



MILLING

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MILLING

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Milling Cutter

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

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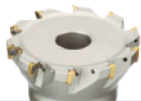
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➤ Cutter Page



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Tool Selection Guide

Face mill

		MILL-RUCH	MILL 3 RUCH		QMSMILL	QMS2 MILL
Series		3P TF90	6N TF90	SCRM90TN	TFM90AX 2S-TFM90AP TFM90AP	TFM90AN
						
Pages		E34-E36	E37-E38	E39-E40	E41-E43	E44-E45
Approach angle		90°	90°	90°	90°	90°
Max. depth of cut(mm)		4.7-15	6.2-9.2	13	5.75-16.1	11-15
Diameter range(mm)		Ø32-Ø250	Ø40-Ø250	Ø50-Ø200	Ø32-Ø200	Ø40-Ø200
Insert		3PK(H)T 0603 3PK(H)T 1004 3PK(H)T 1505 3PK(H)T 1906	6NGU 0604 6NGU 0905	TNMX 1806 TNM(G)X 2207	AXM(C)T 0602 APK(C)T 09T3 APK(C)T 1204 APKT 1705	ANM(H)X 1106 ANM(H)X 1607
Application	Facing		●	●	●	●
	Shouldering		●	●	●	●
	Slotting		●	●	●	●
	Ramping		●			○
	Helical ramping		●			○
	Side slotting					
	Profiling					
	Plunging		○	○		○
	Step down milling		○	○		○
	Counter boring		○	○		○
	Drill mill					

Tool Selection Guide

















Face mill

QMSALU		QMS2 GUAD		LIONMILL	
TFM90XE	TFM90SNS	TFM90SNS-QC	TQ90SNS	LM90TP	LM90SE
					
E46	E47	E48	E49	E50	E51
90°	90°	90°	90°	90°	90°
16	1	1	1	16	17
Ø40-Ø125	Ø50-Ø250	Ø250-Ø400	Ø250-Ø400	Ø80-Ø315	Ø125-Ø315
XECT 1605	SNEX 1204 SNET 1205	SNEX 1204 SNET 1205	SNEX 1204 SNET 1205	TPKN 2204	SEKX 2107
●	●	●	●	●	●
●	○	○	○	●	●
●				●	○
●					
●					
●				○	
○					

● Recommended, ○ Suitable

Tool Selection Guide

Face mill

Series		QMS2 QUAD		LIONMILL		QMSMILL	
		TFM90SN TFM88SN	TFM76SN	LM76SP	LM60SC	TFM76AP	
							
Pages		E52-E53	E54	E55	E57-E60	E56	
Approach angle		90°, 88°	75°	75°	60°	75°	
Max. depth of cut(mm)		12	9.5	9.5-12.5	13-18	3.9	
Diameter range(mm)		Ø50-Ø200	Ø50-Ø250	Ø80-Ø315	Ø125-Ø500	Ø80-Ø125	
Insert		SNGX 1306... SNGX 1306 ZN	SNM(G)X 1306 EN... SNMX 1306 XTN	SPKN 1203 SPKN 1504	SCKN 2107 SCKN 2708	APKT 1705	
Application	Facing		●	●	●	●	●
	Shouldering		●	●	●	●	
	Slotting		○	○	○	○	○
	Ramping						
	Helical ramping						
	Side slotting						
	Profiling						
	Plunging						
	Step down milling						
	Counter boring						
	Drill mill						

Tool Selection Guide







Face mill

MIRAGE 2 MILL	MIRAGE 2 HEPTA				MIRAGE 2 QUAD
<u>TFM55AHNS</u>	<u>14D-F45XN-06</u>	<u>14D-F45XN-09</u>	<u>14D-F45XNW</u>	<u>14D-F45XNW-QC</u>	<u>TFM45SN</u>
					
E61	E62	E63	E64	E65	E66-E67
55°	45°	45°	45°	45°	45°
5	3.5	5	5	5	7
Ø50-Ø160	Ø50-Ø160	Ø63-Ø250	Ø80-Ø315	Ø250-Ø400	Ø50-Ø250
HNC(M)X 0504 HNCX 0506	XNM(H)U 0605	XNM(H)U 0906	XNHU 0906	XNHU 0906	SNM(G)X 1306 AN... SNMX 1306 XTN
●	●	●	●	●	●
●	●	●	●	●	●
○	○	○	○	○	○
			○	○	○

● Recommended, ○ Suitable

Tool Selection Guide

Face mill

Series		QMS2 QUAD				QMS2 MILL
		TFM45SN-QC	TFM45SNS	TFM45SNW	TQ45SNW	TFM45AN
Pages		E68	E69-E70	E71	E72	E73
Approach angle		45°	45°	45°	45°	45°
Max. depth of cut(mm)		7	8.8	8.8	8.8	8.4
Diameter range(mm)		Ø250-Ø400	Ø63-Ø316	Ø80-Ø250	Ø200-Ø400	Ø50-Ø160
Insert		SNM(G)X 1306 AN... SNMX 1306 XTN	SNMX 1607 SNHX 1606	SNHX 1606	SNHX 1606	ANHX 1607
Application	Facing		●	●	●	●
	Shouldering		●	●	●	●
	Slotting		○	○	○	○
	Ramping		○			
	Helical ramping					
	Side slotting					
	Profiling					
	Plunging					
	Step down milling					
	Counter boring					
	Drill mill					

Tool Selection Guide












Face mill

NICK2 MILL			CHISEL TO		LIONMILL
TFM46HNS	TFM46HN	TQ46HN	TFM430FS	TFM43Z0FW	LM46SD
					
E74-E75	E76	E77	E78	E79	E80
45°	45°	45°	43°	43°	45°
6.1	6.1	6.1	3.5	5	6.5-8.7
Ø63-Ø250	Ø80-Ø315	Ø250-Ø400	Ø32-Ø125	Ø63-Ø200	Ø80-Ø250
HNHX1006	HNHX1006	HNHX1006	OFCW 05T3 OFCT 05T3 OFMT 05T3 RFMT 1404	OFCN 0704 OFCR 0704 OFMR 0704 RFMR 1904	SDKN 1203 SDKN 1504
●	●	●	●	●	●
●	●	●			●
○	○	○	○	○	○

● Recommended, ○ Suitable







Tool Selection Guide

Face mill

Series		LIONMILL	HEX2MILL	QMS2HOLD	QMSHOLD		
		LM46SE	TFM15HNS	TFMRNS	TFMRX	TFMRY	
Pages		E81	E82	E83-E84	E85-E86	E87-E90	
Approach angle		45°	15°	-	-	-	
Max. depth of cut(mm)		6.5-8.7	2	5-8	5-10	5-10	
Diameter range(mm)		Ø80-Ø250	Ø80-Ø126	Ø32-Ø200	Ø50-Ø160	Ø32-Ø250	
Insert		SEKN 1203 SEKN 1504	HNHX1006-M	RNMU 1004 RNMU 1205 RNMU 1606	RXM(H)X 1003 RXM(H)X 12T3 RXMX 1604 RXMX 2006	RYM(H)X 0803 RYM(H)X 1004 RYM(H)X 1205 RYM(H)X 1606 RYMX 2007	
Application	Facing		●	●	●	●	●
	Shouldering		●		●	●	●
	Slotting		○		●	●	●
	Ramping				●	●	●
	Helical ramping				●	●	●
	Side slotting						
	Profiling				●	●	●
	Plunging				○	○	○
	Step down milling				○		
	Counter boring						
	Drill mill						

Tool Selection Guide















Face mill

QMS2 PLUNGE	QMS2 SPEED	QMS2 FEED			
TPM-PL09	TFMRN-12CH	TFMBL-06	TFMBL-09	TFMBL-12	TFMXD
					
E91	E92	E93	E94	E95	E96
-	-	-	-	-	-
9	6.0	1	1.5	2	1.0-2.0
Ø40-Ø100	Ø50-Ø80	Ø32-Ø66	Ø32-Ø100	Ø50-Ø125	Ø50-Ø125
PLNG 0904	RNGX 1207 CH	BLMP 0603	BLMP 0904	BLMP 1205	XDMX 08T3 XDMX 1305
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
○	●	●	●	●	●
○	●	●	●	●	●
	●	○	○	○	○
●	○	○	○	○	○
○		○	○	○	○
●		○	○	○	○

● Recommended, ○ Suitable


Tool Selection Guide

End mill & modular

		MILL-RUGH		QMSMILL		
		3P TE90	6N TE90	TE90AX-06	2S-TE90AP-09	TE90AP-12
Series						
Pages		E97-E100	E101-E102	E103-E104	E105-E106	E107-E108
Approach angle		90°	90°	90°	90°	90°
Max. depth of cut(mm)		4.7-16	6.2-9.2	5.75	8.8	12
Diameter range(mm)		Ø12-Ø50	Ø25-Ø40	Ø8-Ø40	Ø10-Ø40	Ø16-Ø42
Insert		3PK(H)T 0603 3PK(H)T 1004 3PK(H)T 1505 3PK(H)T 1906	6NGU 0604 6NGU 0905	AXMT 0602 AXCT 0602	APKT 09T3 APCT 09T3	APKT 1204 APCT 1204
Application	Facing		●	●	●	●
	Shouldering		●	●	●	●
	Slotting		●	●	●	●
	Ramping		●	●	●	●
	Helical ramping		●	●	●	●
	Chamfering					
	Profiling					
	Plunging		○	○	○	○
	Step down milling		○	○	○	○
	Counter boring		○	○	○	○
	Drill mill					

Tool Selection Guide

End mill & modular

QMSMILL	QMS2 MILL	QMSBALU	QMSGUARD		
TE90AP-17 	TE90AN-11/16 	TE90XE 	TSF 	TDM 	TCF 
E109-E110	E111-E112	E113-E114	E115	E116	E117
90°	90°	90°	90°	90°	45°-75°
16.1	11-15	16	5.6-13.4	12-40	-
Ø20-Ø40	Ø25-Ø50	Ø25-Ø40	Ø12-Ø50	Ø12-Ø50	Ø7-Ø25
APKT 1705	ANMX 1106/1607 ANHX 1106/1607	XECT 1605	XOMT 0602 SPMG(T) 0904 SPMG(T) 1104 SPMG(T) 1405	XOMT 0602 SPMG(T) 0904 SPMG(T) 1104 SPMG(T) 1405	SPMG(T) 1104
●	●	●	●	●	●
●	●	●	●	●	
●	●	●	●	●	
●	○	●	○	●	
●	○	●	○	●	
					●
○	○		○	●	
○	○	●	○	●	
○	○	○	○	●	
				●	

● Recommended, ○ Suitable

Tool Selection Guide

End mill & modular

Series		CHISEL ² HOLD	CHISEL ² HOLD		CHISEL ² PLUNGE	FINEBALL
		TERNS	TERD/TERX	TERY	TPM-PL09	TNF
						
Pages		E118-E119	E120-E121	E122-E124	E125	E126-E128
Approach angle		-	-	-	-	-
Max. depth of cut(mm)		5-8	2.5-10	4-10	9	-
Diameter range(mm)		Ø25-Ø50	Ø8-Ø50	Ø16-Ø50	Ø25-Ø42	Ø8-Ø32
Insert		RNMU 1004 RNMU 1205 RNMU 1606	RXM(H)X 1003 RXM(H)X 12T3 RXMX 1604 RXMX 2006	RYM(H)X 0803 RYM(H)X 1004 RYM(H)X 1205 RYM(H)X 1606 RYMX 2007	PLNG 0904	NFB NFR
Application	Facing		●	●	●	●
	Shouldering		●	●	●	●
	Slotting		●	●	●	●
	Ramping		●	●	●	●
	Helical ramping		●	●	●	●
	Side slotting					
	Profiling		●	●	●	●
	Plunging		○	○	○	●
	Step down milling		○			○
	Counter boring					●
	Drill mill					●

Tool Selection Guide

End mill & modular

FINEBALL	QMSPEED	DOETBALL	TROOBALL		QMS2BALL
TNFR	TERP-12CH	2F	3F-W	3F-CN	TDB50X
					
E129-E131	E132	E133-E134	E135	E135	E136-E137
-	-	-	-	-	-
-	6.0	11.8-21.4	16-25	25	59-69
Ø8-Ø25	Ø32-Ø40	Ø16-Ø32	Ø32-Ø50	Ø50	Ø50
NFR	RPGX 1204 CH	2FB APKT 09T3	3FB CNHX 1311 CNHX 1606	3FB500C-M 3FB500P-M CNHX 1606	6RBE 50-M
●	●	●	●	●	●
●	●				
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	○	○	○	○	○
●		○	○	○	○
●					
●					

● Recommended, ○ Suitable

Tool Selection Guide

End mill & modular

Series		QMS2 FEED					
		TEBL-06	TEBL-09	TEBL-12	TEXD-08	TEXD-13	
Pages		E138-E140	E141-E142	E143	E144	E145	
Approach angle		-	-	-	-	-	
Max. depth of cut(mm)		1.0	1.5	2.0	1.0	2.0	
Diameter range(mm)		Ø16-Ø42	Ø25-Ø42	Ø32-Ø42	Ø20-Ø42	Ø32-Ø42	
Insert		BLMP 0603	BLMP 0904	BLMP 1205	XDMX 08T3	XDMX 1305	
Application	Facing		●	●	●	●	●
	Shouldering		●	●	●	●	●
	Slotting		●	●	●	●	●
	Ramping		●	●	●	●	●
	Helical ramping		●	●	●	●	●
	Side slotting						
	Profiling		○	○	○	○	○
	Plunging		○	○	○	○	○
	Step down milling		○	○	○	○	○
	Counter boring		○	○	○	○	○
	Drill mill						

