	55	35	13	- 6°	- 7°	6	20°	50	TN...1604...
	16CA 16	25	16	20	63	38	15	- 7°	- 8°	-	45°	60	TN...2204...
	20CA 22	30	20	20	70	40	15	- 7°	- 8°	-	45°	70	TN...2204...
	PTWNR/L 10CA 11	17	10	11	44	24	14	- 1°	- 10°	5	20°	40	TN...1103...
	12CA 16	20	12	15	47	27	20	- 3°	- 9°	6	20°	50	TN...1604...
	16CA 16	25	16	20	53	28	25	- 2°	- 8°	-	45°	55	TN...2204...
	20CA 22	30	20	20	60	30	25	- 2°	- 8°	-	45°	70	TN...2204...

• All cartridges are to be ordered as specials

Spare parts

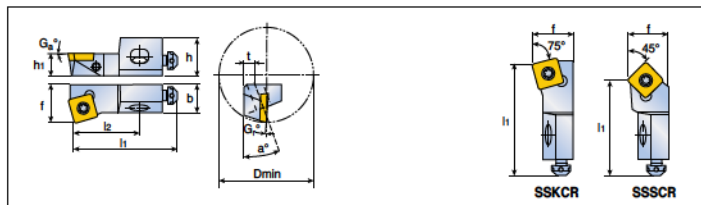
Designation	Lever	Screw	Shim	Shim Pin	Snap ring	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 11	LCL 2B	LCS 2B	-	-	LSR 2B	AJM 5F	RSS M4	BH M6x1x20	-	L-W 2
...12CA 16	LCL 3BH	LCS 3B	-	-	LSR 3B	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	L-W 2
...16CA 16	LCL 3	LCS 3	LST 31.8	LSP 3A	-	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	L-W 2.5
...20CA 22	LCL 4	LCS 4	LST 42	LSP 4	-	ASM 6	RSS M5	BH M8x1.25x35	MW 8.4x18	L-W 3

Components



TM42-TA55

Screw type



Approach angle	Designation	Dimension (mm)											Insert
		h	h1	b	l1	l2	f	Gα°	Gα°	t	a°	Dmin	
75°	SSKCR/L 10CA 09	15	10	11	50	30	14	-1°	-4°	5	20°	40	SC...T 09T3...
	12CA 12	20	12	15	55	35	20	-1°	-4°	6	20°	50	SC...T 1204...
45°	SSSCR/L 10CA 09	15	10	11	44	24	14	-4°	-4°	5	20°	40	SC...T 09T3...
	12CA 12	20	12	15	47	27	20	-4°	-4°	6	20°	50	SC...T 1204...

• All cartridges are to be ordered as specials

Spare parts

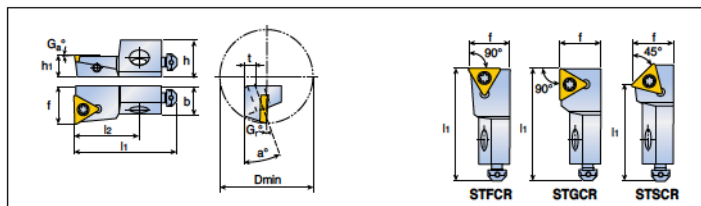
Designation	Screw	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 09	SO 350801	AJM 5F	RSS M4	BH M6x1x16	-	T 15
...12CA 12	SO 451001	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	T 20

Components



TA42-TA55

Screw type



Approach angle	Designation	Dimension (mm)											Insert
		h	h1	b	l1	l2	f	G _α °	G _β °	t	a°	Dmin	
	STFCR/L 10CA 11	15	10	11	50	30	14	0°	-3°	5	20°	40	TC...T 1102...
	12CA 16	20	12	15	55	35	20	0°	-3°	6	20°	50	TC...T16T3...
	16CA 16	21	16	20	63	38	25	0°	-6°	-	45°	55	
	STGCR/L 10CA 11	15	10	11	50	30	14	0°	-3°	5	20°	40	TC...T 1102...
	12CA 16	20	12	15	55	35	20	0°	-3°	6	20°	50	TC...T 16T3...
	16CA 16	21	16	20	63	38	25	-3°	-5°	-	45°	60	
	STSCR/L 10CA 11	15	10	11	44	24	14	-3°	-3°	5	20°	40	TC...T 1102...
	12CA 16	20	12	15	47	27	20	-4°	-4°	6	20°	50	TC...T 16T3...
	16CA 16	21	16	20	53	28	25	-2°	-6°	-	45°	55	

• All cartridges are to be ordered as specials

Spare parts

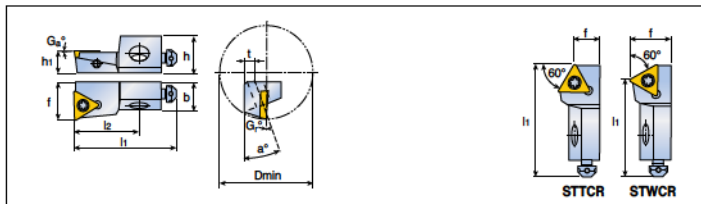
Designation	Screw	Shim	Shim pin	Axial adj.screw	Radial adj.screw	Mounting screw	Washer	Wrench
...10CA 11	SO 25065I	-	-	A ₁ M 5F	RSS M4	BH M6x1x16	-	T 7
...12CA 16	SO 35080I	-	-	A ₁ M 5F	RSS M4	BH M6x1x25	MW 6.4x12	T 15
...16CA 16	SO 35124I	SST 32	SO 50090S	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	T 15

Components



TM2-TAS2

Screw type



Approach angle	Designation	Dimension (mm)											Insert
		h	h1	b	l1	l2	f	Ga°	Gc°	t	a°	Dmin	
60°	STTCR/L 10CA 11	15	10	11	50	30	9	-3°	-4°	5	20°	40	TC...T 1102... TC...T 16T3... A256
	12CA 16	20	12	15	55	35	13	-3°	-2°	6	20°	50	
	16CA 16	21	16	20	63	38	15	-4°	-3°	-	45°	60	
60°	STWCR/L 10CA 11	15	10	11	44	24	14	-2°	-3°	5	20°	40	TC...T 1102... TC...T 16T3...
	12CA 16	20	12	15	47	27	20	-4°	-2°	6	20°	50	
	16CA 16	21	16	20	53	28	25	-5°	-3°	-	45°	55	

• All cartridges are to be ordered as specials

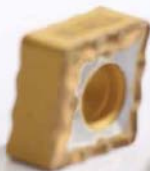
Spare parts

Designation	Screw	Shim	Shim pin	Axial adj. screw	Radial adj. screw	Mounting screw	Washer	Wrench
...10CA 11	SO 25065I	-	-	AJM 5F	RSS M4	BH M6x1x16	-	T 7
...12CA 16	SO 35080I	-	-	AJM 5F	RSS M4	BH M6x1x25	MW 6.4x12	T 15
...16CA 16	SO 35124I	SST 32	SO 50090S	ASM 6	RSS M5	BH M8x1.25x30	MW 8.4x18	T 15

Components



Turning Inserts

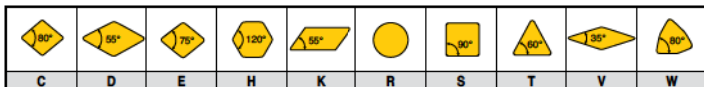


[Contents](#)

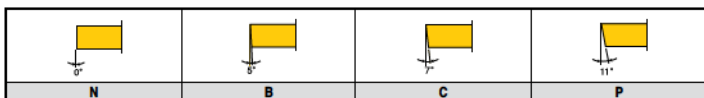
C N M G

1 2 3 4

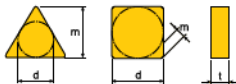
1 Shape



2 Clearance angle



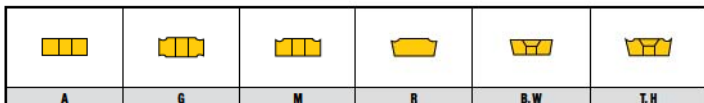
3 Tolerance



Class	m	t	d
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 d	
	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



12 04 08 (R) MP

5 6 7 8 9

5 Cutting edge length

LC(mm)	C	D	E	R	S	T	V	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	04		
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

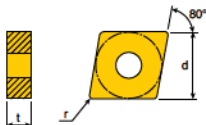
8 Hand of insert

	R: Right hand
	L: Left hand




9 Chip breaker

For chip breakers, see page A36-A42

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
19	19.05	6.35	2.4
25	25.4	9.52	2.4

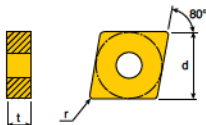
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
TOPDUTY 	CNMD 190624 HT	Roughing	0.35-0.90	4.0-9.0						●	●													
		Finishing	0.40-0.80	2.0-5.0																				
	Roughing	250924 HT	Roughing	0.55-1.30	5.0-12.0						●	●												
			Finishing	0.40-0.80	2.0-5.0																			
TOPDUTY 	CNMD 190624 HY	Roughing	0.50-1.10	4.0-12.0						●	●													
		Finishing	0.40-0.80	2.0-5.0																				
	Roughing	250924 HY	Roughing	0.55-1.50	4.0-15.0						●	●	●											
			Finishing	0.40-0.80	2.0-5.0																			
TOPDUTY 	CNMD 250924 HZ	Roughing	0.55-1.50	4.0-15.0						●	●	●												
		Finishing	0.40-0.80	2.0-5.0																				
	Roughing																							
		Finishing																						



A69, A70

● : Standard items
○ : Semi standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.6
16	15.88	4.76-6.35	0.4-1.6
19	19.05	6.35	0.4-1.6

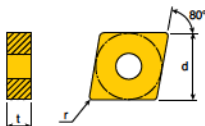
Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated										PVD coated		Uncoated					
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K20	
 Medium	CNMG 090404	0.10-0.45	0.5-3.5			•	•																
		0.10-0.50	0.5-3.5			•	•																
		0.10-0.55	0.5-3.5			•	•																
 Medium	CNMG 120404	0.17-0.45	1.0-5.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
		0.23-0.60	1.5-5.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
		0.25-0.60	2.0-5.0			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
		0.27-0.60	2.5-5.0			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
		0.25-0.60	2.0-6.5																				
		0.20-0.45	2.0-6.5																				
		0.25-0.60	2.0-6.5																				
		0.27-0.60	2.0-6.5																				
		0.29-0.60	2.0-6.5																				
		0.20-0.45	3.0-8.0																				
		0.25-0.60	3.0-8.0																				
0.30-0.60	3.0-8.0																						
0.35-0.70	3.0-8.0																						
 Finishing	CNMG 090404 EA	0.05-0.30	0.20-1.5																				
		0.07-0.40	0.30-1.5																				
 Finishing	CNMG 120404 EA	0.05-0.30	0.15-1.5																				
		0.07-0.40	0.15-1.5	•																			








A54, A55, A56, A69, A70, A93,
A94, A123, A130, A132, A143,
A151, A172, A184, A197

• : Standard items
○ : Semi standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	4.76	0.8-1.2
12	12.7	4.76	0.4-1.6
16	15.88	6.35	0.8-1.6
19	19.05	6.35	0.8-1.6

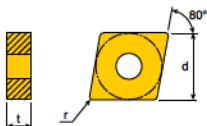
Insert	Designation	Feed (mm/rev)	ap (mm)	Cement		CVD coated								PVD coated		Uncoated											
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT9020	TT9080	P20	K10	K20					
 Medium	CNMG 090408 EM 090412 EM	0.13-0.40	0.5-3.0																								
		0.15-0.40	0.7-3.0																								
 Medium	CNMG 120404 EM 120408 EM 120412 EM 120416 EM 160608 EM 160612 EM 160616 EM 190608 EM 190612 EM 190616 EM	0.11-0.50	0.5-5.0																								
		0.13-0.50	0.5-5.0																								
		0.15-0.55	0.5-5.0																								
		0.17-0.60	0.5-5.0																								
		0.13-0.50	0.5-6.5																								
		0.15-0.55	0.5-6.5																								
		0.17-0.60	0.5-6.5																								
		0.13-0.50	0.5-8.0																								
		0.15-0.55	0.5-8.0																								
 Roughing	CNMG 120408 ET 120412 ET 160608 ET 160612 ET 190608 ET 190612 ET 190616 ET	0.17-0.55	1.2-5.5																								
		0.20-0.60	1.2-5.5																								
		0.20-0.60	2.5-7.0																								
		0.25-0.60	2.5-7.0																								
		0.20-0.60	3.0-9.0																								
		0.25-0.60	3.0-9.0																								
 Finishing	CNMG 120404 FA 120408 FA	0.05-0.20	0.2-2.0																								
		0.05-0.25	0.3-2.0																								
 Finishing	CNMG 120404 FC 120408 FC 120412 FC	0.05-0.30	0.2-2.5																								
		0.08-0.35	0.3-2.5																								
		0.10-0.40	0.3-2.5																								










A54, A55, A56, A69, A70, A83,
 A94, A123, A130, A132, A143,
 A151, A172, A184, A197

● : Standard items
 ○ : Semi standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.6