Tool Selection Guide

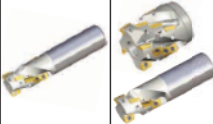











Extended flute cutter

		CHISEL ² MILL		CHISELMILL			
		TES-AN11 TEF-AN11	TES-AN16 TEF-AN16	TEF-AX06	2S-TEF-AP09	TES-AP12 TEF-AP12	
Series							
Pages		E146	E147	E148	E149	E150	
Approach angle		90°	90°	90°	90°	90°	
Max. depth of cut(mm)		40-60	42-69	16-26	26-42	34-56	
Diameter range(mm)		Ø32-Ø80	Ø40-Ø100	Ø16-Ø25	Ø20-Ø32	Ø25-Ø63	
Insert		ANMX 1106 ANHX 1106	ANMX 1607 ANHX 1607	AXMT 0602 AXCT 0602	APKT 09T3 APCT 09T3	APKT 1204	
Application	Facing		○	○	○	○	○
	Shouldering		●	●	●	●	●
	Slotting		●	●	●	●	●
	Ramping						
	Helical ramping		○	○	○	○	○
	Side slotting						
	Profiling						
	Plunging						
	Step down milling						
	Counter boring						
	Drill mill						

● Recommended, ○ Suitable

Tool Selection Guide

Extended flute cutter

		QMSMILL	QMSGUARD			
Series		TES-AP17 TEF-AP17	TES TEF			
Pages		E151	E152			
Approach angle		90°	90°			
Max. depth of cut(mm)		30-88	25-60			
Diameter range(mm)		Ø32-Ø100	Ø32-Ø100			
Insert		APKT 1705	SPMG(T) 1104 SPMG(T) 1405			
Application	Facing		○	○		
	Shouldering		●	●		
	Slotting		●	●		
	Ramping					
	Helical ramping		○			
	Side slotting					
	Profiling					
	Plunging			○		
	Step down milling					
	Counter boring			○		
	Drill mill					

Tool Selection Guide


Slotting cutter

Series		TOPSLOT					
		TSM-TS16	TSM-SL	TSM-FD-Z	TSM-FD-ZN08	TSM-FD-S/W-ZN08	
Pages		E153-E154	E155-E156	E157-E158	E159	E160	
Approach angle		-	-	-	-	-	
Max. depth of cut(mm)		1.2-6	3-6	3-10	10-12	10-14	
Diameter range(mm)		Ø32-Ø80	Ø25-Ø63	Ø63-Ø250	Ø80-Ø125	Ø100-Ø250	
Insert		TS16	SLOT	ZNHT...	ZNHU 080	ZNHU 080	
Application	Facing		○	○	○	○	○
	Shouldering		○	○	○	○	○
	Slotting		●	●	●	●	●
	Ramping						
	Helical ramping						
	Side slotting		●	●	●	●	●
	Profiling						
	Plunging						
	Step down milling						
	Counter boring						
	Drill mill						

● Recommended, ○ Suitable




Tool Selection Guide

Slotting cutter

Series		TOPSLOT					
		TSM-FD-ZN11	TSM-FD-S/W-ZN11	TSM-FD-S/W-ZN14	TSM-FF-Z	TSM-FF-ZN08	
Pages		E161	E162	E163	E164	E165	
Approach angle		-	-	-	-	-	
Max. depth of cut(mm)		14-20	14-20	20-26	3-10	10-12	
Diameter range(mm)		Ø125	Ø100-Ø315	Ø125-Ø315	Ø80-Ø160	Ø63-Ø125	
Insert		ZNHU 110	ZNHU 110	ZNHU 140	ZNHT...	ZNHU 080	
Application	Facing		○	○	○	○	○
	Shouldering		○	○	○	○	○
	Slotting		●	●	●	●	●
	Ramping						
	Helical ramping						
	Side slotting		●	●	●	●	●
	Profiling						
	Plunging						
	Step down milling						
	Counter boring						
	Drill mill						

Tool Selection Guide











Slotting cutter

TOPSLOT				TSO Slotting Cutter	
TSM-FF-S/W-ZN08	TSM-FF-ZN11	TSM-FF-S/W-ZN11	TSM-FF-S/W-ZN14	TSC	
					
E166	E167	E168	E169	E170	
-	-	-	-	-	
10-14	14-20	14-20	20-26	1.6-4.52	
Ø100-Ø200	Ø63-Ø125	Ø100-Ø315	Ø125-Ø315	Ø75-Ø160	
ZNHU 080	ZNHU 110	ZNHU 110	ZNHU 140	TIMC TIMJ TIPV	
○	○	○	○		
○	○	○	○		
●	●	●	●	●	
●	●	●	●	●	

● Recommended, ○ Suitable

Tool Selection Guide

Milling insert

Series	MILL-RUCH					MILL 3 RUCH					QMSMILL					QMSMILL 2									
	3PK(H)T 0603 3PK(H)T 1004 3PK(H)T 1505 3PK(H)T 1906					6NGU 0604 6NGU 0905					TNMX 1806 TNM(G)X 2207					AXM(C)T 0602 APK(C)T 09T3 APK(C)T 1204 APKT 1706					ANM(H)X 1106 ANM(H)X 1607				
Material	P M K N S H					P M K N S H					P M K S H					P M K N S H					P M K N S H				
Pages	E175					E176					E208					E179-E182					E178				
Approach angle	90°					90°					90°					90°					90°				
Max. depth of cut(mm)	4.7-15					6.2-9.2					13-15					5.75-16.1					11-15				
Application	Facing		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
	Shouldering		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
	Slotting		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
	Ramping		●													●					○				
	Helical ramping		●													●					○				
	Side slotting																								
	Profiling																								
	Plunging		○																		○	○			
	Step down milling		○																		○	○			
	Counter boring		○																		○	○			
Drill mill																									

Tool Selection Guide

















Milling insert

QUESTALU	QUEST2 GUARD	LIONMILL		QUEST2 GUARD	
XECT 1606	SNEX 1204 SNET 1206	TPKN 2204	SEKX 2107	SNGX 1306... SNGX 1306 ZN	SNM(G)X 1306 EN... SNMX 1306 XTN
					
N	P K	P M K	P K	P M K	P M K
E212	E200	E209	E198	E202	E201
90°	90°	90°	90°	90°, 88°	75°
16	1	16	17	12	9.5
●	●	●	●	●	●
●	○	●	●	●	●
●		●	○	○	○
●					
●					
●		○			
○					

● Recommended, ○ Suitable







Tool Selection Guide

Milling insert

		LIONMILL	QWISEMILL	LIONMILL	NIKA² MILL	QWIDE² HEPTA
Series		SPKN 1203 SPKN 1504	APKT 1705	SCKN 2107 SCKN 2708	HNC(M)X 0504 HNCX 0506	XNM(H)U 0605
						
Material		P M K	P M K N S H	P K	P K	P M K
Pages		E205	E181	E197	E185	E213
Approach angle		75°	75°	60°	55°	45°
Max. depth of cut(mm)		9.5-12.5	3.9	13-18	5	3.5
Application	Facing	 ●	●	●	●	●
	Shouldering	 ●	●	●	●	●
	Slotting	 ○	○	○	○	○
	Ramping					
	Helical ramping					
	Side slotting					
	Profiling					
	Plunging					
	Step down milling					
	Counter boring					
Drill mill						

Tool Selection Guide












Milling insert

QMS2 HEPTA	QMS2 GUARD		QMS2 MILL	INTRA2 MILL	QMS2 DOCTO
XNM(H)U 0906	SNM(G)X 1306 AN... SNMX 1306 XTN	SNMX 1607 SNHX 1606	ANHX 1607 ANR-M	HNHX 1006	OFCW 05T3 OFCT 05T3 OFMT 05T3 RFMT 1404
					
P M K	P M K N	P M K N	P M K N S	P M K	P M K N
E214	E201	E203	E177	E186	E191
45°	45°	45°	45°	45°	43°
5	7	8.8	8.4	6.1	3.5
●	●	●	●	●	●
●	●	●		●	
○	○	○	○	○	○
	○				

● Recommended, ○ Suitable







Tool Selection Guide

Milling insert

Series	OMISECTO		LIONMILL		MAX2 MILL	OMISE2 HOLD
	OFCN 0704 OFCR 0704 OFMR 0704 RFMR 1904		SDKN 1203 SDKN 1504	SEKN 1203 SEKN 1504	HNHX1006	RNMU 1004 RNMU 1205 RNMU 1606
Material	P M K N		P	P	P K	P M K S H
Pages	E190		E197	E198	E186	E193
Approach angle	43°		45°	45°	15°	-
Max. depth of cut(mm)	5		6.5-8.7	6.5-8.7	2	5-8
Application	Facing		●	●	●	●
	Shouldering			●	●	●
	Slotting		○	○	○	●
	Ramping					●
	Helical ramping					●
	Side slotting					
	Profiling					●
	Plunging					○
	Step down milling					○
	Counter boring					
Drill mill						

Tool Selection Guide








Milling insert

CHISEMOLD		QMG2 PLUNGE	QMG2 FEED	QMG2 FEED	
RXM(H)X 1003 RXM(H)X 12T3 RXMX 1604 RXMX 2006	RYM(H)X 0803 RYM(H)X 1004 RYM(H)X 1205 RYM(H)X 1606 RYMX 2007	PLNG 0904	RPGX 1204 CH RNGX 1207 CH	BLMP 0603 BLMP 0904	BLMP 1205
					
P M K S	P M K S H	P M K S H	P M K S	P M K S H	P M K S H
E194	E195	E192	E193	E183	E184
-	-	-	-	-	-
5-10	5-10	9	6.0	1-1.5	2
●	●	●	●	●	●
●	●	●	●	●	●
●	●	●	●	●	●
●	●	○	●	●	●
●	●	○	●	●	●
●	●		●	○	○
○	○	●	○	○	○
		○		○	○
		●		○	○

● Recommended, ○ Suitable

















Tool Selection Guide

Milling insert

Series		CHISEL FEED		CHISEL QUAD		FINEBALL				DGETBALL									
		XDMX 08T3 XDMX 1305		SPMG(T) 0904 SPMG(T) 1104 SPMG(T) 1405 XOMT 0602		NFB		NFR		2FB									
Material		P	M	K	S	P	M	K		P	M	K	S	H	P	M	K	S	H
Pages		E211		E204		E187		E188-E189		E174									
Approach angle		-		15°-45°, 90°		-		-		-									
Max. depth of cut(mm)		1.0-2.0		18-60		-		-		11.8-21.4									
Application	Facing		●	●	●	●	●	●	●	●	●	●	●						
	Shouldering		●	●	●	●	●	●	●	●	●	●	●						
	Slotting		●	●	●	●	●	●	●	●	●	●	●						
	Ramping		●	●	●	●	●	●	●	●	●	●	●						
	Helical ramping		●	●	●	●	●	●	●	●	●	●	●						
	Chamfering				●														
	Profiling		○			●	●	●	●	●	●	●	●	●					
	Plunging		○		●	●	●	●	●	●	●	●	●	○					
	Step down milling		○		●	●	●	●	●	●	●	●	●	○					
	Counter boring		○		●	●	●	●	●	●	●	●	●						
Drill mill				●	●	●	●	●	●	●	●	●							

Tool Selection Guide














Milling insert

		TRIOBALL	CHISEL BALL	TOPSLOT		
		3FB	GRBE 50-M	TS16	SLOT	ZNHT
Series						
Material		P M K S H	P M K S H	P	P M K	P M K N
Pages		E174	E177	E210	E199	E215
Approach angle		-	-	-	-	-
Max. depth of cut(mm)		16-25	59-69	1.2-6	3-6	3-10
Application	Facing		●	●	○	○
	Shouldering				○	○
	Slotting		●	●	●	●
	Ramping		●	●		
	Helical ramping		●	●		
	Side slotting					
	Profiling		●	●		
	Plunging		○	○		
	Step down milling		○	○		
	Counter boring					
	Drill mill					

● Recommended, ○ Suitable

Tool Selection Guide

Milling insert

Series		TOPSLOT	TSC slotting cutter			
		ZNHU	TIMC TIMJ TIPV			
						
Material		P M K	P M K N			
Pages		E216	E206-E207			
Approach angle		-	-			
Max. depth of cut(mm)		10-26	1.6-4.52			
Application	Facing		○			
	Shouldering		○			
	Slotting		●	●		
	Ramping					
	Helical ramping					
	Side slotting		●	●		
	Profiling					
	Plunging					
	Step down milling					
	Counter boring					
Drill mill						

● Recommended, ○ Suitable

Grades

Carbide grades

Grades	ISO	Characteristics & applications
K10 Carbide	K05 - K15 N05 - N15 S05 - S15	<ul style="list-style-type: none"> General machining of cast iron, aluminum alloys and non-ferrous materials
P30 Carbide	P25 - P35	<ul style="list-style-type: none"> General machining of steel
TT6080 CVD coated	K05 - K25 H05 - H25	<ul style="list-style-type: none"> General machining for gray and ductile cast iron Finish and medium machining of hardened steel
TT7080 PVD coated	P05 - P25 K05 - K25	<ul style="list-style-type: none"> General milling of steel Heavy interrupted cutting of cast iron
TT8020 PVD coated	P30 - P50 M30 - M50 S30 - S50	<ul style="list-style-type: none"> Interrupted and rough machining of steel and stainless steel Low speed and interrupted machining of heat-resistant alloy
TT8080 PVD coated	P30 - P50 M30 - M50 S30 - S50	<ul style="list-style-type: none"> Interrupted and rough machining of steel and stainless steel Low speed and interrupted machining of heat-resistant alloy
TT9030 PVD coated	P20 - P40 M20 - M40 S20 - S40	<ul style="list-style-type: none"> General machining of steel, stainless steel and heat-resistant alloy
TT9080 PVD coated	P20 - P40 M20 - M40 S20 - S40	<ul style="list-style-type: none"> General machining of steel, stainless steel and heat-resistant alloy
TT2510 PVD coated	P05 - P25 H05 - H25	<ul style="list-style-type: none"> High speed milling of pre-hardened steel and hardened steel
TT5515 PVD coated	P10 - P30 M10 - M30 K10 - K30 S10 - S30 H10 - H30	<ul style="list-style-type: none"> High speed milling of steel and hardened steel General milling of stainless steel, cast iron and heat-resistant alloy
TT5525 PVD coated	P20 - P40 M20 - M40 S20 - S40	<ul style="list-style-type: none"> General machining of steel, stainless steel and heat-resistant alloy
TT6800 PVD coated	K05 - K25 H05 - H25	<ul style="list-style-type: none"> General machining for gray and ductile cast iron Finish and medium machining of hardened steel
TT7800 CVD coated	P30 - P45 M30 - M45	<ul style="list-style-type: none"> Rough milling & high speed drilling of carbon & alloy steel Medium speed milling of stainless steel

Grades

Cermet, ceramic and CBN grades

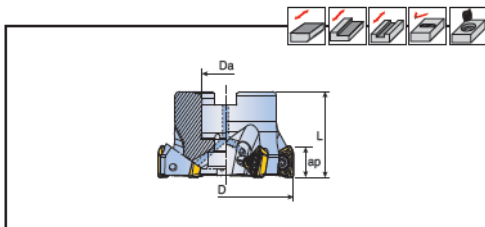
Grades	ISO	Characteristics & applications
CT7000 Uncoated cermet	K05 – K15 N05 – N15 S05 – S15	• Finish milling of steel and stainless steel
AS10 Ceramic	K20 – K30	• General milling of cast iron
AS20 Ceramic	S05 – S20	• High speed milling of superalloy
KB90 CBN	K15 – K25 S05 – S20	• High speed machining of cast iron • Machining of heat-resistant alloy

Milling Cutters



[Contents](#)

Face mill



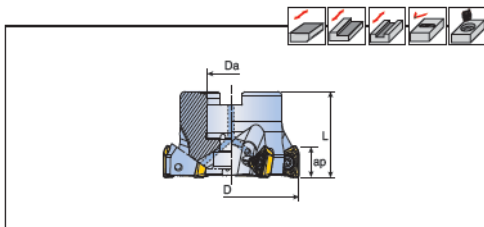
Designation		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert	
		D	Da	L	ap						
3P TF90-632-16R-06		6	32	16	32	4.7	•	A	0.1	SH M8x1.25x25	3PK(H)T 0603...
732-16R-06		7	32	16	32	4.7	•	A	0.1	SH M8x1.25x25	
735-16R-06		7	35	16	35	4.7	•	A	0.1	SH M8x1.25x30	
840-16R-06		8	40	16	40	4.7	•	A	0.2	SH M8x1.25x30	
840-22R-06		8	40	22	40	4.7	•	A	0.2	SH M10x1.5x30	
3P TF90-540-16R-10		5	40	16	40	7	•	A	0.3	SH M8x1.25x30	3PK(H)T 1004...
640-16R-10		6	40	16	40	7	•	A	0.3	SH M8x1.25x30	
650-22R-10		6	50	22	40	7	•	A	0.4	SH M10x1.5x30	
750-22R-10		7	50	22	40	7	•	A	0.4	SH M10x1.5x30	
663-22R-10		6	63	22	40	7	•	A	0.5	SH M10x1.5x30	
863-22R-10		8	63	22	40	7	•	A	0.5	SH M10x1.5x30	
963-22R-10		9	63	22	40	7	•	A	0.5	SH M10x1.5x30	
3P TF90-450-22R-15		4	50	22	40	11	•	A	0.3	SH M10x1.5x30	3PK(H)T 1505...
550-22R-15		5	50	22	40	11	•	A	0.3	SH M10x1.5x30	
463-22R-15-B		4	63	22	40	11	•	A	0.5	SH M10x1.5x30	
663-22R-15		6	63	22	40	11	•	A	0.5	SH M10x1.5x30	
480-27R-15-B		4	80	27	50	11	•	A	1.0	SH M12x1.75x35	
780-27R-15		7	80	27	50	11	•	A	1.0	SH M12x1.75x35	
880-27R-15		8	80	27	50	11	•	A	1.0	SH M12x1.75x35	
6100-32R-15-B		6	100	32	50	11	•	A	1.8	LH M16x2x35	
8100-32R-15		8	100	32	50	11	•	A	1.9	LH M16x2x35	
10100-32R-15		10	100	32	50	11	•	A	1.9	LH M16x2x35	
7125-40R-15-B		7	125	40	63	11	•	A	3.0	SH M20x2.5x40	
10125-40R-15		10	125	40	63	11	•	A	3.1	SH M20x2.5x40	
12125-40R-15		12	125	40	63	11	•	A	3.1	SH M20x2.5x40	
12160-40R-15		12	160	40	63	11	x	C	4.4	-	
15160-40R-15		15	160	40	63	11	x	C	4.4	-	
15200-60R-15		15	200	60	63	11	x	C	6.0	-	
18200-60R-15		18	200	60	63	11	x	C	5.8	-	



3P TF90-15/19

MILL-RUSH

Face mill (inch)



Designation	Co	Dimension (mm)				Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	Da	L	ap					
3P TF90-780-25.4R-15	7	80	25.4	50	11	•	A	1.0	SH M12x1.75x35	3PK(H)T 1505... E175
880-25.4R-15	8	80	25.4	50	11	•	A	1.0	SH M12x1.75x35	
8100-31.75R-15	8	100	31.75	50	11	x	B	1.9	-	
10100-31.75R-15	10	100	31.75	50	11	x	B	1.9	-	
10125-38.1R-15	10	125	38.1	63	11	x	B	3.1	-	
12125-38.1R-15	12	125	38.1	63	11	x	B	3.1	-	
12160-50.8R-15	12	160	50.8	63	11	x	B	4.4	-	
15160-50.8R-15	15	160	50.8	63	11	x	B	4.4	-	
15200-47.625R-15	15	200	47.625	63	11	x	C	6.0	-	
3P TF90-480-25.4R-19	4	80	25.4	50	15	•	A	0.9	SH M12x1.75x35	
780-25.4R-19	7	80	25.4	50	15	•	A	1.0	SH M12x1.75x35	
6100-31.75R-19	6	100	31.75	50	15	x	B	1.8	-	
8100-31.75R-19	8	100	31.75	50	15	x	B	2.6	-	
8125-38.1R-19	8	125	38.1	63	15	x	B	3.0	-	
10125-38.1R-19	10	125	38.1	63	15	x	B	3.1	-	
8160-50.8R-19	8	160	50.8	63	15	x	B	4.2	-	
12160-50.8R-19	12	160	50.8	63	15	x	B	4.3	-	
10200-47.625R-19	10	200	47.625	63	15	x	C	6.0	-	
14200-47.625R-19	14	200	47.625	63	15	x	C	6.0	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

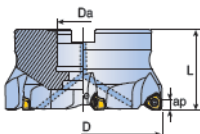
Designation	Screw	Wrench			
3P TF90-06	TS 20043I/HG-P	TD6P			
3P TF90-10	TS 25C065I/HG	TD8			
3P TF90-15	TS 40B100I	TD15			
3P TF90-19	TS 45120I	T-T20			



Face mill



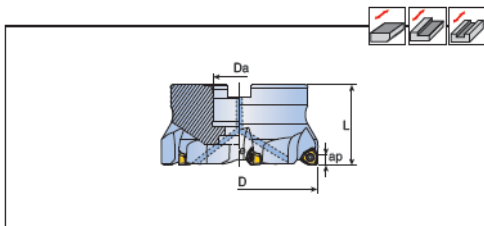
90°



Designation	⊕	Dimension (mm)				Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	Da	L	ap					
6N TF90-440-16R-06	4	40	16	40	6.2	•	A	0.3	SH M6x1.25x30	6NGU 0604... E176
450-22R-06	4	50	22	40	6.2	•	A	0.4	LH M10x1.5x25	
650-22R-06	6	50	22	40	6.2	•	A	0.4	LH M10x1.5x25	
463-22R-06	4	63	22	40	6.2	•	A	0.5	LH M10x1.5x25	
663-22R-06	6	63	22	40	6.2	•	A	0.5	LH M10x1.5x25	
763-22R-06	7	63	22	40	6.2	•	A	0.5	LH M10x1.5x25	
580-27R-06	5	80	27	50	6.2	•	A	1.0	SH M12x1.75x35	
780-27R-06	7	80	27	50	6.2	•	A	1.0	SH M12x1.75x35	
980-27R-06	9	80	27	50	6.2	•	A	1.0	SH M12x1.75x35	
6100-32R-06	6	100	32	50	6.2	•	A	1.9	SH M16x2x35	
8100-32R-06	8	100	32	50	6.2	•	A	1.9	SH M16x2x35	
11100-32R-06	11	100	32	50	6.2	•	A	1.9	SH M16x2x35	
7125-40R-06	7	125	40	63	6.2	•	A	3.2	SH M20x2.5x40	
11125-40R-06	11	125	40	63	6.2	•	A	3.2	SH M20x2.5x40	
14125-40R-06	14	125	40	63	6.2	•	A	3.2	SH M20x2.5x40	
6N TF90-450-22R-09	4	50	22	40	9.2	•	A	0.3	LH M10x1.5x25	6NGU 0905... E176
550-22R-09	5	50	22	40	9.2	•	A	0.4	LH M10x1.5x25	
463-22R-09	4	63	22	40	9.2	•	A	0.5	LH M10x1.5x25	
663-22R-09	6	63	22	40	9.2	•	A	0.5	LH M10x1.5x25	
763-22R-09	7	63	22	40	9.2	•	A	0.5	LH M10x1.5x25	
580-27R-09	5	80	27	50	9.2	•	A	1.0	SH M12x1.75x35	
780-27R-09	7	80	27	50	9.2	•	A	1.1	SH M12x1.75x35	
980-27R-09	9	80	27	50	9.2	•	A	1.1	SH M12x1.75x35	
6100-32R-09	6	100	32	50	9.2	•	A	1.9	LH M16x2x35	
8100-32R-09	8	100	32	50	9.2	•	A	1.8	LH M16x2x35	
11100-32R-09	11	100	32	50	9.2	•	A	1.9	LH M16x2x35	
7125-40R-09	7	125	40	63	9.2	•	A	3.1	SH M20x2.5x40	
11125-40R-09	11	125	40	63	9.2	•	A	3.1	SH M20x2.5x40	
14125-40R-09	14	125	40	63	9.2	•	A	3.2	SH M20x2.5x40	
12160-40R-09	12	160	40	63	9.2	x	C	4.3	-	
16160-40R-09	16	160	40	63	9.2	x	C	4.3	-	
14200-60R-09	14	200	60	63	9.2	x	C	5.9	-	
18200-60R-09	18	200	60	63	9.2	x	C	5.9	-	
18250-60R-09	18	250	60	63	9.2	x	C	10.7	-	
22250-60R-09	22	250	60	63	9.2	x	C	10.8	-	



Face mill (inch)



Designation	Z	Dimension (mm)				Coolant	Arbor style	K9	Mounting bolt	Insert
		D	Da	L	ap					
6N TF90-580-25.4R-06	5	80	25.4	50	6.2	•	A	1.0	SH M12x1.75x35	6NGU 0604... E176
780-25.4R-06	7	80	25.4	50	6.2	•	A	1.0	SH M12x1.75x35	
980-25.4R-06	9	80	25.4	50	6.2	•	A	1.0	SH M12x1.75x35	
6100-31.75R-06	6	100	31.75	50	6.2	•	B	1.9	-	
8100-31.75R-06	8	100	31.75	50	6.2	•	B	1.9	-	
11100-31.75R-06	11	100	31.75	50	6.2	•	B	1.9	-	
7125-38.1R-06	7	125	38.1	63	6.2	•	B	3.2	-	
11125-38.1R-06	11	125	38.1	63	6.2	•	B	3.2	-	
14125-38.1R-06	14	125	38.1	63	6.2	•	B	3.2	-	
6N TF90-580-25.4R-09	5	80	25.4	50	9.2	•	A	1.0	SH M12x1.75x35	6NGU 0905... E176
780-25.4R-09	7	80	25.4	50	9.2	•	A	1.1	SH M12x1.75x35	
980-25.4R-09	9	80	25.4	50	9.2	•	A	1.1	SH M12x1.75x35	
6100-31.75R-09	6	100	31.75	50	9.2	x	B	1.9	-	
8100-31.75R-09	8	100	31.75	50	9.2	x	B	1.8	-	
11100-31.75R-09	11	100	31.75	50	9.2	x	B	1.9	-	
7125-38.1R-09	7	125	38.1	63	9.2	x	B	3.1	-	
11125-38.1R-09	11	125	38.1	63	9.2	x	B	3.1	-	
14125-38.1R-09	14	125	38.1	63	9.2	x	B	3.2	-	
12160-50.8R-09	12	160	50.8	63	9.2	x	B	4.3	-	
16160-50.8R-09	16	160	50.8	63	9.2	x	B	4.3	-	

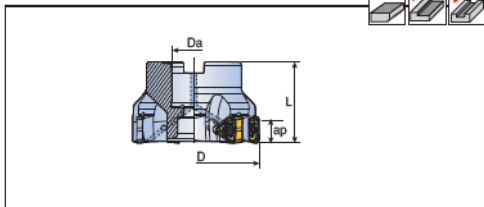
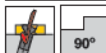
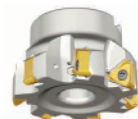
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
6N TF90-06	TS 30085/IHG	TD9	-		
6N TF90-09	TS 40B100I	-	T-T15		