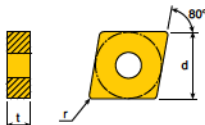
Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Finishing	CNMG 090404 FG	0.07-0.30	0.2-2.0						•	•			•											
	CNMG 090408 FG	0.10-0.35	0.5-2.0						•	•			•											
	CNMG 090412 FG	0.15-0.40	0.5-2.0						•	•			•											
 Finishing	CNMG 120404 FG	0.05-0.30	0.2-2.5	•	•				•	•			•											
	CNMG 120408 FG	0.08-0.35	0.3-2.5	•	•				•	•			•											
 Finishing	CNMG 090404 FM	0.07-0.30	0.25-2.0	•					•	•	•		•											
	CNMG 090408 FM	0.10-0.35	0.3-2.0	•					•	•	•		•											
	CNMG 090412 FM	0.15-0.40	0.35-2.0	•					•	•	•		•											
 Finishing	CNMG 090404 FT	0.07-0.30	0.4-3.0						•	•	•		•											
	CNMG 090408 FT	0.10-0.40	0.5-3.0						•	•	•		•											
	CNMG 090412 FT	0.15-0.50	0.6-3.0						•	•	•		•											
 Roughing	CNMG 120408 KT	0.19-0.53	0.38-7.0						•	•														
	CNMG 120412 KT	0.25-0.70	0.50-7.0						•	•														
	CNMG 120416 KT	0.28-0.85	0.75-7.0						•	•														
 Medium	CNMG 120404 MC	0.10-0.30	0.5-3.5	•						•	•		•					•						
	CNMG 120408 MC	0.12-0.35	0.7-3.5	•				•	•	○	•	•	•	•	•			•						
	CNMG 120412 MC	0.15-0.40	0.7-3.5							•	•		•											
 Medium	CNMG 120404 ML	0.10-0.30	0.8-3.5	•						•	•	•	•	•	•			•					•	
	CNMG 120408 ML	0.12-0.35	1.0-3.5	•						•	•	•	•	•	•			•	•	•			•	
	CNMG 120412 ML	0.15-0.35	1.3-3.5										•		•									







A54, A55, A56, A69, A70, A90,
A94, A123, A130, A132, A143,
A151, A172, A184, A197

• : Standard items
○ : Semi standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.2
16	15.88	6.35	0.8-1.6
19	19.05	6.35	0.8-1.6

Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated								PVD coated		Uncoated				
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20
 RHWD-BUCH Medium	CNMG 090404 MM	0.15-0.45	0.4-3.5						●	●	●	●	●				●			
	CNMG 090408 MM	0.20-0.50	0.5-3.5						●	●	●	●	●				●			
	CNMG 090412 MM	0.23-0.50	0.7-3.5						●	●	●	●	●				●			
 OLD Medium	CNMG 120404 MP	0.10-0.30	0.8-4.0						●	●	●	●	●	●	●	●				
	CNMG 120408 MP	0.12-0.40	1.0-4.0						●	●	●	●	●	●	●	●	●	●		
	CNMG 120412 MP	0.15-0.50	1.5-4.0						●	●	●	●	●	●	●	●	●			
	CNMG 160612 MP ✓	0.15-0.50	2.5-6.0						●											
 RHWD-BUCH Medium	CNMG 090404 MT	0.10-0.35	0.8-4.0						●	●			●							
	CNMG 090408 MT	0.15-0.45	1.0-4.0						●	●			●							
	CNMG 090412 MT	0.20-0.55	1.2-4.0						●	●			●							
 OLD Medium	CNMG 120404 MT	0.15-0.40	1.0-5.0	●	●	●	○	●	●			●	●	●	●	●				
	CNMG 120408 MT	0.17-0.55	1.2-5.0	●	●	●	○	●	●	●	●	●	●	●	●	●	●	●		
	CNMG 120412 MT	0.20-0.55	1.5-5.0	●	●	●	○	●	●	●	●	●	●	●	●	●	●	●		
	CNMG 160608 MT ✓	0.20-0.55	2.0-6.5		●			●												
	CNMG 160612 MT ✓	0.25-0.55	2.0-6.5		●			●												
	CNMG 160616 MT ✓	0.30-0.55	2.0-6.5		●			●												
	CNMG 190608 MT	0.23-0.55	3.0-8.0		●			●	●	●	●	●	●	●	●	●	●			
	CNMG 190612 MT	0.25-0.55	3.0-8.0					●	●	●	●	●	●	●	●	●	●			
	CNMG 190616 MT ✓	0.30-0.55	3.0-8.0					●												

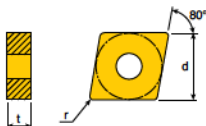


A54, A55, A56, A69, A70, A93,
A94, A123, A130, A132, A143,
A151, A172, A184, A197






✓ Marked: Old type chip breaker

● : Standard items
○ : Semi standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
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
25	25.4	9.52	2.4

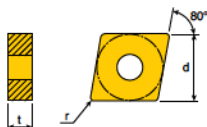
Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated										PVD coated		Uncoated						
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Medium	CNMG 090404 PC	0.10-0.30	0.4-3.5							•	•			•										
		0.15-0.40	0.5-3.5							•	•	•			•									
		0.18-0.50	0.6-3.5							•	•													
 Medium	CNMG 120404 PC	0.10-0.40	0.4-5.0						•	•			•	•	•	•								
		0.15-0.50	0.5-5.0							•	•	•			•	•	•							
		0.17-0.55	0.6-5.0							•	•				•	•								•
		0.20-0.60	0.8-5.0							•	•				•									
		0.20-0.55	2.0-6.5							•	•													
		0.25-0.55	2.0-6.5							•	•													
		0.30-0.55	2.0-6.5							•	•													
		0.23-0.55	3.0-8.0							•	•													
		0.25-0.55	3.0-8.0							•	•													
0.30-0.55	3.0-8.0							•																
 Roughing	CNMG 120408 RT	0.25-0.70	2.5-6.0				•	•	•	•	•	•	•	•	•	•	•							
		0.25-0.70	2.5-6.0				•	•	•	•	•	•	•	•	•	•	•	•						
		0.30-0.70	2.5-6.0							•	•													
		0.25-0.70	3.0-7.0				•	•	•	•	•	•	•	•	•	•	•	•						
		0.30-0.85	3.0-7.0				•	•	•	•	•	•	•	•	•	•	•	•						
		0.25-0.70	3.0-9.0							•	•				•									
		0.25-0.70	3.0-9.0							•	•	•	•	•	•	•	•	•						
		0.30-0.85	3.0-9.0							•	•	•	•	•	•	•	•	•						•
		0.45-1.00	5.0-12.0							•	•													
 Finishing	CNMG 120404 SF	0.08-0.25	0.5-1.5			•								•			•	•						
		0.10-0.30	0.7-1.5			•				•	•				•			•	•					
 Finishing	CNMG 120404 WS	0.05-0.35	0.5-2.0			•				•														







A54, A55, A56, A69, A70, A93,
A94, A123, A130, A132, A143,
A151, A172, A184, A197

• : Standard items
○ : Semi standard items

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
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	Feed (mm/rev)	ap (mm)	Cermat		CVD coated							PVD coated			Uncoated											
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20				
 RH(N)  RH Roughing	CNMM 120408 RH	0.30 - 0.70	2.5 - 6.0																								
	120408 RH(N)	0.25 - 0.60	2.0 - 5.0																								
	120412 RH	0.30 - 0.80	2.5 - 6.0						•	•																	
	160608 RH	0.30 - 0.70	3.0 - 8.0																								
	160612 RH	0.30 - 0.80	3.0 - 8.0																								
	160616 RH	0.45 - 1.00	4.0 - 8.0																								
	190608 RH *	0.30 - 0.70	3.0 - 9.0																								
	190612 RH	0.35 - 0.80	4.0 - 9.0																								
	190612 RH(N)	0.30 - 0.70	3.0 - 8.0																								
	190616 RH	0.45 - 1.00	4.0 - 9.0																								
	190616 RH(N)	0.45 - 0.90	3.0 - 8.0																								
	190624 RH	0.55 - 1.20	4.0 - 9.0																								
	250724 RH *	0.55 - 1.20	5.0 - 12.0																								
250924 RH *	0.55 - 1.20	5.0 - 12.0																									
 Roughing	CNMM 120408 RX	0.20-0.55	0.7-7.0																								
	120412 RX	0.25-0.70	1.0-7.0																								
	160612 RX	0.25-0.70	1.0-9.0																								
	160616 RX	0.30-0.90	1.5-9.0																								
	160624 RX	0.35-1.20	2.0-9.0																								
	190608 RX	0.20-0.55	0.7-10.0																								
	190612 RX	0.25-0.70	1.0-10.0																								
	190616 RX	0.30-0.90	1.5-10.0																								
	190624 RX	0.35-1.10	2.0-10.0																								
	250724 RX	0.35-1.20	2.0-12.0																								
	250924 RX	0.35-1.20	2.0-12.0																								
 Semi-heavy	CNMX 120508 HB	0.25-0.80	1.5-6.0																								
	120512 HB	0.25-0.80	1.5-6.0																								
	160712 HB	0.30-0.80	1.5-8.0																								
	160716 HB	0.30-0.80	1.5-8.0																								



A54, A55, A56, A69, A70, A93,
A94, A123, A130, A132, A143,
A151, A172, A184








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

• : Standard items
○ : Semi standard items

Negative 55° rhombic inserts



Size	Dimension (mm)		
	d	t	r
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	Feed (mm/rev)	ap (mm)	Cement		CVD coated								PVD coated			Uncoated						
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
	DNMG 130504 FG	0.07-0.30	0.2-2.0						•	•			•										
	130508 FG	0.10-0.35	0.5-2.0						•	•			•										
	130512 FG	0.15-0.40	0.5-2.0						•	•			•										
Finishing																							
 OLD 	DNMG 110404 FG •	0.07-0.20	0.5-2.0	○	○				○	○		○	○										
	110408 FG •	0.10-0.25	0.7-2.0	○	○				○	○		○	○										
	150404 FG	0.07-0.20	0.5-2.0	•	•				•	•		•	•										
	150604 FG	0.07-0.20	0.5-2.0	•	•				•	•		•	•										
	150408 FG ✓	0.10-0.25	0.7-2.0	•	•				•	•		•	•										
	150412 FG	0.12-0.25	1.0-2.0						•	•		•	•										
	150608 FG ✓	0.10-0.25	0.7-2.0	•	•				•	•		•	•										
	DNMG 130504 FM	0.07-0.30	0.25-2.0	•					•	•	•		•										
	130508 FM	0.10-0.35	0.3-2.0	•					•	•	•		•										
	130512 FM	0.15-0.40	0.35-2.0	•					•	•	•		•										
Finishing																							
	DNMG 130504 FT	0.07-0.30	0.25-3.0						•	•	•		•										
	130508 FT	0.10-0.40	0.3-3.0						•	•	•		•										
	130512 FT	0.15-0.50	0.35-3.0						•	•	•		•										
Finishing																							
	DNMG 150408 KT	0.17-0.47	0.38-7.0						•	•													
	150608 KT	0.17-0.47	0.38-7.0						•	•													
	150412 KT	0.23-0.63	0.50-7.0						•	•													
	150612 KT	0.23-0.63	0.50-7.0						•	•													
	DNMG 150404 MC	0.10-0.30	0.5-3.5																				
	150604 MC	0.10-0.30	0.5-3.5																				
	150408 MC	0.12-0.35	0.7-3.5								•												
	150608 MC	0.12-0.35	0.7-3.5								•	•		•	•	•							
	150412 MC	0.15-0.35	1.0-3.5																				
	150612 MC	0.15-0.35	1.0-3.5								•			•									



A57, A58, A63, A64, A71, A82, A84, A95,
A96, A124, A130, A132, A144, A145, A152,
A158, A159, A160, A173, A174, A184



✓ Marked: Old type chip breaker
• Marked: Insert with screw hole

•: Standard items
○: Semi standard items

Negative 120° hexagonal inserts



Size	Dimension (mm)		
	d	t	r
05	12.7	4.76	0.8
10	19.05	6.35	1.2

Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated						PVD coated		Uncoated									
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20
 Medium	HNMG 050408 GU 100612 GU	0.15-0.60	0.5-3.5			●	●	○	●			●											
		0.25-0.70	1.0-5.0					○															
 Medium	HNMG 050408 SU 100612 SU	0.15-0.50	0.5-3.5								●	●	●										
		0.25-0.70	1.0-5.0											●									

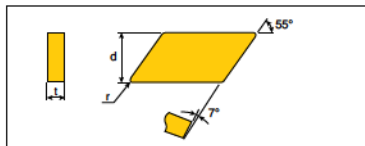


A97, A175



● : Standard items
○ : Semi standard items

KNUX

Negative 55° rhombic inserts



Size	Dimension (mm)		
	d	t	r
16	9.52	4.76	0.5-1.0

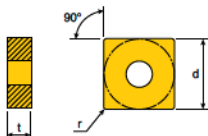
Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated						PVD coated		Uncoated											
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20		
 Right hand Medium	KNUX 160405 L11 160405 R11 160410 L11 160410 R11	0.15-0.35	1.5-5.0					●	●	●	●	●													
		0.15-0.35	1.5-5.0	●	●		●	●	●	●	●	●	●	●	●										
		0.21-0.45	2.0-5.0				●	●	●	●	●	●	●	●	●										
		0.21-0.45	2.0-5.0										●												
 Right hand Medium	KNUX 160405 L12 160405 R12 160410 L12 160410 R12	0.24-0.50	2.0-5.0									●													
		0.24-0.50	2.0-5.0										●												
		0.30-0.60	2.5-6.0										●												
		0.30-0.60	2.5-6.0										●												