Face mill



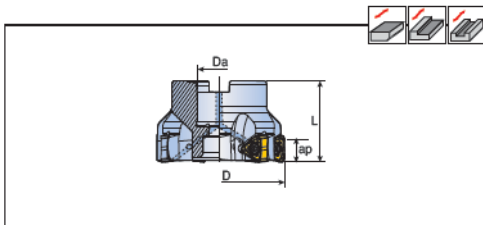
Designation		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert	
		D	Da	L	ap						
SCRM90TN 450-16R-18	4	50	16	40	13	•	A	0.3	SH M8x1.25x30	TNMX 1806... 	
563-22R-18	5	63	22	40	13	•	A	0.5	SH M10x1.5x30		
580-27R-18	5	80	27	50	13	•	A	1.1	SH M12x1.75x35		
780-27R-18	7	80	27	50	13	•	A	1.1	SH M12x1.75x35		
6100-32R-18-B	6	100	32	50	13	•	A	2.0	SH M16x2x35		
8100-32R-18	8	100	32	50	13	•	A	2.0	SH M16x2x35		
7125-40R-18-B	7	125	40	63	13	•	A	3.4	SH M20x2.5x40		
10125-40R-18	10	125	40	63	13	•	A	3.3	SH M20x2.5x40		
10160-40R-18	10	160	40	63	13	x	C	4.5	-		
14160-40R-18	14	160	40	63	13	x	C	4.5	-		
16200-60R-18	16	200	60	63	13	x	C	6.2	-		
SCRM90TN 350-16R-22	3	50	16	40	15	•	A	0.3	SH M8x1.25 x30	TNM(G)X 2207... 	
463-22R-22	4	63	22	40	15	•	A	0.4	SH M10x1.25x30		
580-27R-22	5	80	27	50	15	•	A	0.9	SH M12x1.75x35		
6100-32R-22	6	100	32	50	15	•	A	1.8	SH M16x2x35		
8125-40R-22	8	125	40	63	15	•	A	3.0	SH M20x2.5x40		
10160-40R-22	10	160	40	63	15	x	C	4.2	-		
12200-60R-22	12	200	60	63	15	x	C	6	-		
14250-60R-22	14	250	60	63	15	x	C	10.6	-		



SCRM90TN



Face mill (inch)



Designation	Z	Dimension (mm)				Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	Da	L	ap					
SCRM90TN 580-25.4R-18	5	80	25.4	50	13	•	A	1.1	SH M12x1.75x35	TNMX 1806... E208
780-25.4R-18	7	80	25.4	50	13	•	A	1.1	SH M12x1.75x35	
6100-31.75R-18-B	6	100	31.75	50	13	x	B	2.0	-	
8100-31.75R-18	8	100	31.75	50	13	x	B	2.0	-	
7125-38.1R-18-B	7	125	38.1	63	13	x	B	3.4	-	
10125-38.1R-18	10	125	38.1	63	13	x	B	3.3	-	
10160-50.8R-18	10	160	50.8	63	13	x	C	4.5	-	
14160-50.8R-18	14	160	50.8	63	13	x	C	4.5	-	
16200-47.625R-18	16	200	47.625	63	13	x	C	6.2	-	
SCRM90TN 580-25.4R-22	5	80	25.4	50	15	•	A	0.9	SH M12x1.75x35	TNM(G)X 2207... E208
6100-31.75R-22	6	100	31.75	50	15	x	B	1.8	-	
8125-38.1R-22	8	125	38.1	63	15	x	B	3.0	-	

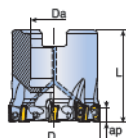
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

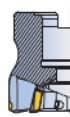
Designation	Screw	Wrench			
SCRM90TN-18	TS 40B100I	T-T15			
SCRM90TN-22	TS 45I20I	T-T20			



Face mill



TFM90AX



2S-TFM90AP



Designation		Dimension (mm)				Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	Da	L	ap					
TFM90AX	8	32	16	32	5.75	•	A	0.1	SH M8x1.25x25	AXM(C)T 0602... E182
	10	40	16	40	5.75	•	A	0.2	SH M8x1.25x25	
	10	40	22	40	5.75	•	A	0.2	SH M10x1.5x30	
2S-TFM90AP	5	40	16	40	8.8	•	A	0.3	SH M8x1.25x30	APK(C)T 09T3... E179, E182
	6	40	16	40	8.8	•	A	0.2	SH M8x1.25x30	
	5	50	22	40	8.8	•	A	0.3	SH M10x1.5x30	
	6	50	22	40	8.8	•	A	0.3	SH M10x1.5x30	
	7	50	22	40	8.8	•	A	0.3	SH M10x1.5x30	
	8	63	22	40	8.8	•	A	0.5	SH M10x1.5x30	
	10	80	27	50	8.8	•	A	1.1	SH M12x1.75x35	
	10	80	25.4	50	8.8	•	A	1.1	SH M12x1.75x35	

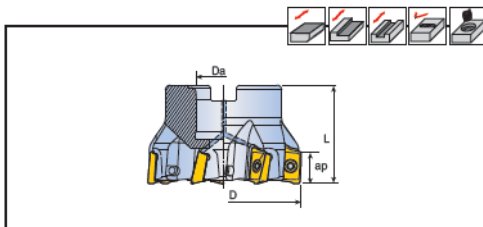
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench		
	TFM90AX	 TS 18041/HG	 TD6P	
2S-TFM90AP	 TS 25055/HG(Ø10-30), TS 25055/HG(Ø32-)	 TD6		



Face mill

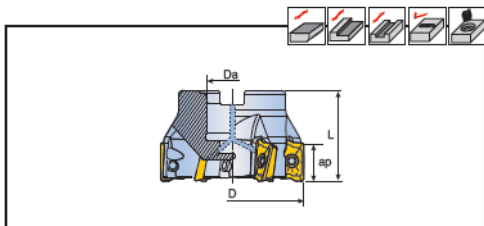


Designation	⊕	Dimension (mm)				Coolant	Arbor style	Kg	Mounting bolt	Insert	
		D	Da	L	ap						
TFM90AP	440-16R-12	4	40	16	40	12	•	A	0.2	SH M8x1.25x25	APK(C)T 1204... E180, E182
	540-16R-12	5	40	16	40	12	•	A	0.2	SH M8x1.25x25	
	550-22R-12	5	50	22	40	12	•	A	0.3	SH M10x1.5x30	
	650-22R-12	6	50	22	40	12	•	A	0.3	SH M10x1.5x30	
	563-22R-12	5	63	22	40	12	•	A	0.5	SH M10x1.5x30	
	663-22R-12	6	63	22	40	12	•	A	0.5	SH M10x1.5x30	
	763-22R-12	7	63	22	40	12	•	A	0.5	SH M10x1.5x30	
	680-27R-12	6	80	27	50	12	•	A	1.0	SH M12x1.75x30	
TFM90AP	880-27R-12	8	80	27	50	12	•	A	1.0	SH M12x1.75x30	APKT 1705... E181
	440-16R-17	4	40	16	40	16.1	•	A	0.3	SH M8x1.25x30	
	350-22R-17-B	3	50	22	40	16.1	•	A	0.4	SH M10x1.5x30	
	450-22R-17-B	4	50	22	40	16.1	•	A	0.3	SH M10x1.5x30	
	550-22R-17	5	50	22	40	16.1	•	A	0.4	SH M10x1.5x30	
	463-22R-17-B	4	63	22	40	16.1	•	A	0.5	SH M10x1.5x30	
	663-22R-17	6	63	22	40	16.1	•	A	0.5	SH M10x1.5x30	
	480-27R-17-B	4	80	27	50	16.1	•	A	0.8	SH M12x1.75x35	
	680-27R-17	6	80	27	50	16.1	•	A	0.9	SH M12x1.75x35	
	780-27R-17	7	80	27	50	16.1	•	A	0.9	SH M12x1.75x35	
	6100-32R-17-B	6	100	32	50	16.1	•	A	1.3	LH M16x2x35	
	8100-32R-17	8	100	32	50	16.1	•	A	1.5	LH M16x2x35	
	7125-40R-17-B	7	125	40	63	16.1	•	A	2.9	SH M20x2.5x40	
	8125-40R-17	8	125	40	63	16.1	•	A	3.0	SH M20x2.5x40	
	9125-40R-17	9	125	40	63	16.1	•	A	3.1	SH M20x2.5x40	
	8160-40R-17-B	8	160	40	63	16.1	x	C	4.1	-	
10160-40R-17	10	160	40	63	16.1	x	C	4.2	-		
12200-60R-17	12	200	60	63	16.1	x	C	6.1	-		



TFM90AP-12/17

Face mill (inch)



Designation	Z	Dimension (mm)				Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	Da	L	ap					
TFM90AP 880-25.4R-12	8	80	25.4	50	12	•	A	1.0	SH M12x1.75x30	APK(C)T 1204... E180, E182
TFM90AP 663-25.4R-17	6	63	25.4	40	16.1	•	A	0.5	LM M12x1.75x30	APKT 1705... E181
780-25.4R-17	7	80	25.4	50	16.1	•	A	0.9	SH M12x1.75x35	
8100-31.75R-17	8	100	31.75	50	16.1	x	B	1.5	-	
9125-38.1R-17	9	125	38.1	63	16.1	x	B	3.1	-	
10160-50.8R-17	10	160	50.8	63	16.1	x	B	4.2	-	
12200-47.625R-17	12	200	47.625	63	16.1	x	C	6.1	-	

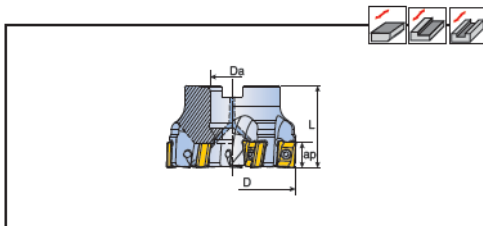
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench	
TFM90AP-12	TS 35A070I/HG(Ø16-25), TS 35A088I/HG(Ø32-)	TD10P	-
TFM90AP-17 (Ø40-Ø63)	TS 40093I/HG	-	T-T15
TFM90AP-17 (Ø80-)	TS 40120I/HG	-	T-T15



Face mill

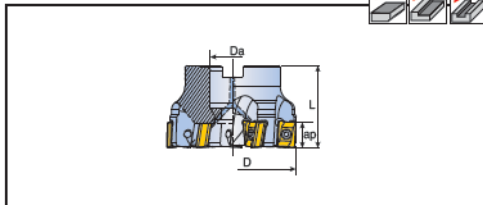


Designation		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert
		D	Da	L	ap					
TFM90AN 440-16R-11	4	40	16	40	11	•	A	0.2	SH M8x1.25x30	ANM(H)X 1106... E178
450-22R-11	4	50	22	40	11	•	A	0.3	SH M10x1.5x30	
650-22R-11	6	50	22	40	11	•	A	0.3	SH M10x1.5x30	
663-22R-11	5	63	22	40	11	•	A	0.6	SH M10x1.5x30	
763-22R-11	7	63	22	40	11	•	A	0.6	SH M10x1.5x30	
880-27R-11	8	80	27	50	11	•	A	1.1	SH M12x1.75x35	
1080-27R-11	10	80	27	50	11	•	A	1.1	SH M12x1.75x35	
9100-32R-11	9	100	32	50	11	•	A	2.0	SH M16x2x35	
12100-32R-11	12	100	32	50	11	•	A	2.0	SH M16x2x35	
10125-40R-11	10	125	40	63	11	•	A	3.3	SH M20x2.5x40	
14125-40R-11	14	125	40	63	11	•	A	3.4	SH M20x2.5x40	
TFM90AN 350-22R-16	3	50	22	40	15	•	A	0.4	SH M10x1.5x30	ANM(H)X 1607... E178
450-22R-16	4	50	22	40	15	•	A	0.4	SH M10x1.5x30	
463-22R-16	4	63	22	40	15	•	A	0.5	SH M10x1.5x30	
663-22R-16	6	63	22	40	15	•	A	0.5	SH M10x1.5x30	
580-27R-16	5	80	27	50	15	•	A	0.8	SH M12x1.75x35	
780-27R-16	7	80	27	50	15	•	A	0.9	SH M12x1.75x35	
5100-32R-16	5	100	32	50	15	•	A	1.3	SH M16x2x35	
8100-32R-16	8	100	32	50	15	•	A	1.5	SH M16x2x35	
7125-40R-16	7	125	40	63	15	•	A	3.9	SH M20x2.5x40	
10125-40R-16	10	125	40	63	15	•	C	3.7	SH M20x2.5x40	
8160-40R-16	8	160	40	63	15	x	C	5.0	-	
12160-40R-16	12	160	40	63	15	x	C	5.3	-	
14200-60R-16	14	200	60	63	15	x	C	7.0	-	



TFM90AN-11/16

Face mill (inch)



Designation	Z	Dimension (mm)				Coolant	Arbor style	kg	Mounting bolt	Insert
		D	Da	L	ap					
TFM90AN 763-25.4R-11	7	63	25.4	40	11	•	A	0.6	LH M12x1.75x30	ANM(H)X 1106...
880-25.4R-11	8	80	25.4	50	11	•	A	1.1	SH M12x1.75x35	E178
1080-25.4R-11	10	80	25.4	50	11	•	A	1.1	SH M12x1.75x35	
TFM90AN 580-25.4R-16	5	80	25.4	50	15	•	A	0.8	SH M12x1.75x35	ANM(H)X 1607...
780-25.4R-16	7	80	25.4	50	15	•	A	0.9	SH M12x1.75x35	E178
5100-31.75R-16	5	100	31.75	50	15	x	B	1.3	-	
8100-31.75R-16	8	100	31.75	50	15	x	B	1.5	-	
7125-38.1R-16	7	125	38.1	63	15	x	B	3.9	-	
10125-38.1R-16	10	125	38.1	63	15	x	B	3.7	-	
8160-50.8R-16	8	160	50.8	63	15	x	C	5.0	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFM90AN-11	TS 35A088I/HG	TD10P			
TFM90AP-16	TS 40120I	T-T15			

E220-E221

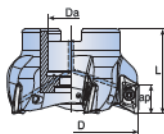
TE19-TE20

TE37-TE43

TE46

TE65

Face mill



Designation		Dimension (mm)				Coolant	Arbor style	Max RPM	kg	Mounting bolt	Insert
		D	Da	L	ap						
TFM90XE 340-16R-16	3	40	16	50	16	•	A	30,000	0.2	SH M8x1.25x35-C	XECT 1605...
450-22R-16	4	50	22	50	16	•	A	27,000	0.3	SH M10x1.5x30-C	E212
563-22R-16	5	63	22	50	16	•	A	24,000	0.5	SH M10x1.5x30-C	
580-27R-16	5	80	27	50	16	•	A	21,000	0.9	LH M12x1.75x30-C	
6100-32R-16	6	100	32	63	16	•	A	19,000	1.6	SH M16x2x35-C	
7125-40R-16	7	125	40	63	16	•	A	17,000	2.5	SH M20x2.5x40-C	

• Cutter body for 'XECT 16' insert with corner radius more than 3.2mm should be modified accordingly body "R"=insert "R"-0.3mm

Spare parts

Designation	Screw	Wrench			
TFM90XE-16	TS 40093/HG	T-T15			



E220-E221



TE18



TE37-TE46

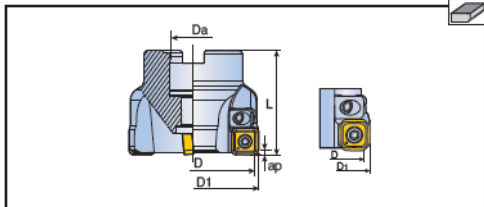
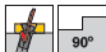


TE52-TE53



TE67

Face mill



Designation		Dimension (mm)					Arbor style		Mounting bolt	Insert
		D	D1	Da	L	ap				
TFM90SNS 350-22R-12	3	43.35	50	22	50	1	A	0.5	SH M10x1.5x40	SNEX 1204... SNET 1205... E200
463-22R-12	4	56.35	63	22	50	1	A	0.7	SH M10x1.5x40	
680-27R-12	6	73.35	80	27	50	1	A	1.0	SH M12x1.75x35	
8100-32R-12	8	93.35	100	32	63	1	A	2.0	SH M16x2x30	
12100-32R-12	12	93.35	100	32	63	1	A	2.0	SH M16x2x30	
10125-40R-12	10	118.35	125	40	63	1	B	2.9	-	
16125-40R-12	16	118.35	125	40	63	1	B	2.9	-	
12160-40R-12	12	153.35	160	40	63	1	C	4.4	-	
20160-40R-12	20	153.35	160	40	63	1	C	4.4	-	
16200-60R-12	16	193.35	200	60	63	1	C	6.0	-	
24200-60R-12	24	193.35	200	60	63	1	C	6.0	-	
30250-60R-12	30	243.35	250	60	63	1	C	10.8	-	

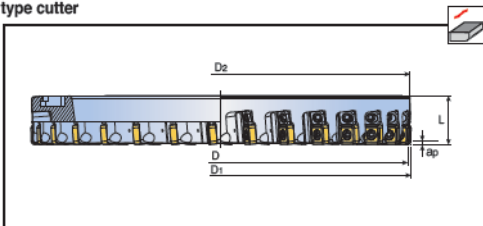
• Recommend to very stable machining condition at cast iron & steel

Spare parts

Designation	Screw	Adj. wedge	Adj. screw	Wrench	
	TFM90SNS-12	TS 35C110I	AJS 1010R	AWS 0620	T-T15



Face mill: New quick change type cutter



90°

Designation		Dimension (mm)						Adaptor	Insert
		D	D1	D2	L	ap			
TFM90SNS 20250-12-QC	20	243.35	250	248.59	32	1	3.6	TQCA D250	SNEX 1204...
30250-12-QC	30	243.35	250	248.59	32	1	3.6	TQCA D250	SNEX 1205...
24315-12-QC	24	308.35	315	313	38	1	8.1	TQCA D315	E200
36315-12-QC	36	308.35	315	313	38	1	8.1	TQCA D315	
28355-12-QC	28	348.35	355	353	38	1	9.2	TQCA D355	
42355-12-QC	42	348.35	355	353	38	1	9.2	TQCA D355	
32400-12-QC	32	393.35	400	398	38	1	10.5	TQCA D400	
48400-12-QC	48	393.35	400	398	38	1	10.6	TQCA D400	

• Recommend to very stable machining condition at cast iron & steel

Spare parts

Designation	Screw 	Adj. wedge 	Adj. screw 	Wrench 	
TFM90SNS-12-QC	TS 35C110I	AJS 1010R	AWS 0620	T-T15	



TE8-TE9



TE26-TE27



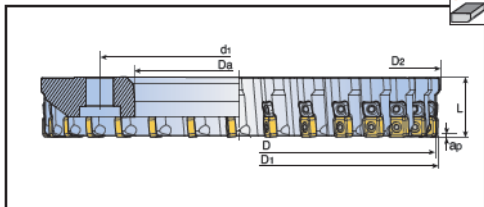
TE37-TE43



TE68

TQ90SNS-12

Face mill: Quick change type cutter



Designation		Dimension (mm)								Kg	Adapter	Insert
		D	D1	D2	Da	d1	L	ap				
TQ90SNS 20250R-12	20	243.35	250	253	133.35	177.8	38	1	7.5	QA 10 K/M	SNEX 1204...	
30250R-12	30	243.35	250	253	133.35	177.8	38	1	7.5	QA 10 K/M	SNEX 1205...	
24315R-12	24	308.35	315	317	146.05	215.9	38	1	14.0	QA 12 K/M	E200	
36315R-12	36	308.35	315	317	146.05	215.9	38	1	14.0	QA 12 K/M		
28355R-12	28	348.35	355	357	215.9	260.4	38	1	12.8	QA 14 K/M		
42355R-12	42	348.35	355	357	215.9	260.4	38	1	12.8	QA 14 K/M		
32400R-12	32	393.35	400	402	254	304.8	38	1	16.0	QA 16 K/M		
48400R-12	48	393.35	400	402	254	304.8	38	1	16.0	QA 16 K/M		

• Recommend to very stable machining condition at cast iron & steel

Spare parts

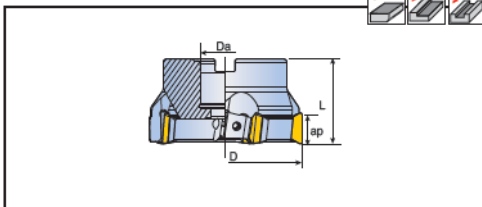
Designation	Screw	Adj. wedge	Adj. screw	Wrench	
TQ90SNS	TS 35C110I	AJS 1010R	AWS 0620	T-T15	



LM90TP-22

LIONMILL

Face mill



Designation		Dimension (mm)				Arbor style		Mounting bolt	Insert
		D	Da	L	ap				
LM90TP 480-25.4R-22	4	80	25.4	50	16	A	1.2	SH M12x1.75x35	TPKN 2204...
5100-31.75R-22	5	100	31.75	55	16	A	2.2	SH M16x2x35	
6125-38.1R-22	6	125	38.1	63	16	B	3.0	-	
8160-50.8R-22	8	160	50.8	63	16	B	4.7	-	
10200-47.625R-22	10	200	47.625	63	16	C	6.4	-	
12250-47.625R-22	12	250	47.625	63	16	C	10.7	-	
14315-47.625R-22	14	315	47.625	63	16	D	16.7	-	

• Metric bore cutter is available upon request

Spare parts

Designation	Carbide shim	Wedge	Shim screw	Wedge screw	Wrench	Shim screw wrench
LM90TP-22	TSTP 22N	WPA 8	TS 40B100I	TS 80200W TS 80160W ⁽¹⁾	T-W4	T-T15 ⁽²⁾

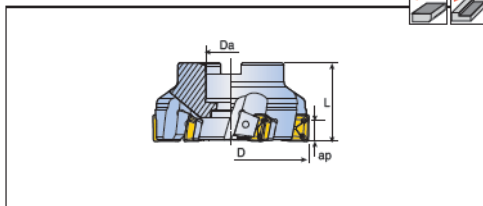
E220-E221

TE37-TE43

TE75

- ⁽¹⁾TS 80160W is for D80 cutter
- The shim screw wrench T-T15⁽²⁾ shall be ordered separately

Face mill



Designation		Dimension (mm)				Arbor style		Mounting bolt	Insert
		D	Da	L	ap				
LM90SE 6125-40R-21	6	125	40	63	17	A	3.4	SH M20x2.5x40	SEKX 2107... E198
8160-40R-21	8	160	40	63	17	C	5.3	-	
10200-60R-21	10	200	60	80	17	C	9.6	-	
12200-60R-21	12	200	60	80	17	C	9.5	-	
12250-60R-21	12	250	60	80	17	C	16.4	-	
14250-60R-21	14	250	60	80	17	C	16.4	-	
12315-60R-21	12	315	60	80	17	D	21.0	-	
16315-60R-21	16	315	60	80	17	D	20.7	-	
LM90SE 6125-38.1R-21	6	125	38.1	63	17	B	3.4	-	
8160-50.8R-21	8	160	50.8	63	17	B	5.3	-	
10200-47.625R-21	10	200	47.625	80	17	C	9.6	-	
12200-47.625R-21	12	200	47.625	80	17	C	9.5	-	
12250-47.625R-21	12	250	47.625	80	17	C	16.4	-	
14250-47.625R-21	14	250	47.625	80	17	C	16.4	-	
12315-47.625R-21	12	315	47.625	80	17	D	21.0	-	
16315-47.625R-21	16	315	47.625	80	17	D	20.7	-	

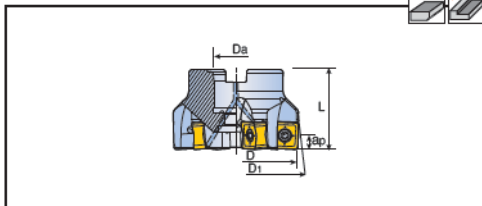
Spare parts

Designation	Shim	Shim screw	Wedge	Wedge screw	Wedge screw wrench	Shim screw wrench
LM90SE-21	TSSE 21N-ST	TS 50C130/HG	WPA 8-SE16	TS 80160W TS 80200W	T-W4	T-T20 ⁽¹⁾



- The shim screw wrench⁽¹⁾ shall be ordered separately
- Wedge screw TS 80160W : Diameter 125 – 200 mm
TS 80200W : Diameter 250 – 315 mm

Face mill



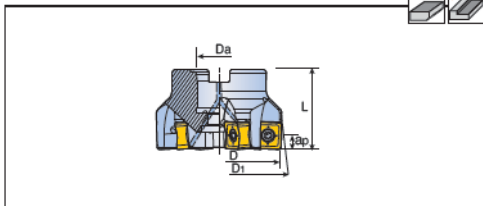
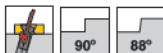
Designation	⌀	Dimension (mm)					Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM90SN 550-22R-13	5	50	50.7	22	40	12	•	A	0.3	SH M10x1.5x30	SNGX 1306 ... E202
663-22R-13	6	63	63.7	22	40	12	•	A	0.5	SH M10x1.5x30	
780-27R-13	7	80	80.7	27	50	12	•	A	1.2	SH M12x1.75x35	
980-27R-13*	9	80	80.7	27	50	12	•	A	1.2	SH M12x1.75x35	
8100-32R-13	8	100	100.8	32	50	12	•	A	1.9	SH M16x2x30	
13100-32R-13*	13	100	100.8	32	50	12	•	A	1.9	SH M16x2x30	
10125-40R-13	10	125	125.8	40	63	12	x	B	2.8	-	
16125-40R-13*	16	125	125.8	40	63	12	x	B	2.8	-	
TFM88SN 550-22R-13	5	50	51.2	22	40	12	•	A	0.3	SH M10x1.5x30	SNGX 1306 ZN... E202
663-22R-13	6	63	64.2	22	40	12	•	A	0.5	SH M10x1.5x30	
780-27R-13	7	80	81.2	27	50	12	•	A	1.2	SH M12x1.75x35	
980-27R-13*	9	80	81.2	27	50	12	•	A	1.2	SH M12x1.75x35	
8100-32R-13	8	100	101.2	32	50	12	•	A	1.9	SH M16x2x30	
11100-32R-13*	11	100	101.2	32	50	12	•	A	1.9	SH M16x2x30	
10125-40R-13	10	125	126.1	40	63	12	x	B	2.8	-	
14125-40R-13*	14	125	126.1	40	63	12	x	B	2.8	-	
12160-40R-13	12	160	161.1	40	63	12	x	C	4.2	-	
18160-40R-13*	18	160	161.1	40	63	12	x	C	4.2	-	
14200-60R-13	14	200	201.1	60	63	12	x	C	6.0	-	
22200-60R-13*	22	200	201.1	60	63	12	x	C	6.0	-	

* *: Fine pitch cutter for cast iron



TFM90SN/TFM88SN-13

Face mill (inch)



Designation	⊕	Dimension (mm)					Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	D ₁	D _a	L	ap					
TFM90SN 780-25.4R-13	7	80	80.7	25.4	50	12	•	A	1.2	SH M12x1.75x35	SNGX 1306 ...
980-25.4R-13*	9	80	80.7	25.4	50	12	•	A	1.2	SH M12x1.75x35	E202
8100-31.75R-13	8	100	100.8	31.75	50	12	x	B	1.9	-	
13100-31.75R-13*	13	100	100.8	31.75	50	12	x	B	1.9	-	
10125-38.1R-13	10	125	125.8	38.1	63	12	x	B	2.8	-	
TFM88SN 780-25.4R-13	7	80	81.2	25.4	50	12	•	A	1.2	SH M12x1.75x35	SNGX 1306 ZN...
980-25.4R-13*	9	80	81.2	25.4	50	12	•	A	1.2	SH M12x1.75x35	E202
8100-31.75R-13	8	100	101.2	31.75	50	12	x	B	1.9	-	
11100-31.75R-13*	11	100	101.2	31.75	50	12	x	B	1.9	-	
10125-38.1R-13	10	125	126.1	38.1	63	12	x	B	2.8	-	
12160-50.8R-13	12	160	161.1	50.8	63	12	x	C	4.2	-	
14200-47.625R-13	14	200	201.1	47.625	63	12	x	C	6.0	-	

- *: Fine pitch cutter for cast iron
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

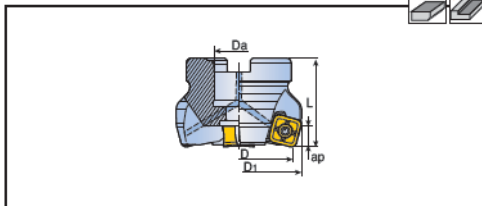
Designation	Screw	Wrench			
	TFM90SN	TS 40B100I	T-T15		
TFM88SN	TS 40B100I	T-T15			