A50, A140

● : Standard items
○ : Semi standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
12	12.7	4.76	0.4-1.6
19	19.05	6.35	1.2-1.6
25	25.4	7.94-9.52	1.6-2.4
31	31.75	9.52	2.4

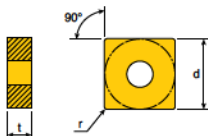
Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated								PVD coated		Uncoated									
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20		
 Right hand Medium	SNGG	120404 L	0.15-0.35	1.0-4.0	•																				
		120404 R	0.12-0.35	1.0-4.0	•																				
		120408 L	0.15-0.40	1.0-4.0																					
		120408 R	0.15-0.35	1.0-4.0																			•		
 Roughing	SNMA	120408	0.15-0.70	1.0-6.0			•	•	○														•		
		120412	0.20-0.80	1.5-6.0			•	•	○																
		120416	0.30-1.00	2.0-6.0			•	•	○																
		150612	0.20-0.80	2.0-8.0			•																		
		150616	0.30-1.00	2.0-8.0																					
		190612	0.20-0.80	2.0-10.0			•	•	○																•
		190616	0.30-1.00	2.0-10.0				•	○																
		250716	0.30-1.00	3.0-13.0																					
		250724	0.40-1.20	3.0-13.0					•	○															
 Roughing	SNMD	250924 HD								•	•	•													
		Roughing	0.55-1.50	4.0-15.0																					
		Finishing	0.40-0.80	2.0-5.0																					
 Finishing	SNMD	310924 HD																							
		Roughing	0.60-1.50	7.0-25.0						•	•					•									
		Finishing	0.40-0.80	2.0-5.0																					
 Heavy Finishing	SNMD	310924 HD																							
		Roughing	0.60-1.50	7.0-25.0																					
		Finishing	0.40-0.80	2.0-5.0																					









A59, A60, A75, A76, A98,
A99, A119, A131, A133,
A146, A153, A176

• : Standard items
○ : Semi standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
19	19.05	6.35	2.4
25	25.4	9.52	2.4
31	31.75	9.52	2.4

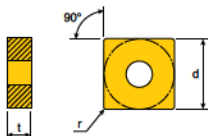
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated								PVD coated		Uncoated										
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20				
TOPDUTY  Roughing	SNMD 190624 HT																									
	Roughing	0.55-1.20	4.0-9.0																							
	Finishing	0.40-0.80	2.0-5.0																							
	 Roughing	250924 HT																								
		Roughing	0.55-1.30	5.0-12.0																						
		Finishing	0.40-0.80	2.0-5.0																						
TOPDUTY  Heavy	SNMD 310924 HT																									
	Roughing	0.50-1.40	6.0-22.0																							
	Finishing	0.40-0.80	2.0-5.0																							
	 Roughing	SNMD 190624 HY																								
		Roughing	0.50-1.10	4.0-12.0																						
		Finishing	0.40-0.80	2.0-5.0																						
 Roughing	250924 HY																									
	Roughing	0.55-1.50	4.0-15.0																							
	Finishing	0.40-0.80	2.0-5.0																							
TOPDUTY  Roughing	SNMD 250924 HZ																									
	Roughing	0.55-1.50	4.0-15.0																							
	Finishing	0.40-0.80	2.0-5.0																							



A75, A76, A98,
A99, A119

● : Standard items
○ : Semi standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
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	Feed (mm/rev)	ap (mm)	Cemet		CVD coated										PVD coated		Uncoated					
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20
 Medium	SNMG 090404	0.10-0.45	0.5-3.5			•	•																
	090408	0.10-0.50	0.5-3.5			•	•																
	090412	0.10-0.55	0.5-3.5			•	•																
 Medium	SNMG 120404	0.17-0.45	1.0-5.0						•	•			•										
	120408	0.23-0.60	1.5-5.0	•		•	•	○	•	•	•		•								•		
	120412	0.25-0.60	2.0-5.0					•	○	•	•												
	120416	0.35-0.70	2.0-5.0							•	•		•										
	150608	0.25-0.60	1.5-6.0							•	•		•										
	150612	0.25-0.60	2.0-6.0																				
	150616	0.35-0.70	2.0-6.0																				
	190604	0.17-0.45	3.0-8.0																				
	190608	0.25-0.60	3.0-8.0			•		○	•	•	•		•	•									
	190612	0.30-0.60	3.0-8.0			•	•	○	•	•	•		•										
	190616	0.35-0.70	3.0-8.0							•	•	•	•										
	250716	0.35-0.70	4.0-12.0								•	•		•									
	250724	0.50-1.00	5.0-12.0								•	•		•									
250924	0.50-1.00	5.0-12.0								•													
 Finishing	SNMG 090404 EA	0.05-0.30	0.2-1.5										•	•	•		•			•			
	090408 EA	0.07-0.40	0.3-1.5										•	•	•		•			•			
 Finishing	SNMG 120404 EA	0.05-0.20	0.1-1.5																				
	120408 EA	0.10-0.40	0.1-1.5										•										
 Medium	SNMG 090408 EM	0.13-0.40	0.5-3.0										•	•	•		•			•			
	090412 EM	0.15-0.40	0.7-3.0										•	•	•		•			•			

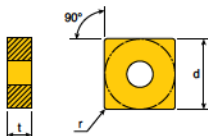


A59, A60, A75, A76, A96,
A99, A119, A131, A133,
A146, A153, A176, A198








• : Standard items

○ : Semi standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	4.76	0.4-1.2
12	12.7	4.76	0.4-1.2
15	15.88	6.35	1.2-1.6
19	19.05	6.35	0.8-1.6

Insert	Designation	Feed (mm/rev)	ap (mm)	Cermets		CVD coated								PVD coated		Uncoated											
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20				
 Medium	SNMG 120408 EM	0.13-0.50	0.8-5.0																								
	120412 EM	0.15-0.55	0.8-5.0																								
	150612 EM	0.15-0.55	0.8-6.5																								
	150616 EM	0.17-0.60	0.8-6.5																								
	190612 EM	0.15-0.55	0.8-8.0																								
	190616 EM	0.17-0.60	0.8-8.0																								
 Roughing	SNMG 120408 ET	0.25-0.70	2.0-7.0																								
	120412 ET	0.30-0.70	2.0-7.0																								
	190608 ET	0.30-0.75	3.0-9.0																								
	190612 ET	0.35-0.75	3.0-9.0																								
 Finishing	SNMG 120404 FC	0.05-0.30	0.2-2.5																								
	120408 FC	0.08-0.35	0.2-2.5																								
	120412 FC	0.10-0.40	0.3-2.5																								
 Finishing	SNMG 090404 FG	0.07-0.30	0.2-2.0																								
	090408 FG	0.10-0.35	0.5-2.0																								
	090412 FG	0.15-0.40	0.5-2.0																								
 Finishing	SNMG 120404 FG ✓	0.07-0.20	0.5-3.0																								
	120408 FG ✓	0.10-0.25	0.7-3.0																								
 Finishing	SNMG 090404 FM	0.07-0.30	0.25-2.0																								
	090408 FM	0.10-0.35	0.3-2.0																								
	090412 FM	0.15-0.40	0.35-2.0																								
 Roughing	SNMG 120408 KT	0.19-0.53	0.38-7.0																								
	120412 KT	0.28-0.70	0.50-7.0																								

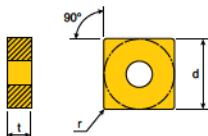


A59, A60, A75, A76, A98,
A99, A119, A131, A133,
A146, A153, A176, A198







✓ Marked: Old type chip breaker

● : Standard items
○ : Semi standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
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	Feed (mm/rev)	ap (mm)	Cemet		CVD coated								PVD coated		Uncoated						
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10
 Medium	SNMG 120408 MC	0.12-0.35	0.7-3.5							•	•			•								
	120412 MC	0.15-0.40	0.7-3.5																			
 Medium	SNMG 120408 ML	0.12-0.35	1.0-3.5							•	•			•							•	
	120412 ML	0.15-0.35	1.0-3.5																			
RHINO-RUSH  Medium	SNMG 090404 MM	0.15-0.45	0.4-3.5							•	•	•	•	•	•	•						
	090408 MM	0.20-0.50	0.5-3.5							•	•	•	•	•	•	•						
	090412 MM	0.23-0.50	0.7-3.5							•	•	•	•	•	•	•						
 Medium OLD	SNMG 120404 MP ✓	0.10-0.30	0.8-4.0																			
	120408 MP	0.12-0.40	1.0-4.0							•	•		•	•	•	•	•	•	•			
	120412 MP	0.15-0.40	1.3-4.0																			
	150608 MP	0.25-0.60	1.5-6.0							•												
RHINO-RUSH  Medium	SNMG 090404 MT	0.10-0.35	0.8-3.5							•	•	•		•								
	090408 MT	0.15-0.45	1.0-3.5							•	•	•		•								
	090412 MT	0.20-0.55	1.2-3.5							•	•	•		•								
 Medium OLD	SNMG 120404 MT ✓	0.12-0.40	1.0-5.0		•									•								
	120408 MT	0.17-0.55	1.2-5.0		•	•	•	○	•	•	•		•	•	•	•	•					
	120412 MT ✓	0.20-0.55	1.5-5.0		•					•	•		•	•	•	•	•					
	150612 MT ✓	0.30-0.65	2.0-7.0							•	•											
	190608 MT	0.17-0.55	3.0-8.0							•			•									
	190612 MT	0.20-0.55	3.0-8.0							•			•	•	•	•	•					

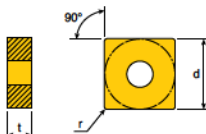


A59, A60, A75, A76, A98,
A99, A119, A131, A133,
A146, A153, A178, A198

✓ Marked: Old type chip breaker

• : Standard items
○ : Semi standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
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

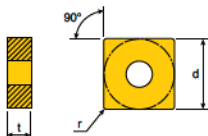
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermets		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Medium	SNMG 090404 PC	0.10-0.30	0.4-3.0																					
	090408 PC	0.15-0.40	0.5-3.0																					
	090412 PC	0.18-0.50	0.6-3.0																					
 Medium	SNMG 120404 PC	0.12-0.40	0.4-5.0																					
	120408 PC	0.15-0.50	0.5-5.0																					
	120412 PC	0.15-0.50	0.6-5.0																					
 Roughing	SNMG 120408 RT	0.25-0.70	2.5-6.0																					
	120412 RT	0.30-0.70	2.5-6.0																					
	120416 RT	0.40-0.70	2.5-6.0																					
	150612 RT	0.30-0.70	3.0-7.0																					
	190612 RT	0.30-0.75	3.0-9.0																					
	190616 RT	0.40-0.90	3.0-9.0																					
	250724 RT	0.40-1.00	5.0-12.0																					
250924 RT	0.40-1.00	5.0-12.0																						
 Heavy	SNMM 250924 EH	0.45-1.2	2.8-18.0																					
 Heavy	SNMM 190612 HT	0.35-0.9	4.0-9.0																					
	190616 HT	0.45-1.0	4.0-9.0																					
	190624 HT	0.55-1.2	4.0-9.0																					
	250724 HT	0.55-1.3	5.0-12.0																					
	250924 HT	0.55-1.3	5.0-12.0																					
	250932 HT	0.65-1.3	5.0-13.0																					








A59, A60, A75, A76, A96,
A99, A119, A131, A133,
A146, A153, A176, A198

● : Standard items
○ : Semi standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
12	12.7	4.76	0.8-1.2
15	15.88	6.35	1.2-1.6
19	19.05	6.35	0.8-2.4
25	25.4	7.94-9.52	1.6-2.4

Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Heavy	SNMM 190624 HY	0.50-1.10	4.0-12.0						●	●														
	250924 HY	0.55-1.50	4.0-15.0						●	●														
 Heavy	SNMM 250924 HZ	0.55-1.50	4.0-15.0						●	●														
 RH(N) RH Roughing	SNMM 120408 RH	0.30-0.70	2.5-6.0						●					●										
	120408 RH(N)	0.25-0.60	2.5-5.0											●										
	120412 RH	0.30-0.80	2.5-6.0											●										
	120412 RH(N)	0.30-0.70	3.0-5.0											●										
	150612 RH	0.30-0.80	3.0-7.0							●					●									
	190608 RH *	0.30-0.70	3.0-9.0							●														
	190612 RH	0.30-0.80	4.0-9.0							●	●				●									
	190612 RH(N)	0.30-0.70	3.0-8.0																					
	190616 RH	0.45-1.00	4.0-9.0							●					●					●				
	190616 RH(N)	0.40-0.90	3.0-8.0																					
	190624 RH	0.55-1.20	4.0-9.0								●													
	 Roughing	SNMM 120408 RX	0.20-0.55	0.7-7.0						●	●	●												
120412 RX		0.25-0.70	1.0-7.0						●	●	●													
150612 RX		0.25-0.70	1.0-9.0						●	●	●													
190612 RX		0.25-0.70	1.0-10.0						●	●														
190616 RX		0.30-0.90	1.5-10.0							●														
190624 RX		0.35-1.10	2.0-10.0							●														
250724 RX		0.35-1.20	2.0-12.0							●														
250924 RX		0.35-1.20	2.0-12.0							●	●													
 Semi-heavy		SNMX 150712 HB	0.30-0.80	1.5-8.0						●	●													
		150716 HB	0.30-0.80	1.5-8.0						●	●													