Face mill



75°



Designation	Z	Dimension (mm)					Coolant	Arbor style	K _G	Mounting bolt	Insert
		D	D ₁	D _a	L	ap					
TFM75SN 450-22R-13	4	50	55.4	22	40	9.5	•	A	0.4	LH M10x1.5x25	SNM(G)X 1306 EN...
650-22R-13	6	50	55.4	22	40	9.5	•	A	0.4	LH M10x1.5x25	SNMX 1306 XTN...
663-22R-13	6	63	68.4	22	40	9.5	•	A	0.6	LH M10x1.5x25	E201
863-22R-13	8	63	68.4	22	40	9.5	•	A	0.6	LH M10x1.5x25	
780-27R-13	7	80	85.4	27	50	9.5	•	A	1.3	LH M12x1.75x30	
1080-27R-13	10	80	85.4	27	50	9.5	•	A	1.3	LH M12x1.75x30	
8100-32R-13	8	100	105.4	32	50	9.5	•	A	1.9	LH M16x2x35	
12100-32R-13	12	100	105.4	32	50	9.5	•	A	2.0	LH M16x2x35	
10125-40R-13	10	125	130.3	40	63	9.5	•	A	3.2	SH M20x2.5x40	
16125-40R-13	16	125	130.4	40	63	9.5	•	A	3.3	SH M20x2.5x40	
12160-40R-13	12	160	165.3	40	63	9.5	x	C	4.7	-	
20160-40R-13	20	160	165.4	40	63	9.5	x	C	4.8	-	
16200-60R-13	16	200	205.3	60	63	9.5	x	C	6.4	-	
22200-60R-13	22	200	205.4	60	63	9.5	x	C	6.4	-	
20250-60R-13	20	250	255.3	60	63	9.5	x	C	11.7	-	
TFM75SN 680-25.4R-13B	5	80	85.4	25.4	50	9.5	•	A	1.3	LH M12x1.75x30	
6100-31.75R-13B	6	100	105.4	31.75	50	9.5	x	B	1.9	-	
8125-38.1R-13B	8	125	130.3	38.1	63	9.5	x	B	3.2	-	
12160-50.8R-13B	12	160	165.3	50.8	63	9.5	x	B	4.7	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFM75SN	TS 40B100I	T-T15			



E220-E221



TE25

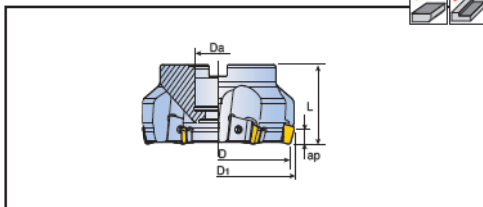


TE37-TE43



TE68

Face mill



Designation		Dimension (mm)						Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
LM75SP 580-25.4 R-12	5	80	85.4	25.4	50	9.5	A	1.5	SH M12x1.75x35	SPKN 1203... 	
6100-31.75R-12	6	100	105.4	31.75	55	9.5	A	2.4	LH M16x2x35		
8125-38.1R-12	8	125	130.4	38.1	63	9.5	B	3.2	-		
10160-50.8R-12	10	160	165.4	50.8	63	9.5	B	5.0	-		
12200-47.625R-12	12	200	205.4	47.625	63	9.5	C	6.9	-		
16250-47.625R-12	16	250	255.4	47.625	63	9.5	C	11.3	-		
20315-47.625R-12	20	315	320.4	47.625	63	9.5	D	17.6	-		
LM75SP 580-25.4R-15	5	80	86.97	25.4	55	12.5	A	1.5	SH M12x1.75x35	SPKN 1504... 	
5100-31.75R-15	5	100	106.96	31.75	55	12.5	A	2.4	LH M16x2x35		
8125-38.1R-15	8	125	131.95	38.1	63	12.5	B	3.1	-		
10160-50.8R-15	10	160	166.94	50.8	63	12.5	B	5.0	-		
12200-47.625R-15	12	200	206.94	47.625	63	12.5	C	6.9	-		
16250-47.625R-15	16	250	256.93	47.625	63	12.5	C	10.78	-		
20315-47.625R-15	20	315	321.93	47.625	63	12.5	D	16.88	-		

• Metric bore cutter is available upon request

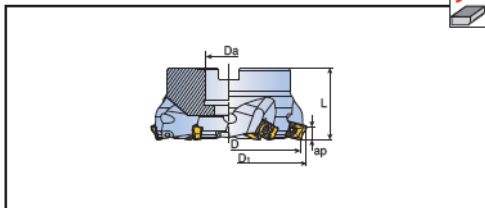
Spare parts

Designation	Carbide shim	Wedge	Shim screw	Wedge screw	Wrench	Shim screw wrench
LM75SP-12	TSSP 12N	WPA 8	TS 40B100I	TS 80200W TS 80160W ⁽¹⁾	T-W4	T-T15
LM75SP-15	TSSP 15N	WPA 8	TS 40B100I	TS 80160W ⁽¹⁾	T-W4	T-T15



• ⁽¹⁾ TS 80160W is for D80 cutter
• The shim screw wrench T-T15⁽²⁾ shall be ordered separately

Face mill



Designation		Dimension (mm)					Arbor style		Mounting bolt	Insert
		D	D1	Da	L	ap				
TFM75AP 580-27R-17	5	80	87.82	27	50	3.9	A	0.8	SH M12x1.75x35	APKT 1705 PER-M APKT 1705 PER-EM E181
6100-32R-17	6	100	107.82	32	50	3.9	B	1.3	-	
7125-40R-17	7	125	132.82	40	63	3.9	B	3.5	-	
580-25.4R-17	5	80	87.82	25.4	50	3.9	A	0.8	SH M12x1.75x35	
6100-31.75R-17	6	100	107.82	31.75	50	3.9	B	1.3	-	
7125-38.1R-17	7	125	132.82	38.1	63	3.9	B	3.5	-	

• Cutter for the other corner of APKT inserts

Spare parts

Designation	Screw	Wrench			
TFM75AP-17	 TS 40120/HG	 T-T15			



E220-E221

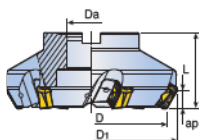


TE37-TE43



TE67

Face mill

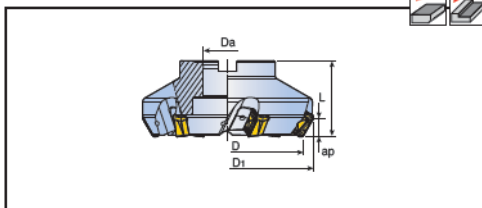


60°

Designation		Dimension (mm)						Arbor style	Kg	Insert
		D	D1	Da	L	ap				
LM60SC 5125-40R-21	5	125	141.2	40	63	13	B	4.1	SCKN 2107... E197	
8125-40R-21	8	125	141.2	40	63	13	B	4.1		
8160-40R-21	8	160	176.1	40	63	13	C	6.5		
10160-40R-21	10	160	176.1	40	63	13	C	6.4		
10200-60R-21	10	200	216.1	60	80	13	C	11.8		
12200-60R-21	12	200	216.1	60	80	13	C	11.8		
12250-60R-21	12	250	266	60	80	13	C	19.2		
14250-60R-21	14	250	266	60	80	13	C	19.1		
16250-60R-21	16	250	266	60	80	13	C	19.1		
12315-60R-21	12	315	331	60	80	13	D	25.0		
16315-60R-21	16	315	331	60	80	13	D	25.0		
18315-60R-21	18	315	331	60	80	13	D	25.0		



Face mill (inch)



Designation		Dimension (mm)						Arbor style		Insert
		D	D1	Da	L	ap				
LM60SC 5125-38.1R-21	5	125	141.2	38.1	63	13	B	4.1	SCKN 2107... E197	
8125-38.1R-21	8	125	141.2	38.1	63	13	B	4.1		
8160-50.8R-21	8	160	176.1	50.8	63	13	B	6.5		
10160-50.8R-21	10	160	176.1	50.8	63	13	B	6.4		
10200-47.625R-21	10	200	216.1	47.625	80	13	C	11.8		
12200-47.625R-21	12	200	216.1	47.625	80	13	C	11.8		
12250-47.625R-21	12	250	266	47.625	80	13	C	19.2		
14250-47.625R-21	14	250	266	47.625	80	13	C	19.1		
16250-47.625R-21	16	250	266	47.625	80	13	C	19.1		
12315-47.625R-21	12	315	331	47.625	80	13	D	25.0		
16315-47.625R-21	16	315	331	47.625	80	13	D	25.0		
18315-47.625R-21	18	315	331	47.625	80	13	D	25.0		

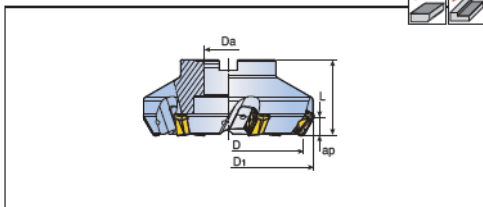
Spare parts

Designation	Shim	Shim screw	Wedge	Wedge screw	Wedge screw wrench	Shim screw wrench
LM60SC-21	TSSC 21R-ST	TS 50C130I/HG	WSC 8R-21	TS 80200W	T-W4	T-T20 ⁽¹⁾



⁽¹⁾ The shim screw wrench⁽¹⁾ shall be ordered separately

Face mill



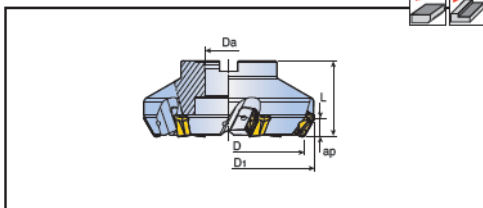
60°

Designation		Dimension (mm)					Arbor style		Insert
		D	D1	Da	L	ap			
LM60SC 5125-40R-27	5	125	146	40	63	18	B	4.6	SCKN 2708... E197
6160-40R-27	6	160	181	40	80	18	C	8.7	
8160-40R-27	8	160	181	40	80	18	C	8.4	
8200-60R-27	8	200	220.9	60	80	18	C	12.4	
10200-60R-27	10	200	220.9	60	80	18	C	12.3	
10250-60R-27	10	250	270.8	60	80	18	C	19.9	
12250-60R-27	12	250	270.8	60	80	18	C	19.8	
12315-60R-27	12	315	335.8	60	80	18	D	26.0	
15315-60R-27	15	315	335.8	60	80	18	D	25.9	
15400-60R-27*	15	400	420.9	60	80	18	D	44.0	
19400-60R-27*	19	400	420.9	60	80	18	D	43.0	
18500-60R-27*	18	500	520.9	60	80	18	D	65.0	
24500-60R-27*	24	500	520.9	60	80	18	D	64.0	



* *: Available upon request

Face mill (inch)



Designation		Dimension (mm)					Arbor style	Kg	Insert
		D	D1	Da	L	ap			
LM60SC 5125-38.1R-27	5	125	146	38.1	63	18	B	4.6	SCKN 2706... E197
6160-50.8R-27	6	160	181	50.8	80	18	C/B	8.7	
8160-50.8R-27	8	160	181	50.8	80	18	C/B	8.4	
8200-47.625R-27	8	200	220.9	47.625	80	18	C	12.4	
10200-47.625R-27	10	200	220.9	47.625	80	18	C	12.3	
10250-47.625R-27	10	250	270.8	47.625	80	18	C	19.9	
12250-47.625R-27	12	250	270.8	47.625	80	18	C	19.8	
12315-47.625R-27	12	315	335.8	47.625	80	18	D	26.0	
15315-47.625R-27	15	315	335.8	47.625	80	18	D	25.9	
15400-47.625R-27*	15	400	420.9	47.625	80	18	D	44.0	
19400-47.625R-27*	19	400	420.9	47.625	80	18	D	43.0	
18500-47.625R-27*	18	500	520.9	47.625	80	18	D	65.0	
24500-47.625R-27*	24	500	520.9	47.625	80	18	D	64.0	

*: Available upon request

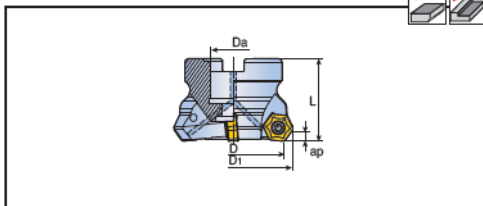
Spare parts

Designation	Shim 	Shim screw 	Wedge 	Wedge screw 	Wedge screw wrench 	Shim screw wrench
LM60SC-27	TSSC 27R-ST	TS 60A130I	WSC 8R	TS 80200W	T-W4	BLD T25M7+SW6-T1

* The shim screw wrench⁽¹⁾ shall be ordered separately



Face mill



Designation	⊕	Dimension (mm)					Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM55AHNS450-22R-05B	4	50	58.16	22	40	5	•	A	0.4	SH M10x1.5x30	HNM(C)X 05... E185
650-22R-05	6	50	58.16	22	40	5	•	A	0.4	SH M10x1.5x30	
563-22R-05B	5	63	71.16	22	40	5	•	A	0.6	SH M10x1.5x30	
863-22R-05	8	63	71.16	22	40	5	•	A	0.5	SH M10x1.5x30	
680-27R-05B	6	80	88.16	27	50	5	•	A	1.3	SH M12x1.75x35	
880-27R-05	8	80	88.16	27	50	5	•	A	1.2	SH M12x1.75x35	
1080-27R-05	10	80	88.16	27	50	5	•	A	1.2	SH M12x1.75x35	
7100-32R-05B	7	100	108.16	32	50	5	•	A	2.0	SH M16x2x35	
10100-32R-05	10	100	108.16	32	50	5	•	A	2.0	SH M16x2x35	
12100-32R-05	12	100	108.16	32	50	5	•	A	2.0	SH M16x2x35	
10125-40R-05B	10	125	133.16	40	63	5	•	A	3.2	SH M20x2.5x40	
12125-40R-05	12	125	133.16	40	63	5	•	A	3.4	SH M20x2.5x40	
16125-40R-05	16	125	133.16	40	63	5	•	A	3.2	SH M20x2.5x40	
12160-40R-05B	12	160	168.16	40	63	5	x	C	4.7	-	
12160-40R-05	20	160	168.16	40	63	5	x	C	4.9	-	
TFM55AHNS680-25.4R-05B	6	80	88.16	25.4	50	5	•	A	1.3	SH M12x1.75x35	
7100-31.75R-05B	7	100	108.16	31.75	50	5	x	B	2.0	-	
10125-38.1R-05B	10	125	133.16	38.1	63	5	x	B	3.2	-	
12160-50.8R-05B	12	160	168.16	50.8	63	5	x	B	4.7	-	
12160-50.8R-05	20	160	168.16	50.8	63	5	x	B	4.9	-	