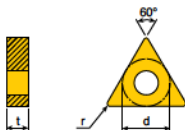


A59, A60, A75, A76, A96,
A99, A119, A131, A133,
A146, A153, A176

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

● : Standard items
○ : Semi standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
11	6.35	3.18	0.4
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

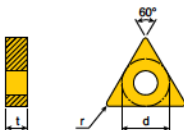
Insert	Designation	Feed (mm/rev)	ap (mm)	Cement		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Left hand Finishing	TNGG	130402 L	0.10-0.30	0.8-3.5	•																			
		130402 R	0.10-0.30	0.8-3.5	•																			
		130404 L	0.12-0.30	1.0-3.5	•																			
		130408 R	0.15-0.35	1.3-3.5	•																			
		130408 L	0.15-0.35	1.3-3.5	•																			
		130408 R	0.15-0.35	1.3-3.5	•																			
 Left hand Medium	TNGG	160404 L	0.12-0.30	1.0-3.5	•																		•	
		160404 R	0.12-0.30	1.0-3.5	•																			•
		160408 L	0.15-0.35	1.3-3.5	•																			
		160408 R	0.15-0.35	1.3-3.5	•																			
		220404 L	0.12-0.30	1.0-5.0	•																			
		220404 R	0.12-0.30	1.0-5.0	•																			
		220408 L	0.15-0.35	1.3-5.0	•																			
220408 R	0.15-0.35	1.3-5.0	•																					
 Roughing	TNMA	110304	0.15-0.30	0.5-2.0																			○	
		160404	0.15-0.30	1.0-4.0			•	•	○															
		160408	0.15-0.40	1.0-4.0			•	•	○															
		160412	0.20-0.50	1.5-4.5					•	○														
		160416	0.20-0.50	1.0-4.5			•																	
		220404	0.15-0.30	1.5-5.0																				
		220408	0.15-0.40	1.5-5.0					•	○														
		220412	0.20-0.50	1.5-5.0					•	•														
		220416	0.20-0.61	2.0-5.0																				
 Medium	TNMG	130404	0.10-0.45	0.5-3.5			•	•																
		130408	0.10-0.50	0.5-3.5			•	•																
		130412	0.10-0.55	0.5-3.5			•	•																








A61, A65, A77, A78, A100, A103, A104, A131, A134, A147, A148, A154, A177, A178, A180, A185

• : Standard items
○ : Semi standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
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

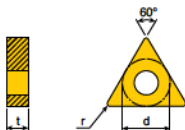
Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Medium	TNMG 110304	0.15-0.40	1.2-3.0						○	○														
		0.17-0.40	1.5-3.0							○														
	160404	0.17-0.45	1.5-3.5	●		●	●	○	●	●														
	160408	0.17-0.55	2.0-3.5	●		●	●	○	●	●				●				●						
	160412	0.25-0.55	2.0-3.5							●														
	220404	0.17-0.45	1.5-5.0							●	●				●									
	220408	0.17-0.55	2.0-5.0						●						●	●								
	220412	0.25-0.55	2.0-5.0							●	●													
	220416	0.30-0.60	2.0-5.0								●													
	270608	0.17-0.55	2.0-5.0																					
	270612	0.25-0.55	3.0-7.0								●													
	270616	0.30-0.60	3.0-7.0								●													
	330716	0.35-0.70	3.0-9.0								●						●							
	330924	0.40-0.80	3.0-9.0																					
 Finishing	TNMG 130404 EA	0.05-0.30	0.2-1.5											●	●	●		●	●					
		130408 EA	0.07-0.40	0.3-1.5											●	●	●		●	●				
 Finishing	TNMG 160404 EA	0.05-0.20	0.1-1.5											●	●			●	●					
		160408 EA	0.10-0.40	0.1-1.5															●	●				
 Medium	TNMG 130408 EM	0.13-0.40	0.5-3.0											●	●	●		●	●					
		130412 EM	0.15-0.40	0.7-3.0											●	●	●		●	●				
 Medium	TNMG 160408 EM	0.13-0.50	0.8-4.5											●	●			●	●					
		160412 EM	0.15-0.55	0.8-4.5															●	●				
		220408 EM	0.13-0.50	0.8-6.0											●	●			●	●				
		220412 EM	0.15-0.55	0.8-6.0															●	●				



A61, A65, A77, A78, A100, A103,
A104, A131, A134, A147, A148,
A154, A177, A178, A180, A185

● : Standard items
○ : Semi standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
11	6.35	3.18	0.4
13	7.94	4.76	0.4-1.2
16	9.52	4.76	0.4-1.2
22	12.7	4.76	0.8-1.2

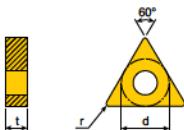
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermets		CVD coated							PVD coated		Uncoated											
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20			
Roughing	TNMG 160408 ET	0.25-0.65	2.0-5.0																							
	160412 ET	0.25-0.65	2.0-5.0																							
	220408 ET	0.25-0.65	2.5-7.0																							
	220412 ET	0.25-0.65	2.5-7.0																							
Finishing	TNMG 160404 FC	0.05-0.30	0.2-2.5	•	•				•	•		•														
	160408 FC	0.08-0.35	0.2-2.5	•	•				•	•		•	•													
	160412 FC	0.10-0.40	0.3-2.5						•																	
Finishing	TNMG 130404 FG	0.07-0.30	0.25-1.5						•	•				•												
	130408 FG	0.10-0.35	0.3-1.5						•	•				•												
	130412 FG	0.15-0.40	0.35-1.5						•	•				•												
Finishing	TNMG 110304 FG	0.07-0.20	0.5-1.5	○										○												
	160404 FG	0.07-0.20	0.5-2.0	•	•				•	•				•												
	160408 FG	0.10-0.25	0.7-2.0	•	•				•	•				•												
	160412 FG	0.13-0.30	0.7-2.0	•					•																	
	220408 FG	0.10-0.25	0.7-2.0						•																	
Finishing	TNMG 130404 FM	0.07-0.30	0.25-1.5	•					•	•	•			•												
	130408 FM	0.10-0.35	0.3-1.5	•					•	•	•			•												
	130412 FM	0.15-0.40	0.35-1.5	•					•	•	•			•												
Finishing	TNMG 130404 FT	0.07-0.30	0.25-2.5						•	•	•			•												
	130408 FT	0.10-0.40	0.3-2.5						•	•	•			•												
	130412 FT	0.15-0.50	0.35-2.5						•	•	•			•												
Right hand Medium	TNMG 160404 L-FS	0.15-0.30	0.8-3.0	•						•				•												
	160404 R-FS	0.15-0.30	0.8-3.0	•						•				•												
	160408 L-FS	0.20-0.40	1.0-3.5							•																
	160408 R-FS	0.20-0.40	1.0-3.5							•					•											








A61, A65, A77, A78, A100, A103, A104, A131, A134, A147, A148, A154, A177, A178, A180, A185

• : Standard items
○ : Semi standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
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

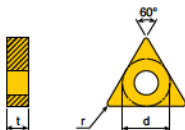
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated								PVD coated		Uncoated							
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20
 Roughing	TNMG 160408 KT 160412 KT 220408 KT 220412 KT	0.17-0.42	0.34-6.2			•	•																
		0.20-0.56	0.45-6.3			•	•																
		0.19-0.53	0.38-7.0			•	•																
		0.25-0.70	0.50-7.0			•	•																
 Medium	TNMG 160408 MC	0.17-0.40	0.7-3.5						•	•		•											
 Medium	TNMG 160404 ML 160408 ML 160412 ML 220404 ML 220408 ML	0.10-0.30	0.8-3.5						•	•		•	•	•							•		
		0.12-0.35	1.0-3.5						•	•	•		•	•	•							•	
		0.15-0.35	1.5-3.5						•	•	•		•	•	•								
		0.10-0.30	1.0-4.0										•										
		0.12-0.35	1.0-4.0									•											
 Medium	TNMG 130404 MM 130408 MM 130412 MM	0.15-0.45	0.4-3.0						•	•	•	•	•	•									
		0.20-0.50	0.5-3.0							•	•	•	•	•	•								
		0.23-0.50	0.7-3.0							•	•	•	•	•	•								
 Medium	TNMG 160404 MP 160408 MP 160412 MP 220404 MP 220408 MP 220412 MP	0.10-0.30	0.8-3.5						•		•	•	•	•	•						•		
		0.12-0.40	1.0-3.5						•	•		•	•	•	•								
		0.15-0.40	1.5-3.5						•			•											
		0.12-0.35	1.0-3.5									•											•
		0.12-0.40	1.0-4.0																				•
		0.12-0.40	1.0-4.0							•	•		•										•
		0.15-0.40	1.0-4.0																				








A61, A65, A77, A78, A100, A103,
A104, A131, A134, A147, A148,
A154, A177, A178, A180, A185

• : Standard items
○ : Semi standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
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
33	19.05	9.52	2.4

Insert	Designation	Feed (mm/rev)	ap (mm)	Coating																		
				Cermet	CVD coated							PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20
 RNRD-BBCB Medium	TNMG 130404 MT	0.10-0.35	0.8-3.0						•	•	•			•								
	130408 MT	0.15-0.45	1.0-3.0						•	•	•			•								
	130412 MT	0.20-0.55	1.2-3.0						•	•	•			•								
 OLD Medium	TNMG 110308 MT	0.17-0.40	1.0-3.0						○	○				○								
	160404 MT	0.17-0.40	1.0-3.5	•				○	•	•				•		•	•					
	160408 MT	0.17-0.50	1.2-3.5	•				○	•	•			•		•		•	•				
	160412 MT	0.20-0.50	1.5-3.5	•					•	•				•								
	220404 MT ✓	0.15-0.40	1.2-5.0							•	•											
	220408 MT ✓	0.17-0.50	1.2-5.0						•	•	•				•			•				
	220412 MT	0.20-0.50	1.5-5.0							•	•							•				
270612 MT ✓	0.20-0.50	3.0-7.0								•	•											
 RNRD-BBCB Medium	TNMG 130404 PC	0.10-0.30	0.4-3.0						•	•	•			•								
	130408 PC	0.15-0.40	0.5-3.0						•	•	•			•								
	130412 PC	0.18-0.50	0.6-3.0						•	•	•			•								
 Medium	TNMG 160404 PC	0.15-0.40	1.0-3.5						•	•				•								
	160408 PC	0.15-0.50	0.5-4.5						•	•				•						•		
	160412 PC	0.17-0.55	0.6-4.5						•	•												
	220408 PC	0.17-0.50	1.2-5.0						•	•												
	220412 PC	0.20-0.50	1.5-5.0						•	•												
 Roughing	TNMG 160408 RT	0.25-0.65	2.0-5.0					•	•	○	•											
	160412 RT	0.25-0.65	2.0-5.0					•	○	•												
	220408 RT	0.25-0.65	2.0-7.0							•	•											
	220412 RT	0.25-0.65	2.5-7.0						•													
	330924 RT	0.35-0.70	3.0-9.0																			

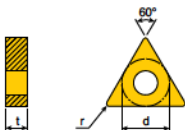


A61, A65, A77, A78, A100, A103, A104, A131, A134, A147, A148, A154, A177, A178, A180, A185





✓ Marked: Old type chip breaker

• : Standard items
○ : Semi standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
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

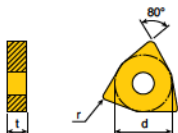
Insert	Designation	Feed (mm/rev)	ap (mm)	Cemet		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Finishing	TNMG 160408 SF	0.10-0.30	0.7-1.5	•																				
 Right hand Medium	TNMG 160404 L-VF	0.10-0.30	0.7-3.5	•				• •				•												
	160404 R-VF	0.10-0.30	0.7-3.5	• •				• •				•												
	160408 L-VF	0.12-0.35	1.0-3.5					• •				•												
	160408 R-VF	0.12-0.35	1.0-3.5					• •				•												
 Roughing	TNMM 160408 RH	0.30-0.70	2.0-7.0																					
	220408 RH	0.30-0.70	2.0-7.0																					
	220412 RH	0.30-0.70	2.5-7.0																					
	220416 RH	0.40-0.85	3.0-7.0																					
	270612 RH	0.30-0.80	3.0-8.0																					
 Roughing	TNMM 160408 RX	0.20-0.55	0.7-6.0																					
	160412 RX	0.25-0.70	1.0-7.0																					
	220408 RX	0.20-0.55	0.7-7.5																					
	220412 RX	0.25-0.70	1.0-7.5																					
	220416 RX	0.30-0.90	1.5-7.5																					



A65, A77, A78, A100,
A103, A104, A134, A154,
A177, A178, A180, A185

• : Standard items
○ : Semi standard items

Negative 80° trigon inserts



Size	Dimension (mm)		
	d	t	r
06	9.52	4.76	0.4-1.2
08	12.7	4.76	0.4-1.2

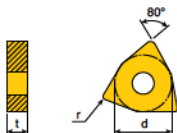
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated							PVD coated		Uncoated										
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT9020	TT9080	P20	K10	K20			
Roughing	WNMA 060408	0.15-0.70	1.0-4.0				○																		
	060412	0.20-0.80	1.5-4.0			○																			
	080408	0.15-0.70	1.0-5.0			●	●	○																	
	080412	0.20-0.80	1.5-5.0			●	●	○																	
	080416	0.20-0.80	1.5-5.0																						
Finishing	WNMG 080404 EA	0.05-0.20	0.1-1.5											●											
	080408 EA	0.10-0.40	0.1-1.5											●											
Medium	WNMG 060408 EM	0.13-0.50	0.8-3.0											○											
	060412 EM	0.15-0.55	0.8-3.0																						
	080404 EM	0.10-0.45	0.8-4.0																						
	080408 EM	0.12-0.45	0.8-4.0																						
	080412 EM	0.12-0.45	0.8-4.0																						
Roughing	WNMG 060408 ET	0.15-0.50	0.8-4.0											○	○	○									
	060412 ET	0.15-0.50	0.8-4.0											○	○	○									
	080408 ET	0.15-0.55	0.8-4.5																						
	080412 ET	0.20-0.50	0.8-4.5																						
Finishing	WNMG 060404 FC	0.07-0.20	0.5-2.0	○					○	○															
	060408 FC	0.10-0.25	0.5-2.0	○					○	○															
	080404 FC	0.07-0.20	0.5-2.0																						
	080408 FC	0.07-0.20	0.5-2.0	●																					
	080412 FC	0.10-0.25	0.5-2.0																						
Finishing	WNMG 060404 FG	0.07-0.20	0.5-2.0	○	○				○	○															
	060408 FG	0.10-0.25	0.7-2.0	○	○				○																
	080404 FG	0.07-0.20	0.5-2.0	●	●																				
	080408 FG	0.10-0.25	0.7-2.0	●	●																				











A62, A68, A102,
A127, A135, A149,
A150, A179

● : Standard items
○ : Semi standard items

Negative 80° trigon inserts



Size	Dimension (mm)		
	d	t	r
06	9.52	4.76	0.4-1.2
08	12.7	4.76	0.4-1.6

Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated								PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
 Roughing	WNMG 080408 KT	0.17-0.47	0.29-5.5			•	•																	
	080412 KT	0.23-0.63	0.39-5.5			•	•																	
 Medium	WNMG 060404 MC	0.10-0.30	0.5-2.5																					
	060408 MC	0.12-0.35	0.7-3.0						○															
	080408 MC	0.12-0.35	0.7-3.5												•									
	080412 MC	0.15-0.40	0.7-3.5																					
 Medium	WNMG 080408 ML	0.12-0.35	1.0-3.5							•	•	•	•	•	•	•	•	•	•				•	
	080412 ML	0.15-0.35	1.3-3.5																					
 OLD  Medium	WNMG 060408 MP	0.12-0.35	1.0-3.0								○	○	○	○	○	○	○	○	○					
	060412 MP	0.15-0.40	1.3-3.0																					
	080404 MP ✓	0.10-0.35	1.0-4.0								•													
	080408 MP	0.12-0.40	1.0-4.0								•	•	•	•	•	•	•	•	•	•	•	•	•	•
	080412 MP	0.15-0.40	1.3-4.0												•									
 OLD  Medium	WNMG 060404 MT	0.12-0.40	1.0-3.0					○	○	○	○	○	○	○	○	○	○	○	○					
	060408 MT	0.15-0.45	1.2-3.0					○	○	○	○	○	○	○	○	○	○	○	○					
	060412 MT	0.23-0.50	1.5-3.0								•													
	080404 MT ✓	0.12-0.40	1.0-4.0			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	080408 MT	0.17-0.55	1.2-4.0			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
080412 MT	0.25-0.55	1.5-4.0								•	•	•	•	•	•	•	•	•	•	•	•	•	•	
 Medium	WNMG 060408 PC	0.15-0.50	0.5-4.0							○	○													
	060412 PC	0.17-0.50	0.6-4.0							○	○													
	080408 PC	0.15-0.50	0.5-4.0							•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	080412 PC	0.17-0.50	0.6-4.0							•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	080416 PC	0.20-0.50	0.8-4.0							•														

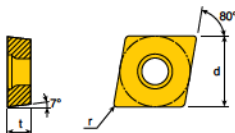


A62, A68, A102,
A127, A135, A149,
A150, A179

✓ Marked: Old type chip breaker

• : Standard items
○ : Semi standard items

Positive 7° clearance 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
03	3.97	1.59	0.03-0.4
04	4.76	1.59	0.03-0.4
06	6.35	2.38	0.03-0.4
09	9.52	3.97	0.03-0.4

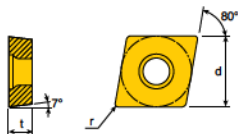
Insert	Designation	Feed (mm/rev)	ap (mm)	CVD coated										Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10
 Right hand Finishing	CCET 060201 L-GF	0.02-0.15	0.2-1.5																			
	060201 R-GF	0.02-0.15	0.2-1.5																			
	060202 L-GF	0.03-0.17	0.3-1.5																			
	060202 R-GF	0.03-0.17	0.3-1.5																			
	060204 L-GF	0.05-0.20	0.3-1.5																			
	060204 R-GF	0.05-0.20	0.3-1.5																			
	09T301 L-GF	0.02-0.15	0.2-2.5																			
	09T301 R-GF	0.02-0.15	0.2-2.5																			
	09T302 L-GF	0.03-0.17	0.3-2.5																			
	09T302 R-GF	0.03-0.17	0.3-2.5																			
	09T304 L-GF	0.05-0.20	0.3-2.5																			
09T304 R-GF	0.05-0.20	0.3-2.5																				
 Right hand Finishing	CCET 0602003 L-GW*	0.02-0.15	0.1-1.5																			
	0602003 R-GW*	0.02-0.15	0.1-1.5																			
	09T3003 L-GW*	0.02-0.15	0.1-2.5																			
	09T3003 R-GW*	0.02-0.15	0.1-2.5																			
 Finishing	CCGT 0301003 R-FF	0.03-0.10	0.05-0.3																			
	0301003 L-FF	0.03-0.10	0.05-0.3																			
	030101 R-FF	0.03-0.12	0.08-0.4																			
	030101 L-FF	0.03-0.12	0.08-0.4	•																		
	030102 R-FF	0.03-0.15	0.1-0.4	•																		
	030102 L-FF	0.03-0.15	0.1-0.4	•																		
	030104 R-FF	0.05-0.20	0.1-0.4	•																		
	030104 L-FF	0.05-0.20	0.1-0.4	•																		
	0401003 R-FF	0.03-0.10	0.05-0.4																			
	0401003 L-FF	0.03-0.10	0.05-0.4																			
	040101 R-FF	0.03-0.12	0.1-0.5																			
	040101 L-FF	0.03-0.12	0.1-0.5	•																		
	040102 R-FF	0.03-0.15	0.1-0.5	•																		
	040102 L-FF	0.03-0.15	0.1-0.5	•																		
	040104 R-FF	0.05-0.20	0.1-0.5	•																		
040104 L-FF	0.05-0.20	0.1-0.5	•																			

A47, A79, A80,
 A136, A155,
 A156, A186

* Marked: Can be applied only to toolholders with 95° approach angle

• : Standard items
 ○ : Semi standard items

Positive 7° clearance 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
06	6.35	2.38	0.1-0.8
09	9.52	3.97	0.1-0.8
12	12.7	4.76	0.4-1.2

Insert	Designation	Feed (mm/rev)	ap (mm)	Cermet		CVD coated							PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT1500	TT1700	TT5080	TT8020	TT9020	TT9080	P20	K10	K20
	CCGT	060201 SA	0.02-0.15	0.1-1.5											•	•							
		060202 SA	0.02-0.15	0.1-1.5												•	•						
		060204 SA	0.03-0.20	0.1-2.4												•	•						
		09T301 SA	0.02-0.15	0.1-2.5												•	•						
		09T302 SA	0.02-0.15	0.1-2.5												•	•						
		09T304 SA	0.03-0.20	0.1-2.5												•	•						
		09T308 SA	0.03-0.25	0.1-2.5												•	•						
	CCMT	060202 FA	0.05-0.15	0.1-1.5	•	•						•	•	•									
		060204 FA	0.05-0.15	0.1-1.5	•	•				•					•	•							
		09T302 FA	0.05-0.15	0.1-2.0	•	•									•	•							
		09T304 FA	0.05-0.20	0.1-2.0	•	•									•	•							
		09T308 FA	0.10-0.25	0.2-2.0												•	•						
	CCMT	060204 FG	0.05-0.15	0.3-1.5	•	•								•	•								
		09T304 FG	0.07-0.20	0.4-2.0	•	•	•								•	•							
		09T308 FG	0.10-0.25	0.6-2.0	•	•									•	•							
		120408 FG ✓	0.10-0.25	0.6-2.0											•	•							
	CCMT	060204 MT	0.07-0.20	0.5-2.0	•	•	•	○	•	•	•	•	•	•	•	•						•	
		060208 MT	0.13-0.30	0.7-2.0	•	•	•	○	•	•	•	•	•	•	•	•	•						•
		09T304 MT	0.10-0.25	0.7-3.5	•	•	•	○	•	•	•	•	•	•	•	•	•						
		09T308 MT	0.13-0.30	1.0-3.5	•	•	•	○	•	•	•	•	•	•	•	•	•						
		120404 MT	0.10-0.25	1.0-5.0	•	•	•	○	•	•	•	•	•	•	•	•	•						
		120408 MT	0.13-0.30	1.3-5.0	•	•	•	○	•	•	•	•	•	•	•	•	•						
		120412 MT	0.17-0.35	1.5-5.0					•	•	•	•	•	•	•	•	•						
	CCMT	060204 PC	0.06-0.18	0.3-2.0	•				•	•	•											•	
		060208 PC	0.08-0.25	0.4-2.0	•				•	•	•												•
		09T304 PC	0.08-0.25	0.35-3.0	•				•	•	•	•											•
		09T308 PC	0.10-0.28	0.5-3.0					•	•	•	•											•
		120404 PC	0.08-0.25	0.4-4.0	•				•	•	•	•											•
		120408 PC	0.10-0.30	0.7-4.0	•				•	•	•	•											•
		120412 PC	0.12-0.35	1.0-4.0																			•
	CCMT	09T308 WT	0.10-0.40	0.7-3.0			•	•	•	•													

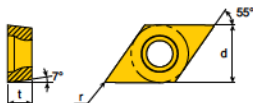
✓ Marked: Old type chip breaker

• : Standard items
○ : Semi standard items








A47, A79, A80,
A136, A155,
A156, A186

Positive 7° clearance 55° rhombic inserts



Size	Dimension (mm)		
	d	t	r
07	6.35	2.38	0.03-0.8
11	9.52	3.97	0.03-0.8

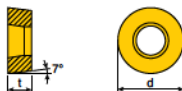
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated							PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT1500	TT1700	TT5080	TT8020	TT9020	TT9080	P20	K10	K20
 Right hand Finishing	DCET 070201 L-GF	0.02-0.15	0.2-1.5																				
	070201 R-GF	0.02-0.15	0.2-1.5															●					
	070202 L-GF	0.03-0.17	0.3-1.5															●					
	070202 R-GF	0.03-0.17	0.3-1.5															●					
	070204 L-GF	0.05-0.20	0.3-1.5																				
	070204 R-GF	0.05-0.20	0.3-1.5																				
	11T301 L-GF	0.02-0.15	0.2-2.5																				
	11T301 R-GF	0.02-0.15	0.2-2.5																●				
	11T302 L-GF	0.03-0.17	0.3-2.5																●				
	11T302 R-GF	0.03-0.17	0.3-2.5																●				
11T304 L-GF	0.05-0.20	0.3-2.5																●					
11T304 R-GF	0.05-0.20	0.3-2.5																● ●					
 Right hand Finishing	DCET 0702003 L-GW ●	0.02-0.15	0.1-1.5																				
	0702003 R-GW ●	0.02-0.15	0.1-1.5																				
	11T3003 L-GW ●	0.02-0.15	0.1-2.5																				
	11T3003 R-GW ●	0.02-0.15	0.1-1.5																				
 Finishing	DCGT 070201 SA	0.02-0.15	0.1-1.5																				
	070202 SA	0.02-0.15	0.1-1.5														●	●					
	070204 SA	0.03-0.20	0.1-1.5														●	●					
	11T301 SA	0.01-0.05	0.1-2.5														●	●					
	11T302 SA	0.02-0.15	0.1-2.5														●	●					
	11T304 SA	0.03-0.20	0.1-2.5														●	●					
 Finishing	DCMT 070202 FA	0.05-0.15	0.1-1.5	● ●								●	●	●				●					
	11T302 FA	0.05-0.15	0.1-1.5	● ●								●	●	●									
 Finishing	DCMT 070204 FG	0.07-0.20	0.4-1.5	● ●				● ●				● ●	● ●	● ●				● ●	● ●				
	070208 FG	0.07-0.20	0.4-2.0	● ●				● ●				● ●	● ●	● ●					● ●				
	11T304 FG	0.10-0.25	0.6-1.5	● ●				● ●				● ●	● ●	● ●					● ●	● ●			
	11T308 FG	0.10-0.25	0.6-2.0	● ●				● ●				● ●	● ●	● ●					● ●				