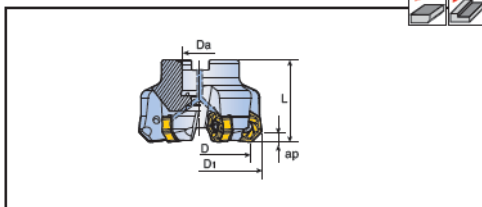
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
	TFM55AHNS	TS 40B100I	T-T15		



Face mill



Designation		Dimension (mm)					Coolant	Arbor style		Mounting bolt	Insert
		D	D1	Da	L	ap					
14D-F45XN 550-22R-06	5	50	59.1	22	40	3.5	•	A	0.4	LH M10x1.5x25	XNM(H)U 0605...
563-22R-06	5	63	72.1	22	50	3.5	•	A	0.8	SH M10x1.5x25	E213
763-22R-06	7	63	72.1	22	50	3.5	•	A	0.8	SH M10x1.5x25	
680-27R-06	6	80	89.1	27	50	3.5	•	A	1.4	SH M12x1.75x35	
980-27R-06	9	80	89.1	27	50	3.5	•	A	1.4	SH M12x1.75x35	
7100-32R-06	7	100	109.1	32	50	3.5	•	A	2.1	SH M16x2x35	
11100-32R-06	11	100	109.1	32	50	3.5	•	A	2.1	SH M16x2x35	
10125-40R-06	10	125	134.1	40	63	3.5	•	A	3.6	SH M20x2.5x40	
14125-40R-06	14	125	134.1	40	63	3.5	•	A	3.6	SH M20x2.5x40	
12160-40R-06	12	160	169.1	40	63	3.5	x	C	4.7	-	
16160-40R-06	16	160	169.1	40	63	3.5	x	C	4.9	-	
18160-40R-06	18	160	169.1	40	63	3.5	x	C	5.0	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

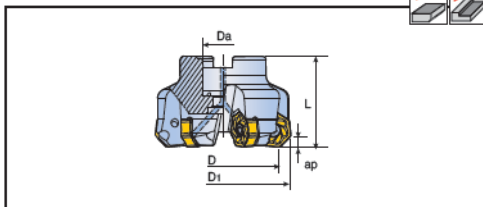
Spare parts

Designation	Screw	Wrench			
14D-F45XN-06	TS 40B100I	T-T15			



14D-F45XN-09

Face mill



Designation	⊕	Dimension (mm)					Coolant	Arbor style	K9	Mounting bolt	Insert
		D	D1	Da	L	ap					
14D-F45XN 563-22R-09	5	63	74.9	22	50	5	•	A	0.9	SH M10x1.5x25	XNM(H)U 0906... E214
663-22R-09	6	63	74.9	22	50	5	•	A	0.9	SH M10x1.5x25	
680-27R-09	6	80	91.9	27	50	5	•	A	1.4	SH M12x1.75x35	
780-27R-09	7	80	91.9	27	50	5	•	A	1.5	SH M12x1.75x35	
7100-32R-09	7	100	112	32	55	5	•	A	2.4	SH M16x2x35	
9100-32R-09	9	100	112	32	55	5	•	A	2.5	SH M16x2x35	
8125-40R-09	8	125	137	40	63	5	•	A	3.5	SH M20x2.5x40	
10125-40R-09	10	125	137	40	63	5	•	A	3.6	SH M20x2.5x40	
12125-40R-09	12	125	137	40	63	5	•	A	3.4	SH M20x2.5x40	
10160-40R-09	10	160	172	40	63	5	x	C	4.8	-	
12160-40R-09	12	160	172	40	63	5	x	C	4.8	-	
14160-40R-09	14	160	172	40	63	5	x	C	4.8	-	
12200-60R-09	12	200	212	60	63	5	x	C	6.8	-	
16200-60R-09	16	200	212	60	63	5	x	C	6.9	-	
16250-60R-09	16	250	262	60	63	5	x	C	11.5	-	
20250-60R-09	20	250	262	60	63	5	x	C	11.5	-	
14D-F45XN 680-25.4R-09	6	80	91.9	25.4	50	5	•	A	1.4	SH M12x1.75x35	
7100-31.75R-09	7	100	112	31.75	55	5	•	A	2.4	SH M16x2x35	
8125-38.1R-09	8	125	137	38.1	63	5	x	B	3.5	-	
10160-50.8R-09	10	160	172	50.8	63	5	x	B	4.8	-	
12200-47.625R-09	12	200	212	47.625	63	5	x	C	6.8	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
14D-F45XN-09	TS 50C130I/HG	T-T20			



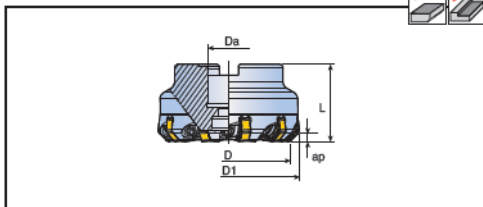
E220-E221

TE24

TE37-TE43

TE73

Face mill



Designation		Dimension (mm)					Arbor style		Mounting bolt	Insert
		D	D1	Da	L	ap				
14D-F45XNW 1080-27R-09	10	80	91.9	27	50	5	A	1.8	SH M12x1.75x35	XNHU 0906...
14100-32R-09	14	100	112	32	55	5	A	2.9	SH M16x2x35	
18125-40R-09	18	125	137	40	63	5	B	3.8	-	
22160-40R-09	22	160	172	40	63	5	C	5.6	-	
28200-60R-09	28	200	212	60	63	5	C	7.9	-	
36250-60R-09	36	250	262	60	63	5	C	12.7	-	
44315-60R-09	44	315	327	60	63	5	D	19.9	-	

Spare parts

Designation	Wedge	Wedge screw	Wrench		
14D-F45XNW-09	WFZ 8H	WS 8	T-W4		



E220-E221



TE24



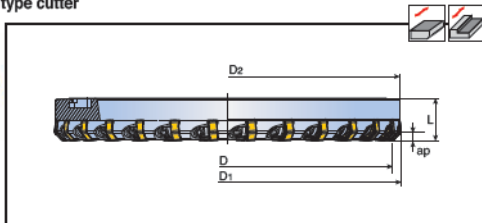
TE37-TE43



TE73

14D-F45XNW-09-QC

Face mill: New quick change type cutter



Designation	🌀	Dimension (mm)					📏 Kg	Adapter	Insert
		D	D1	D2	L	ap			
14D-F45XNW-28250-09-QC	28	250	262	258.9	32	5	4.7	TOCA D250	XNHU 0906...
36315-09-QC	36	315	327	313	38	5	9.2	TOCA D315	🔍 E214
42355-09-QC	42	355	367	353	38	5	10.6	TOCA D355	
46400-09-QC	46	400	412	398	38	5	12.1	TOCA D400	

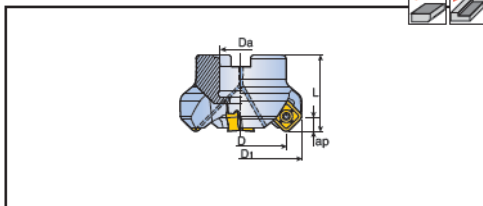
• Recommend to very stable machining condition at cast iron & steel

Spare parts

Designation	Wedge	Wedge screw	Wrench		
	WFZ 8H	WS 8	T-W4		
14D-F45XNW-09-QC	WFZ 8H	WS 8	T-W4		



Face mill

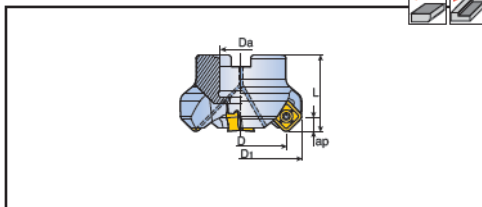


Designation	Z	Dimension (mm)					Coolant	Arbor style	K ₉₉	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM45SN 450-22R-13	4	50	64.7	22	40	7	•	A	0.5	LH M10x1.5x25	SNM(G)X 1306 AN...
650-22R-13	6	50	64.7	22	40	7	•	A	0.5	LH M10x1.5x25	SNMX 1306 XTN
663-22R-13	6	63	77.7	22	40	7	•	A	0.7	LH M10x1.5x25	E201
863-22R-13	8	63	77.7	22	40	7	•	A	0.7	LH M10x1.5x25	
480-27R-13B	4	80	94.8	27	50	7	•	A	1.4	LH M12x1.75x30	
780-27R-13	7	80	94.8	27	50	7	•	A	1.5	LH M12x1.75x30	
1080-27R-13	10	80	94.8	27	50	7	•	A	1.5	LH M12x1.75x30	
5100-32R-13B	5	100	114.8	32	50	7	•	A	2.1	LH M16x2x35	
8100-32R-13	8	100	114.8	32	50	7	•	A	2.2	LH M16x2x35	
12100-32R-13	12	100	114.8	32	50	7	•	A	2.2	LH M16x2x35	
6125-40R-13B	6	125	139.8	40	63	7	•	A	3.8	SH M20x2.5x40	
10125-40R-13	10	125	139.8	40	63	7	•	A	3.8	SH M20x2.5x40	
16125-40R-13	16	125	139.8	40	63	7	•	A	3.8	SH M20x2.5x40	
8160-40R-13B	8	160	174.8	40	63	7	x	C	4.9	-	
12160-40R-13	12	160	174.8	40	63	7	x	C	4.9	-	
20160-40R-13	20	160	174.5	40	63	7	x	C	5.0	-	
10200-60R-13B	10	200	214.8	60	63	7	x	C	6.5	-	
18200-60R-13	18	200	214.8	60	63	7	x	C	6.6	-	
26200-60R-13	26	200	214.3	60	63	7	x	C	7.0	-	
20250-60R-13	20	250	264.8	60	63	7	x	C	12.9	-	



TFM45SN-13

Face mill (inch)



Designation		Dimension (mm)					Coolant	Arbor style		Mounting bolt	Insert
		D	D ₁	D _a	L	ap					
TFM45SN 480-25.4R-13B	4	80	94.8	25.4	50	7	•	A	1.4 LH M12x1.75x30	SNM(G)X 1306 AN... SNMX 1306 XTN	
5100-31.75R-13B	5	100	114.8	31.75	50	7	x	B	2.1	-	
6125-38.1R-13B	6	125	139.8	38.1	63	7	x	B	3.8	-	
8160-50.8R-13B	8	160	174.8	50.8	63	7	x	B	4.9	-	
10200-47.625R-13B	10	200	214.8	47.625	63	7	x	C	6.5	-	
12250-47.625R-13	12	250	264.8	47.625	63	7	x	C	12.9	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFM45SN-13	TS 40B100I	T-T15			



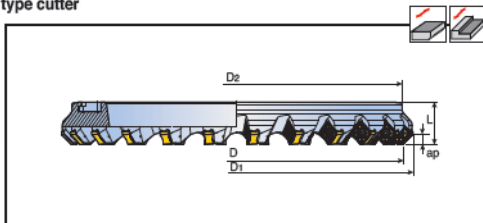
E220-E221

TE25

TE37-TE46

TE69

Face mill: New quick change type cutter



Designation		Dimension (mm)					Kg	Adaptor	Insert
		D	D1	D2	L	ap			
TFM45SN 12250-13-QC	12	250	264.8	248	32	7	3.5	TQCA D250	SNM(G)X 1306 AN... SNMX 1306 XTN E201
24250-13-QC	24	250	264.7	248	32	7	3.7	TQCA D250	
14315-13-QC	14	315	329.8	313	38	7	8.1	TQCA D315	
30315-13-QC	30	315	329.7	313	38	7	8.2	TQCA D315	
16355-13-QC	16	355	369.8	353	38	7	9.3	TQCA D355	
34355-13-QC	34	355	369.7	353	38	7	9.4	TQCA D355	
18400-13-QC	18	400	414.8	398	38	7	10.6	TQCA D400	
38400-13-QC	38	400	414.7	398	38	7	10.7	TQCA D400	

• Recommend to very stable machining condition at cast iron & steel

Spare parts

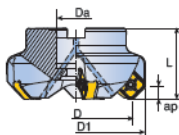
Designation	Screw	Wrench			
	TFM45SN-13-QC	TS 40B100I	T-T15		



Face mill



45°



Designation	Z	Dimension (mm)					Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM45SNS 463-22R-16	4	63	81.1	22	50	8.8	•	A	1.0	LH M10x1.5x25	SNMX 1607... SNHX 1606...
580-27R-16	5	80	98.2	27	50	8.8	•	A	1.5	LH M12x1.75x30	E203
7100-32R-16	7	100	118.2	32	50	8.8	•	A	2.3	LH M16x2.0x35	
8125-40R-16	8	125	143.2	40	63	8.8	•	A	4.0	SH M20x2.5x40	
10125-40R-16	10	125	143.2	40	63	8.8	•	A	4.0	SH M20x2.5x40	
10160-40R-16	10	160	178.2	40	63	8.8	x	C	5.4	-	
12160-40R-16	12	160	178.2	40	63	8.8	x	C	5.4	-	
12200-60R-16	12	200	218.2	60	63	8.8	x	C	7.5	-	
14250-60R-16	14	250	268.2	60	63	8.8	x	C	13	-	
TFM45SNS 580-25.4R-16	5	80	98.2	25.4	50	8.8	•	A	1.5	LH M12x1.75x30	
7100-31.75R-16	7	100	118.2	31.75	50	8.8	x	B	2.3	-	
8125-38.1R-16	8	125	143.2	38.1	63	8.8	x	B	4.0	-	
10160-50.8R-16	10	160	178.2	50.8	63	8.8	x	B	5.4	-	
12200-47.625R-16	12	200	218.2	47.625	63	8.8	x	C	7.5	-	