● : Marked: Can be applied only to toolholders with 95° approach angle

● : Standard items
○ : Semi standard items

Positive 7° clearance round inserts



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

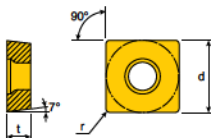
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermet		CVD coated							PVD coated		Uncoated										
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT17100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20		
 Medium	RCMT 080300 MT	0.15-0.40	0.5-3.0																						
	10T300 MT	0.20-0.50	1.0-4.0			•			•	•			•												
	120400 MT	0.30-0.60	2.0-5.0			•	•	○	•	•															
	160600 MT	0.40-0.80	3.0-7.0							•															
 Semi finishing	RCMT 120400 PC	0.20-0.60	1.3-4.5						•	•					•										
 Roughing	RCMX 100300	0.25-0.50	1.5-4.0					•	○	•	•				•										
	120400	0.30-0.60	2.5-5.0							•	•				•										
	160600	0.40-0.75	3.0-7.0			•	•	•	•	•	•				•									•	
	200600	0.48-0.90	3.5-9.0			•	•	○	•	•	•														
	250700	0.55-1.20	4.0-12.0			•	•	○	•	•	•				•										
	320900	0.65-1.50	5.0-15.0							•	•														
 Roughing	RCMX 100300 RA	0.20-0.50	1.0-4.0							•	•														
	120400 RA	0.25-0.60	2.0-5.0							•	•	•													
	160600 RA	0.35-0.75	2.5-7.0							•	•	•													
	200600 RA	0.40-0.90	3.0-9.0							•	•														
	250700 RA	0.50-1.20	3.5-12.0							•	•														
	320900 RA	0.60-1.50	4.0-15.0								•														






A72, A73,
A85, A125,
A137

• : Standard items
○ : Semi standard items

Positive 7° clearance square inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	3.97	0.4-0.8
12	12.7	4.76	0.4-1.2

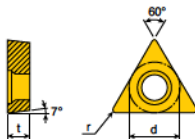
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated								PVD coated		Uncoated										
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10	K20			
 Finishing	SCMT 09T304 FG	0.08-0.25	0.60-2.0																							
	09T308 FG	0.10-0.25	0.60-2.0																							
 Medium	SCMT 09T304 MT	0.10-0.25	0.70-3.5	•	•	○	•	•		•	•					•										
	09T308 MT	0.13-0.30	1.00-3.5	•	•	○	•	•		•	•	•				•	•									
	120404 MT	0.10-0.25	1.00-5.0	•	•		•	•				•														
	120408 MT	0.13-0.30	1.00-5.0	•	•	○	•	•		•	•	•				•	•									
 Semi finishing	SCMT 09T304 PC	0.08-0.25	0.35-3.0	•					•																	
	09T308 PC	0.10-0.28	0.50-3.0	•					•	•																
	120404 PC	0.08-0.25	0.40-4.0																							
	120408 PC	0.10-0.30	0.70-4.0						•																	
	120412 PC	0.12-0.35	1.00-4.0																							










A86, A162

• : Standard items
○ : Semi standard items

Positive 7° clearance triangular inserts



Size	Dimension (mm)		
	d	t	r
06	3.97	1.98	0.2
09	5.56	2.38	0.4-0.8
11	6.35	2.38-3.18	0.1-0.8
16	9.52	3.97	0.4-1.2
22	12.7	4.76	0.8

Insert	Designation	Feed (mm/rev)	ap (mm)	CVD coated										PVD coated		Uncoated						
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT15100	TT7100	TT5080	TT8020	TT9020	TT9080	P30	K10
 Right hand Finishing	TCET 110301 L-GF	0.02-0.15	0.2-1.5																			
	110301 R-GF	0.02-0.15	0.2-1.5																			
	110302 L-GF	0.03-0.17	0.3-1.5																			
	110302 R-GF	0.03-0.17	0.3-1.5																			
	110304 R-GF	0.05-0.20	0.5-1.5																			
 Finishing	TCGT 110201 SA	0.01-0.05	0.1-2.5																			
	110202 SA	0.02-0.15	0.2-2.5																			
	110204 SA	0.03-0.20	0.2-2.5																			
 Finishing	TCMT 06T102 FA	0.03-0.15	0.4-1.2	•																		
	110202 FA	0.03-0.15	0.1-1.5	•				•						•				•				
	110204 FA	0.05-0.15	0.1-1.5	•									•									
 Finishing	TCMT 090208 FG	0.10-0.25	0.6-1.5	•	•			•					•									
	110204 FG	0.07-0.20	0.4-1.5	•	•			•					•					•				
	110208 FG	0.10-0.25	0.6-1.5	•	•			•					•					•				
	16T304 FG	0.07-0.20	0.4-2.0	•	•			•					•					•				
	16T308 FG	0.10-0.25	0.6-2.0	•				•					•									
 OLD  Medium	TCMT 090204 MT	0.10-0.25	0.6-2.0	•	•		○	•				•					•					
	090208 MT	0.13-0.30	0.8-2.0	•	•		○	•				•						•				
	110204 MT	0.10-0.25	0.6-3.0	•	•		○	•				•						•			•	
	110208 MT	0.13-0.30	0.8-3.0	•	•		○	•				•						•				
	16T304 MT	0.10-0.25	0.8-5.0	•	•		○	•				•						•				
	16T308 MT	0.10-0.30	1.0-5.0	•	•		○	•				•						•				
	16T312 MT	0.10-0.30	1.5-5.0	•				•					•									
220408 MT	0.10-0.35	2.0-6.0					•															
 Semi finishing	TCMT 090204 PC	0.06-0.18	0.3-2.0	•				•				•									•	
	090208 PC	0.08-0.25	0.4-2.0					•				•										
	110204 PC	0.06-0.2	0.3-2.5	•				•				•									•	
	110208 PC	0.09-0.26	0.42-2.5					•				•									•	
	16T304 PC	0.08-0.25	0.35-3.0					•				•									•	
	16T308 PC	0.10-0.28	0.5-3.0					•				•									•	
	16T312 PC	0.12-0.36	0.6-3.0					•				•									•	
TCMT 220508-19	0.10-0.35	2.0-6.0																			•	

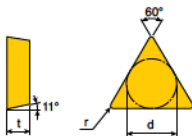


A87, A88,
A137, A163

✓ Marked: Old type chip breaker
* Marked: Fine boring tool insert

• : Standard items
○ : Semi standard items

Positive 11° clearance triangular inserts



Size	Dimension (mm)		
	d	t	r
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	0.4-1.6
22	12.7	4.76	0.4-1.6

Insert	Designation	Feed (mm/rev)	ap (mm)	Cermet		CVD coated								PVD coated		Uncoated									
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT1500	TT1700	TT5080	TT8020	TT9020	P20	P30	K10	K20		
 OL.D Medium	TPMR	090204	0.10-0.25	0.5-2.0																					
		090208	0.13-0.30	0.7-2.0																					
		110304 ✓	0.10-0.25	0.7-3.0	•																				
		110308	0.13-0.30	1.0-3.0	•																				
		160304 ✓	0.10-0.25	1.0-5.0	•	•	○	•	•	•															
		160308	0.13-0.30	1.0-5.0	•	•		•	•																
		160312	0.15-0.35	1.0-5.0																					
		220404 ✓	0.10-0.25	1.0-7.0																					
		220408 ✓	0.13-0.30	1.5-7.0			•																		
		220412 ✓	0.15-0.35	1.5-7.0																					
 Finishing	TPMT	110304 FG	0.07-0.20	0.4-1.5	•	•																			
 Semi finishing	TPMT	090204 PC	0.06-0.18	0.3-2.0	•																				
		110204 PC	0.06-0.2	0.4-2.5	•																				
		110208 PC	0.1-0.26	0.5-2.5																					
		110304 PC	0.06-0.2	0.4-2.5	•																				
		110308 PC	0.1-0.26	0.5-2.5	•																				
		16T304 PC	0.08-0.25	0.45-3.0																					
		16T308 PC	0.1-0.3	0.5-3.0																					
 Medium	TPUN	110304	0.10-0.30	1.0-3.0																					
		110308	0.15-0.40	1.0-3.0																					
		160304	0.10-0.30	1.0-5.0																					
		160308	0.15-0.40	1.0-5.0																					
		160312	0.20-0.50	1.5-5.0																					
		160316	0.25-0.55	1.5-5.0																					
		220404	0.10-0.30	1.5-7.0																					
		220408	0.15-0.40	1.5-7.0																					
		220412	0.20-0.50	1.5-7.0																					
		220416	0.25-0.55	1.5-7.0																					

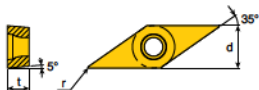


A52, A53, A142,
A184, A185


✓ Marked: Old type chip breaker

• : Standard items
○ : Semi standard items

Positive 5° clearance 35° rhombic inserts



Size	Dimension (mm)		
	d	t	r
16	9.52	4.76	0.4-1.2

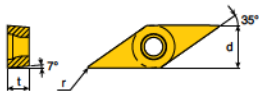
Insert	Designation	Feed (mm/rev)	ap (mm)	Cermet		CVD coated							PVD coated		Uncoated								
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT1500	TT1700	TT5080	TT8020	TT9020	TT9080	P20	K10	K20
	VBMT 160404 PC	0.07-0.22	0.5-2.8	●						●	●							●					
		0.10-0.27	0.5-2.8	●						●	●								●				
		0.10-0.28	0.5-2.8									●											
Semi finishing																							





● : Standard items
○ : Semi standard items

VCGT VCMT

Positive 7° clearance 35° rhombic inserts



Size	Dimension (mm)		
	d	t	r
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	Feed (mm/rev)	ap (mm)	Cermet		CVD coated							PVD coated		Uncoated									
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT1500	TT1700	TT5080	TT8020	TT9020	TT9080	P20	K10	K20	
	VCGT 110301 SA	0.01-0.20	0.1-1.5															●						
		0.02-0.20	0.2-1.5																●	●				
		0.05-0.20	0.2-1.5																●	●				
Finishing																								
	VCMT 08, 11	0.02-0.15	0.2-1.5	●																				
		0.05-0.20	0.2-1.5	●	●					●	●													
		0.05-0.20	0.1-1.7	●						●	●	●												●
		0.05-0.20	0.3-2.0	●						●	●	●												●
		0.07-0.20	0.3-2.0	●						●	●	●												●
VCMT 16																								
Semi finishing																								

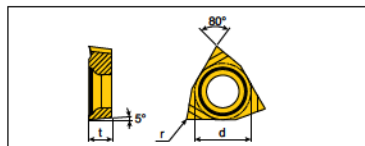


● : Standard items
○ : Semi standard items


WBGT WBMT

T-TURN

Positive 5° clearance 80° trigon inserts



Size	Dimension (mm)		
	d	t	r
06	3.97	1.59	0.03-0.4

Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated								PVD coated		Uncoated						
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10
 Finishing	WBGT 0601003 R-FF	0.03-0.10	0.05-0.3																			
	0601003 L-FF	0.03-0.10	0.05-0.3																			
	060101 R-FF	0.03-0.12	0.08-0.4	●																		
	060101 L-FF	0.03-0.12	0.08-0.4	●																		
	060102 R-FF	0.03-0.15	0.1-0.4	●																		
	060102 L-FF	0.03-0.15	0.1-0.4	●																		
	060104 R-FF	0.05-0.20	0.1-0.4	●																		
	060104 L-FF	0.05-0.20	0.1-0.4	●																		
	WBMT 060102 R-C	0.03-0.15	0.1-0.4	●																		
	060102 L-C	0.03-0.15	0.1-0.4	●																		



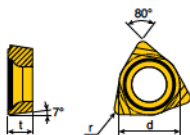
A171

- : Standard items
- : Semi standard items


WCGT

T-TURN

Positive 7° clearance 80° trigon inserts



Size	Dimension (mm)		
	d	t	r
02	3.97	1.59	0.2-0.4

Insert	Designation	Feed (mm/rev)	ap (mm)	Cermat		CVD coated								PVD coated		Uncoated						
				PV3010	CT3000	TT7005	TT7015	TT7310	TT8115	TT8125	TT8135	TT9215	TT9225	TT9235	TT5100	TT7100	TT5080	TT8020	TT9020	TT9080	P20	K10
 Finishing	WCGT 020102 L-FF	0.03-0.15	0.1-0.4	●																		
	020104 L-FF	0.05-0.20	0.1-0.4	●																		
	WCGT 020102L ●	0.03-0.15	0.1-0.4																		●	
	020104L ●	0.05-0.20	0.1-0.4																		●	



A171

- : Marked: Fine boring tool insert

- : Standard items
- : Semi standard items

Inserts for Aluminum

Positive 7° clearance inserts for aluminum machining

Insert	Designation	Dimension (mm)				Uncoated	
		d	t	r	D1		K10
	CCGT 060202 FL	6.35	2.38	0.2	2.8		•
	060204 FL	6.35	2.38	0.4	2.8		•
	09T302 FL	9.52	3.97	0.2	4.4		•
	09T304 FL	9.52	3.97	0.4	4.4		•
	09T308 FL	9.52	3.97	0.8	4.4		•
	120402 FL	12.7	4.76	0.2	5.5		•
	120404 FL	12.7	4.76	0.4	5.5		•
	120408 FL	12.7	4.76	0.8	5.5		•
	DCGT 070202 FL	6.35	2.38	0.2	2.8		•
	070204 FL	6.35	2.38	0.4	2.8		•
	11T302 FL	9.52	3.97	0.2	4.4		•
	11T304 FL	9.52	3.97	0.4	4.4		•
	11T308 FL	9.52	3.97	0.8	4.4		•
	RCGT 0803MO FL	8.0	3.18	-	3.4		•
	1003MO FL	10.0	3.18	-	4.4		•
	10T3MO FL	10.0	3.97	-	4.4		•
	SCGT 09T308 FL	9.52	3.97	0.8	4.4		•
	120402 FL	12.7	4.76	0.2	5.5		•
	120404 FL	12.7	4.76	0.4	5.5		•
	120408 FL	12.7	4.76	0.8	5.5		•
	TCGT 090204 FL	5.56	2.38	0.4	2.5		•
	110204 FL	6.35	2.38	0.4	2.8		•
	16T304 FL	9.52	3.97	0.4	4.4		•
	16T308 FL	9.52	3.97	0.8	4.4		•
	VCGT 110302 FL	6.35	3.18	0.2	2.8		•
	110304 FL	6.35	3.18	0.4	2.8		•
	160402 FL	9.52	4.76	0.2	4.4		•
	160404 FL	9.52	4.76	0.4	4.4		•
	160408 FL	9.52	4.76	0.8	4.4		•
	160412 FL	9.52	4.76	1.2	5.5		•
	220530 FL	12.7	5.56	3.0	5.5		•

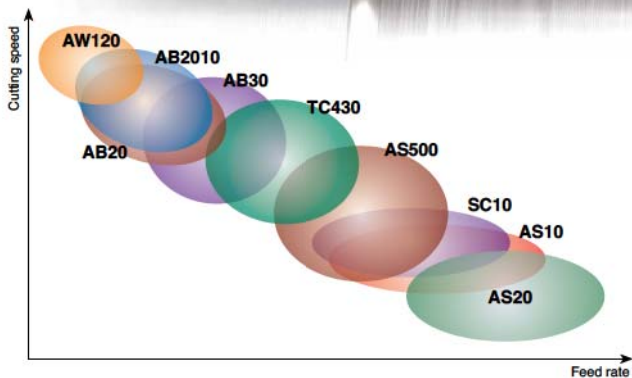
• : Standard items

Physical properties

Grade	AW120	AB2010	AB20	AB30	TC430	AS500	
Composition	Al ₂ O ₃ ZrO ₂	Al ₂ O ₃ - Ti(C,N)	Al ₂ O ₃ - Ti(C,N)	Al ₂ O ₃ - TiC	SiC Whisker	SiAlON	
Density (g/cm ³)	4.05	4.30	4.30	4.25	3.74	3.21	
Hardness	HRA	94.0	94.5	94.5	94.5	95.1	94.3
	Vickers	1,800	2,050	2,050	2,050	2,100	1,800
Bending strength (MPa)	600	650	650	700	700	850	



Application map of ceramic grades



Edge preparation for ceramic inserts

1. Common style (no designation)

Grade	Land specification	
	Width (mm)	Angle (°)
AB2010, AB20, AB30, TC430, AS500, SC10, AS10, AS20	0.2	25
AW120	0.2	20

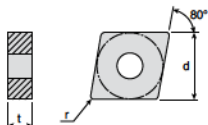
2. Others (single T-land)

Designation	Land specification	
	Width (mm)	Angle (°)
T2	0.10	30
T3	0.15	30
T4	0.20	30
T5	0.30	30
T6	0.10	20
T7	0.20	20

3. Edge preparation "E" is only honing without T-land

4. Various special edge preparations such as "Double Land" or "S" can be made upon request

Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
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

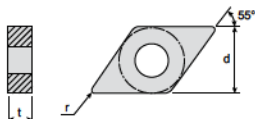
Insert	Designation	Ceramic															
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20							
	CNGA 120404	●	●	●													
	120408	●	●	●	●	●	●	●									
	120408 E									●							
	120408 T7					●											
	120412	●	●	●			●	●									
	120412 E									●							
	120412 T7					●											
	120416		●	●				●	●								
	160408			●													
	160608		●														
	160612		●	●					●								
	160616		●	●													
	160624			●													
	190608		●	●													
	190612		●	●													
	190616			●													
	190624			●					●								
190716 U3								●									
	CNGN 120404			●													
	120404 T6								●								
	120408	●	●	●					●								
	120408 E										●						
	120408 T6									●							
	120412		●					●	●								
	120412 E											●					
	120412 T6										●						
	120416		●							●							
	120416 T6										●	●					
	120708	●	●	●													
	120708 E												●				
	120708 T6											●					
	120712			●						●							
	120712 E												●				
	120712 T6											●					
	120716			●					●	●							
120716 E												●					



A69, A70, A93,
A94, A105, A132,
A151, A172, A184

●: Standard items

Negative 55° rhombic inserts



Size	Dimension (mm)		
	d	t	r
12	10	7.94	0.4-1.6
15	12.7	4.76-6.35	0.4-1.6

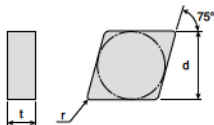
Insert	Designation	Ceramic										
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20		
	DNGA 150404		•	•								
	150404 T6		•									
	150408	•	•	•								
	150408 T6			•								
	150412	•	•	•								
	150416		•									
	150416 T7		•									
	150604	•	•	•								
	150606			•								
	150608	•	•	•		•		•				
	150612	•	•	•				•				
150616		•	•									
	DNGN 150408		•	•								
	150704			•								
	150708			•	•							
	150712				•							
	150712 U2			•								
	150716		•									
	150716 U2			•								
	DNGX 120708 T7-CH							•				
	120712 T7-CH							•				
	150708 T7-CH							•				
	150712 CH						•	•				
	150712 T7-CH					•		•				
	150716 CH						•	•				
	150716 T7-CH							•				
	DNMG 150608 CE			•								




A63, A64, A71, A95, A96,
A106, A116, A132, A152,
A173, A174, A184

• : Standard items

Negative 75° rhombic inserts



Size	Dimension (mm)		
	d	t	r
13	12.7	7.94	0.8-1.6

Insert	Designation	Ceramic										
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20		
	ENGN 130708	•	•	•								
	130712		•									
	130716		•	•								
	130716 U2			•								

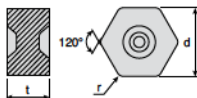


A107


• : Standard items

HNGX

Negative 120° hexagonal inserts

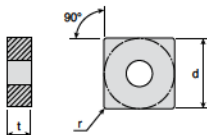


Size	Dimension (mm)		
	d	t	r
05	12.7	7.94	1.2-1.6

Insert	Designation	Ceramic										
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20		
	HNGX 050712 CH							•				
	050712 T7-CH					•						
	050716 CH							•				
	050716 T7-CH					•						

• : Standard items

Negative square inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	4.76	1.2
12	12.7	4.76-7.94	0.4-1.6
15	15.88	6.35-7.94	1.2-1.6
19	19.05	7.94	0.8-1.6
25	25.4	7.94	2.4

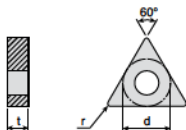
Insert	Designation	Ceramic										
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20		
	SNGA 120404	•	•	•								
	120408	•	•	•				•				
	120408 E								•			
	120412	•	•	•			•	•				
	120412 T6								•			
	120412 T7							•				
	120416		•					•	•			
	150616							•				
	190608			•								
	190612			•								
	190616			•								
		SNGN 090412			•							
120404		•	•	•								
120408		•	•	•				•				
120408 E									•			
120408 T6									•			
120412		•	•	•	•	•	•					
120412 T6									•			
120412 T7							•	•				
120416		•	•	•		•	•					
120416 T6									•			
120704			•	•								
120708		•	•	•	•		•	•				
120708 T6									•			
120712		•	•	•	•		•	•				
120712 T6				•					•			
120712 U2				•								
120716		•	•	•	•		•	•				
120720 U2				•								
120725								•				
150612			•									
150712 T6									•			
150716				•					•			
190716				•								
190716 U3				•								
250924			•									
250924 U3			•									



A75, A76, A98, A99,
A109, A110, A133,
A153, A176

• : Standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
11	6.35	3.18	0.8-1.2
16	9.52	3.18-4.76	0.4-1.6
22	12.7	4.76	0.4-1.6
27	15.88	6.35-7.94	1.2-1.6

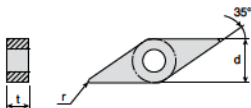
Insert	Designation	Ceramic										
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20		
	TNGA 160304			•								
	160308			•								
	160404	•	•	•								
	160408	•	•	•			•	•				
	160408 E								•			
	160412	•	•				•	•				
	160416		•									
	220404		•	•								
	220408	•		•								
	220412		•	•								
	220416		•	•								
	TNGN 110308			•								
	110312							•				
	160404		•	•								
	160408	•	•	•			•	•				
	160408 E								•			
	160408 T6							•				
	160412		•	•	•	•	•	•				
	160412 T7					•						
	160416			•								
	160704			•								
	160708			•								
	160712			•				•				
	220408		•									
	220412			•								
	220712 T6								•			
	270616			•								
		TNMG 160408 CE			•							



A65, A77, A78, A100,
A103, A104, A111, A177,
A178, A180, A185

• : Standard items

Negative 35° rhombic inserts



Size	Dimension (mm)		
	d	t	r
16	9.52	4.76-7.94	0.4-1.6
22	12.7	4.76	1.2

Insert	Designation	Ceramic										
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20		
	VNGA 160404	•	•	•			•					
	160408	•	•	•				•				
	160408 E									•		
	160412		•	•								
	220412			•								
	VNGX 160712 CH											
	160712 T7-CH							•				
	160716 CH											

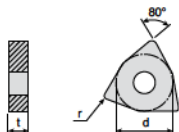


A66, A67,
A101, A134

• : Standard items

WNGA

Negative 80° trigon inserts



Size	Dimension (mm)		
	d	t	r
08	12.7	4.76	0.8-1.6

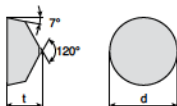
Insert	Designation	Ceramic										
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20		
	WNGA 080408	•	•	•			•	•				
	080412	•	•	•			•	•				
	080412 T7					•						
	080416		•	•			•					



A68, A102, A135,
A150, A179

• : Standard items

Positive round inserts



Size	Dimension (mm)	
	d	t
06	6.35	6.35
09	9.52	3.18-8
12	12.7	4.76-8
15	15.88	8
19	19.05	10.3
25	25.4	12.3
T11	31.9	19.05

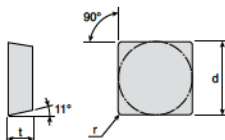
Insert	Designation	Ceramic								
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20
 	RCGX 060600 T6								•	•
	060600 U1			•						
	090700 T6								•	•
	090700 U1		•	•						
	120700			•						
	120700 T6								•	•
	120700 U2		•	•						
	151000 U2		•	•						
	191000 U2		•	•						
	251200 U3		•	•						
 	RPGN 090300 E								•	
	120400 T6								•	
 	RPGX 090700 T6								•	•
	120700 T6								•	•
 	T11- 3219		•							



A112, A113

• : Standard items

Positive square inserts



Size	Dimension (mm)		
	d	t	r
12	12.7	3.18-4.76	0.8-1.2

Insert	Designation	Ceramic								
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20
	SPGN 120308			•				•		
	120312			•						
	120412			•			•	•		

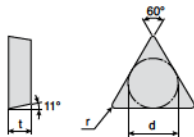


A109, A110

• : Standard items

TPGN

Positive triangular inserts



Size	Dimension (mm)		
	d	t	r
11	6.35	3.18	0.2-0.8
16	9.52	3.18	0.4-1.2
22	12.7	4.76	0.4-1.2

Insert	Designation	Ceramic								
		AB2010	AB20	AB30	AW120	AS500	SC10	AS10	TC430	AS20
	TPGN 110302		•	•						
	110304	•	•	•						
	110308	•	•	•						
	160304	•	•	•						
	160308	•	•	•				•		
	160308 T6								•	
	160312		•	•						
	220404		•							
	220408			•						
	220412		•	•						



A52, A53,
A164, A165

• : Standard items

Edge preparation for CBN inserts

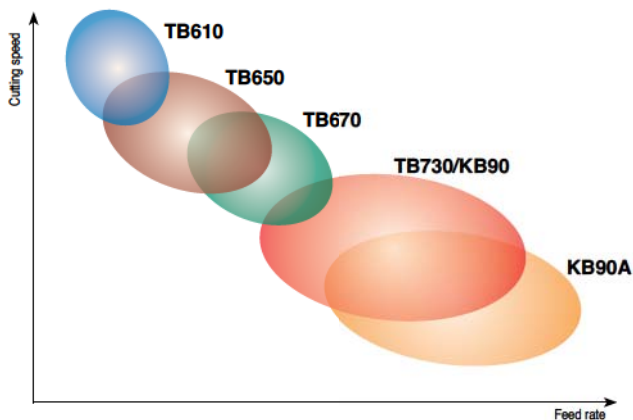
Common style (no designation)

Grade	Land specification		
	Width (mm)	Angle (°)	Honing (mm)
TB610, TB650, TB670	0.13	20	0.015
TB730, KB90	0.13	20	-
KB90A	0.2	20	0.015

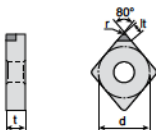
Technical information for CBN inserts

- CNMA 120408 **LN** : Regular size CBN tip
- CNMA 120408 **LS** : Small size CBN tip
- CNMA 120408 **LS2** : Small size CBN tip with two corners
- RCGX 090300 **FT** : Full top CBN
- CNMN 090308 **SD** : Solid CBN
- CNGA 120408 **WZ-LS2** : Wiper geometry

Application map of CBN grades



Negative 80° rhombic inserts



Size	Dimension (mm)		
	d	t	r
09	9.52	3.18	0.4-1.6
12	12.7	4.76	0.8-1.6

Insert	Designation	Dimension (mm)		CBN						PCD			
		lt		TB610	TB650	TB670	TB730	KB90	KB90A	KP500	TB610	KP300	KP100
	CNGA 120404 WZ-LS	2.1			•								
	120404 WZ-LS2	2.1		•	•	•							
	120404 WZ-LS4	2.1				•							
	120408 WZ-LS	2.1			•				•				
	120408 WZ-LS2	2.1		•	•	•	•						
	120408 WZ-LS4	2.1		•		•							
	120412 WZ-LS	2.5			•				•				
	120412 WZ-LS2	2.5			•	•	•	•					
	120412 WZ-LS4	2.5					•						
	CNMA 120404 LN	4.2		•	•	•			•				
	120404 LS	2.2			•				•				
	120404 LS2	2.2		•	•	•	•	•					
	120404 LS4	2.2			•	•							
	120408 LN	4.0		•	•	•	•	•					
	120408 LS	2.1			•				•				
	120408 LS2	2.1		•	•	•	•	•					
	120408 LS4	2.1		•	•	•	•						
	120412 LN	3.9		•	•	•	•						
	120412 LS	2.5			•				•				
	120412 LS2	2.5			•	•	•	•					
	120412 LS4	2.5					•	•					
	CNMN 090308 SD	-							•				
	090312 SD	-							•				
	090316 SD	-							•				
	120416 SD	-							•				
	CNMA 120404 LN-10	4.0									•	•	
	120408 LN-10	3.9									•	•	
	120412 LN-10	3.8										•	



A69, A70, A93,
A94, A143, A151,
A172, A184,

• : Standard items

Negative 55° rhombic inserts



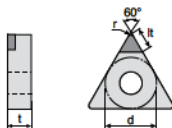
Size	Dimension (mm)		
	d	t	r
15	12.7	4.76-6.35	0.4-1.2

Insert	Designation	Dimension (mm)		CBN						PCD			
		lt		TB610	TB650	TB670	TB730	KB90	KB90A	KP500	TD810	KP300	KP100
	DNMA 150404 LN	4.2		•	•	•							
	150404 LS	2.6			•			•					
	150404 LS2	2.6		•	•	•	•						
	150404 LS4	2.6		•	•	•							
	150408 LN	3.9		•	•	•		•					
	150408 LS	2.3			•			•					
	150408 LS2	2.3		•	•	•	•						
	150408 LS4	2.3				•							
	150412 LN	3.5			•	•		•					
	150412 LS2	2.2				•	•						
	150412 LS4	2.2				•							
	150604 LN	4.2		•	•	•	•	•					
	150604 LS	2.6			•								
	150604 LS2	2.6		•	•	•	•						
	150608 LN	3.9		•	•	•	•	•					
	150608 LS2	2.3		•	•	•	•	•					
	150608 LS4	2.3				•							
	150612 LN	3.4							•				
150612 LS2	2.2				•								
	DNMA 150404 LN-10	4.0									•	•	
	150408 LN-10	3.7									•	•	
	150412 LN-10	3.47										•	
	150604 LN-10	4.0									•	•	
	150608 LN-10	3.7									•	•	

A63, A64, A71, A82, A84, A95, A96,
 A132, A144, A145, A152, A158,
 A159, A160, A173, A174, A184

• : Standard items

Negative triangular inserts



Size	Dimension (mm)		
	d	t	r
16	9.52	4.76	0.4-1.6
22	12.7	4.76	0.4-0.8

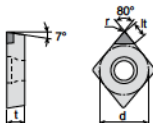
Insert	Designation	Dimension (mm)		CBN						PCD				
		lt		TB610	TB650	TB670	TB730	KB90	KB90A	KP500	TD610	KP300	KP100	
	TNMA 160404 LN	4.3		•	•		•							
	160404 LS	2.2			•			•						
	160404 LS3	2.2		•		•	•	•						
	160404 LS6	2.2			•									
	160408 LN	4			•	•		•						
	160408 LS	2.1			•			•						
	160408 LS3	2.1		•	•	•	•	•						
	160408 LS6	2.1				•								
	160412 LN	3.4							•					
	160412 LS	2.5			•									
	160412 LS3	2.5					•	•						
	160416 LN	3.1			•									
	160416 LS	2.4			•			•						
	220404 LN	4.1			•									
	220408 LS	2.6			•									
	TNMA 160404 LN-10	4.3									•	•		
	160408 LN-10	4.0										•		



A61, A65, A77, A78, A100, A103,
A104, A131, A134, A147, A148,
A154, A177, A178, A185

• : Standard items

Positive 80° rhombic inserts



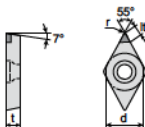
Size	Dimension (mm)		
	d	t	r
06	6.35	2.38	0.2-0.8
09	9.52	3.97	0.4-0.8
12	12.7	4.76	0.4-0.8

Insert	Designation	Dimension (mm)		CBN						PCD				
		lt		TB610	TB650	TB670	TB730	KB90	KB90A	KP500	TB810	KP300	KP100	
	CCGW 060202 LS	2.4		•				•						
	060202 LS2	2.2				•	•							
	060204 LS	2.4		•				•						
	060204 LS2	2.1		•		•	•							
	060208 LS2	2.1		•		•	•							
	09T304 LS	2.4				•			•					
	09T304 LS2	2.4		•		•	•	•						
	09T304 WZ-LS	2.8				•								
	09T304 WZ-LS2	2.4		•	•	•	•							
	09T308 LS	2.3				•			•					
	09T308 LS2	2.3		•		•	•							
	09T308 WZ-LS	2.3				•			•					
	09T308 WZ-LS2	2.3				•	•	•						
	120404 LS	2.6							•					
	120404 LS2	2.1						•						
120408 LS	2.5							•						
120408 LS2	2.1						•							
	CCGT 060204 CB	3.1											•	
	09T302 CB	4.15											•	
	09T304 CB	4.1											•	
	09T308 CB	4.0											•	
	120404 CB	4.1											•	
	120408 CB	4.0											•	
	CCGW 060202 LN-7	3.1											•	•
	060204 LN-7	3.1											•	•
	060208 LN-7	3.0											•	
	09T304 LN-7	4.0											•	•
	09T308 LN-7	3.9											•	•
	120404 LN-7	4.0											•	•
	120408 LN-7	3.9											•	•








• : Standard items

Positive 55° rhombic inserts



Size	Dimension (mm)		
	d	t	r
07	6.35	2.38	0.2-0.8
11	9.52	3.97	0.2-0.8

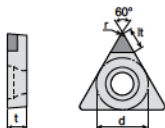
Insert	Designation	Dimension (mm)		CBN						PCD			
		lt		TB610	TB650	TB670	TB730	KB90	KB90A	KP500	TD810	KP300	KP100
	DCGW 070202 LS	2.6			•				•				
	070202 LS2	2.6		•		•	•						
	070204 LS	2.4			•				•				
	070204 LS2	2.4		•		•	•						
	070208 LS	2.1							•				
	070208 LS2	2.6						•					
	11T304 LS	2.6			•				•				
	11T304 LS2	3.4		•		•	•						
	11T308 LS	2.2			•				•				
	11T308 LS2	2.2		•		•	•						
  PCD chip breaker	DCGT 070202 CB	3.4										•	
	070204 CB	3.3										•	
	11T302 CB	4.9										•	
	11T304 CB	4.7										•	
	11T308 CB	4.4										•	
 	DCGW 070202 LN-7	3.4										•	•
	070204 LN-7	3.3										•	•
	11T302 LN-7	3.9										•	•
	11T304 LN-7	3.7										•	•
	11T308 LN-7	3.3										•	•



A48, A61, A83,
A136, A159, A160,
A161, A186, A187

• : Standard items

Positive triangular inserts



Size	Dimension (mm)		
	d	t	r
08	4.76	2.38	0.4
09	5.56	2.38	0.4-0.8
11	6.35	2.38-3.18	0.4-0.8
16	9.52	2.38-3.97	0.4-0.8
22	12.7	4.76	0.8

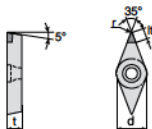
Insert	Designation	Dimension (mm)		CBN						PCD			
		lt		TB610	TB650	TB670	TB730	KB90	KB90A	KP500	TD810	KP300	KP100
	TCGW 090204 LS3	2.3		•		•	•						
	090208 LS3	2.1				•							
	110204 LS	2.3			•			•					
	110204 LS3	2.3		•		•	•						
	110208 LS	2.1			•			•					
	110208 LS3	2.1			•	•	•						
	16T304 LS	2.8			•			•					
	16T304 LS3	2.8		•		•	•						
	16T308 LS	2.5			•			•					
	16T308 LS3	2.5		•		•	•	•					
	TPGN 090204 LS3	2.3		•									
	110302 LS3	2.8					•						
	110304 LS	2.6			•			•					
	110304 LS3	2.6		•		•	•						
	110308 LS	2.3			•			•					
	110308 LS3	2.3		•		•	•						
	160304 LS	2.8			•			•					
	160304 LS3	2.8		•		•	•						
	160308 LS	2.5			•			•					
	160308 LS3	2.5		•		•	•						
	220408 LS	2.6			•			•					
	TPGW 080204 LS3	2.1					•						
	090204 LS3	2.3					•	•					
	090208 LS3	2					•						
	110302 LS3	2.8		•			•						
	110304 LS	2.6			•		•						
	110304 LS3	2.6		•			•						
	110308 LS3	2.3		•		•	•						
	160404 LS3	2.8					•						
	160408 LS3	2.5					•						



A52, A53, A67,
A88, A137,
A142, A163

• : Standard items

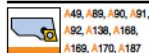
Positive 35° rhombic inserts



Size	Dimension (mm)		
	d	t	r
11	6.35	3.18	0.2-0.8
16	9.52	4.76	0.2-1.2
22	12.7	5.56	3

Insert	Designation	Dimension (mm)		CBN						PCD			
		lt		TB610	TB650	TB670	TB730	KB90	KB90A	KP500	TB810	KP300	KP100
	VBGW 110304 LS2	3.2				•							
	110308 LS2	2.4				•							
	160402 LS2	3.6				•							
	160404 LS	3.2				•			•				
	160404 LS2	3.2			•		•	•					
	160408 LS	2.3				•			•				
	160408 LS2	2.3			•		•	•					
	VBGW 160402 LN-7	5.2									•	•	
	160404 LN-7	5.0									•	•	
	160408 LN-7	4.2									•	•	
	VCGT 110302 CB	4.7											•
	110304 CB	5.0											•
	160404 CB	7.3											•
	160408 CB	6.4											•
	160412 CB	6.2											•
	220530 CB	6.4											•
	VCGW 110304 LN-7	5.0										•	
	110308 LN-7	4.1										•	
	160404 LN-7	5.0										•	•
	160408 LN-7	4.1										•	•

• : Standard items



Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		≥0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		≥0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed		600	200	6
				930	275	7
		Quenched and tempered		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 Technical Guide "material conversion table".

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

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		≥0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		≥0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed		600	200	6
				930	275	7
		Quenched and tempered		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 Technical Guide "material conversion table".

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

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		≥0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		≥0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed		600	200	6
				930	275	7
		Quenched and tempered		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 Technical Guide "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)						
Cermet		Uncoated	Ceramic			
PV3010	CT3000	K10	AW120	AB2010	AB20	AB30
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					
230-330	220-320	110-180	600-1200			600-1200
215-290	205-280	95-140	500-900			500-900
170-265	160-255	95-135				450-610
180-240	170-230	90-125				350-510
145-220	135-200	110-140	600-800			600-800
105-150	95-140	90-125	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				
		40-65				
		32-55				
		21-40				
		16-26				
		50-75				
		45-70				
				95-145	90-140	50-100
						60-120
						50-100

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		≥0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		≥0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed		600	200	6
				930	275	7
		Quenched and tempered		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 Technical Guide "material conversion table".

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

Recommended Cutting Conditions

T-TURN

Machining data for turning grades

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	
P	Non-alloy steel, cast steel, free cutting steel	<0.25%C	Annealed	420	125	1
		≥0.25%C	Annealed	650	190	2
		<0.55%C	Quenched and tempered	850	250	3
		≥0.55%C	Annealed	750	220	4
			Quenched and tempered	1000	300	5
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed		600	200	6
				930	275	7
		Quenched and tempered		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
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