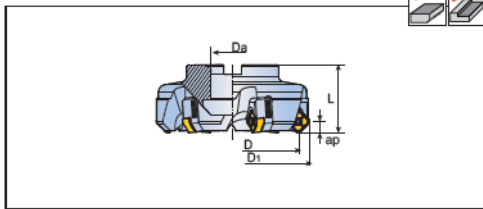
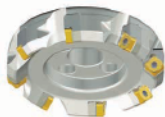
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFM45SNS-16	TS 45120I	T-T20			



Face mill



Designation		Dimension (mm)					Arbor style		Insert
		D	D1	Da	L	ap			
TFM45SNS 6125-40R-16B-CA	6	125	143.2	40	63	8.8	B	4.0	SNMX 1607... SNHX 1606... E203
8160-40R-16B-CA	8	160	178.2	40	63	8.8	C	5.9	
10200-60R-16B-CA	10	200	218.2	60	63	8.8	C	8.1	
14250-60R-16-CA	14	250	268.2	60	63	8.8	C	13.3	
14315-60R-16B-CA	14	315	333.2	60	80	8.8	D	24.0	

Spare parts

Designation	Screw	Cartridge	Cartridge screw	Wrench	
TFM45SNS-16B-CA	TS 45120I	TCT23-SN16R	TS 60170I	T-T20	



E220-E221



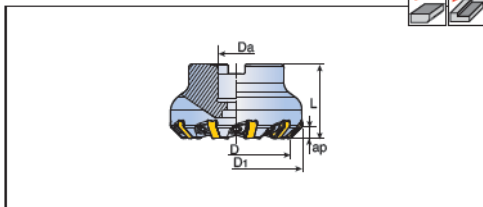
TE37-TE43



TE69

TFM45SNW-16

Face mill



Designation	⊕	Dimension (mm)						Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM45SNW 1080-27R-16	10	80	98.2	27	55	8.8	A	1.9	LH M12x1.75x35	SNHX 1606...	
14100-32R-16	14	100	118.2	32	63	8.8	A	3.2	SH M16x2.0x35	E203	
18125-40R-16	18	125	143.2	40	63	8.8	B	3.9	-		
22160-40R-16	22	160	178.2	40	63	8.8	C	5.7	-		
26200-60R-16	26	200	218.2	60	63	8.8	C	7.8	-		
32250-60R-16	32	250	268.2	60	63	8.8	C	13.5	-		

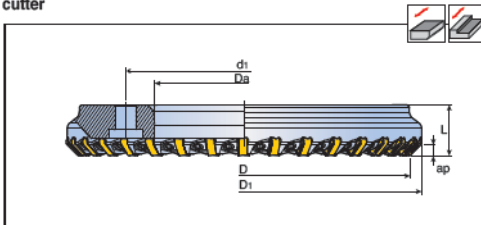
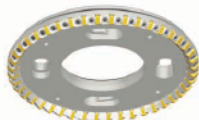
Spare parts

Designation	Wedge	Wedge screw	Wrench		
TFM45SNW	WFZ 8H-SN	WS 8	T-W4		



TQ45SNW-16

Face mill: Quick change type cutter



Designation		Dimension (mm)								Adapter	Insert
		D	D1	Da	d1	L	ap				
TQ45SNW 26200R-16	26	200	218.2	63.5	114.3	38	8.8	6.3	QA 08 K/M	SNHX 1606... 	
34250R-16	34	250	268.2	133.35	177.8	38	8.8	7.9	QA 10 K/M		
44315R-16	44	315	333.2	146.05	215.9	38	8.8	13.2	QA 12 K/M		
50355R-16	50	355	373.2	215.90	280.4	38	8.8	13.0	QA 14 K/M		
58400R-16	58	400	418.2	254.0	304.8	38	8.8	15.7	QA 16 K/M		

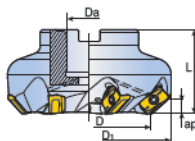
• Recommend to very stable machining condition at cast iron & steel

Spare parts

Designation	Wedge	Wedge screw	Wrench		
	TQ45SNW	WFZ 8H-SN	WS 8	T-W4	



Face mill



45°

Designation		Dimension (mm)						Coolant	Arbor style		Mounting bolt	Insert
		D	D1	Da	L	ap						
TFM45AN 450-22R-16	4	50	67.8	22	40	8.4	•	A	0.6	LH M10x1.5x25	ANHX 1607 ANR-M 	
663-22R-16	6	63	80.6	22	40	8.4	•	A	0.9	LH M10x1.5x25		
780-27R-16	7	80	97.5	27	50	8.4	•	A	1.6	SH M12x1.75x35		
8100-32R-16	8	100	117.5	32	50	8.4	•	A	2.5	LH M16x2x35		
9125-40R-16	9	125	142.6	40	63	8.4	•	A	4.3	SH M20x2.5x40		
10160-40R-16	10	160	177.7	40	63	8.4	x	B	5.8	-		

- 90° Inserts can not be mounted
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFM45AN	TS 40120I	T-T15			



E220-E221



TE19-TE20

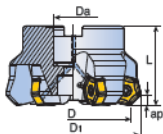


TE37-TE43



TE66

Face mill: Angled screw clamp type cutter

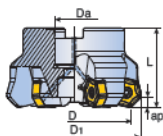


Designation	⊕	Dimension (mm)					Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM45HNS 563-22R-10	5	63	77	22	50	6.1	•	A	0.8	SH M10x1.5x25	HNFHX1006... E186
663-22R-10F	6	63	77	22	50	6.1	•	A	0.9	SH M10x1.5x25	
680-27R-10	6	80	94	27	55	6.1	•	A	1.6	SH M12x1.75x35	
780-27R-10F	7	80	94	27	55	6.1	•	A	1.6	SH M12x1.75x35	
7100-32R-10	7	100	114	32	63	6.1	•	A	2.7	SH M16x2x35	
9100-32R-10F	9	100	114	32	63	6.1	•	A	2.8	SH M16x2x35	
8125-40R-10	8	125	139	40	63	6.1	x	B	3.4	-	
10125-40R-10	10	125	139	40	63	6.1	x	B	3.4	-	
12125-40R-10F	12	125	139	40	63	6.1	x	B	3.4	-	
10160-40R-10	10	160	174	40	63	6.1	x	C	4.8	-	
12160-40R-10	12	160	174	40	63	6.1	x	C	4.8	-	
14160-40R-10F	14	160	174	40	63	6.1	x	C	4.9	-	
12200-60R-10	12	200	214	60	63	6.1	x	C	6.9	-	
16200-60R-10F	16	200	214	60	63	6.1	x	C	7.0	-	
16250-60R-10	16	250	264	60	63	6.1	x	C	11.8	-	
20250-60R-10F	20	250	264	60	63	6.1	x	C	12.0	-	



TFM45HNS-10

Face mill: Angled screw clamp type cutter(inch)



Designation	C	Dimension (mm)					Coolant	Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM45HNS 680-25.4R-10	6	80	94	25.4	55	6.1	•	A	1.6	SH M12x1.75x35	HNHX1006... E186
7100-31.75R-10	7	100	114	31.75	63	6.1	x	B	2.7	-	
9100-31.75R-10F	9	100	114	31.75	63	6.1	x	B	2.8	-	
8125-38.1R-10	8	125	139	38.1	63	6.1	x	B	3.4	-	
10125-38.1R-10	10	125	139	38.1	63	6.1	x	B	3.4	-	
10160-50.8R-10	10	160	174	50.8	63	6.1	x	B	4.8	-	
12160-50.8R-10	12	160	174	50.8	63	6.1	x	B	4.8	-	
12200-47.625R-10	12	200	214	47.625	63	6.1	x	C	6.9	-	
16250-47.625R-10	16	250	264	47.625	63	6.1	x	C	11.8	-	

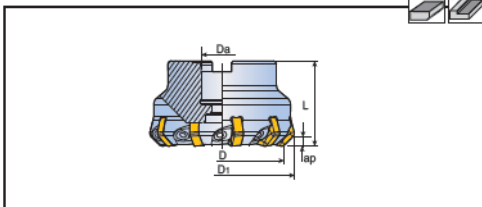
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
	TFM45HNS	TS 50C130VHG	T-T20		



Face mill: Wedge clamp fine pitch type cutter



Designation	⌀	Dimension (mm)						Arbor style	Kg	Mounting bolt	Insert
		D	D1	Da	L	ap					
TFM45HN 1080-27R-10	10	80	94	27	55	6.1	A	1.9	SH M12x1.75x35	HN-DX1006... E186	
14100-32R-10	14	100	114	32	63	6.1	A	3.3	SH M16x2x35		
18125-40R-10	18	125	139	40	63	6.1	B	3.9	-		
22160-40R-10	22	160	174	40	63	6.1	C	5.6	-		
28200-60R-10	28	200	214	60	63	6.1	C	7.9	-		
36250-60R-10	36	250	264	60	63	6.1	C	13.1	-		
44315-60R-10	44	315	329	60	63	6.1	D	21.2	-		

Spare parts

Designation	Wedge	Wedge screw	Wrench		
	TFM45HN	WFZ 8H	WS 8	T-W4	



E220-E221

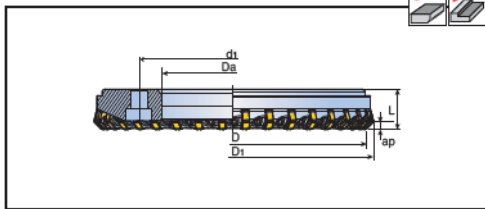


TE37-TE46



TE72

Face mill: Closed type cutter



Designation		Dimension (mm)							Adapter	Insert
		D	D1	Da	d1	L	ap			
TQ45HN 36250R-10	36	250	264	133.35	177.8	38	6.1	8.8	QA 10 K/M	HNHX1006... E186
44315R-10	44	315	329	146.05	215.9	38	6.1	15.1	QA 12 K/M	
52355R-10	52	355	369	215.9	260.4	38	6.1	14.2	QA 14 K/M	
58400R-10	58	400	414	254	304.8	38	6.1	18.0	QA 16 K/M	

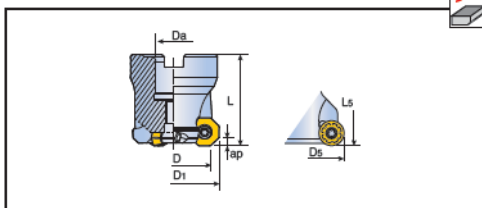
• Recommend to very stable machining condition at cast iron & steel

Spare parts

Designation	Wedge	Wedge screw	Wrench		
	TQ45HN	WFZ 8H	WS 8	T-W4	



Face mill



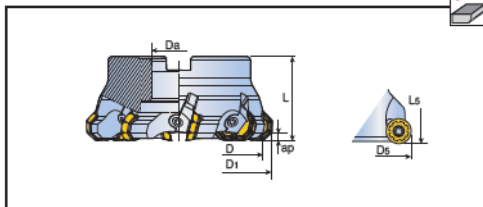
Designation	⊕	Dimension (mm)							Arbor style	Kg	Mounting bolt	Insert
		D	D1	Ds	Da	L	Ls	ap				
TFM430FS 332-16R-05	3	32	39.6	40.8	16	40	40.6	3.5	E	0.3	KTB32B	OFCW 05T3...
440-16R-05	4	40	47.5	48.7	16	40	40.6	3.5	A	0.4	SH M8x1.25x30	OFCT 05T3...
560-22R-05	5	50	57.9	59.0	22	40	40.6	3.5	A	0.6	SH M10x1.5x30	OFMT 05T3...
663-22R-05	6	63	71.0	72.0	22	40	40.6	3.5	A	1.0	SH M10x1.5x30	RFMT 1404...
780-27R-05	7	80	88.0	89.0	27	50	50.6	3.5	A	1.3	SH M12x1.75x35	E191
8100-32R-05	8	100	108.0	109.0	32	50	50.6	3.5	A	2.6	LH M16x2x35	
9125-40R-05	9	125	133.0	134.0	40	63	63.6	3.5	B	3.0	-	
TFM430FS 780-25.4R-05	7	80	88.0	89.0	25.4	50	50.6	3.5	A	1.3	SH M12x1.75x35	
8100-31.75R-05	8	100	108.0	109.0	31.75	50	50.6	3.5	A	2.6	LH M16x2x35	
9125-38.1R-05	9	125	133.0	134.0	38.1	63	63.6	3.5	B	3.0	-	

Spare parts

Designation	Screw	Wrench			
TFM430FS	TS 40093I	T-T15			



Face mill



43°

Designation	⊕	Dimension (mm)								Arbor style	Kg	Mounting bolt	Insert
		D	D1	Ds	Da	L	Ls	ap					
TFM43Z0FW 463-22R-07	4	63	75.1	76.9	22	40	40.7	5	A	0.5	LH M10x1.5x25	OFCN 0704...	
580-27R-07	5	80	92.0	93.8	27	50	50.7	5	A	1.2	SH M12x1.75x35	OFCR 0704...	
6100-32R-07	6	100	112.0	113.8	32	50	50.7	5	B	1.8	-	OFCR 0704 ...	
8100-32R-07	8	100	112.0	113.8	32	50	50.7	5	B	1.8	-	RFMR 1904...	
8125-40R-07	8	125	137.0	139.2	40	63	63.7	5	B	3.0	-	E190	
10125-40R-07	10	125	137.0	139.2	40	63	63.7	5	B	3.0	-		
10160-40R-07	10	160	172.0	173.8	40	63	63.7	5	C	4.7	-		
12160-40R-07	12	160	172.0	173.8	40	63	63.7	5	C	4.7	-		
12200-60R-07	12	200	212.0	213.8	60	63	63.7	5	C	7.0	-		
14200-60R-07	14	200	212.0	213.8	60	63	63.7	5	C	7.0	-		
TFM43Z0FW 580-25.4R-07	5	80	92.0	93.8	25.4	50	50.7	5	A	1.2	SH M12x1.75x35		
6100-31.75R-07	6	100	112.0	113.8	31.75	50	50.7	5	B	1.8	-		
8125-38.1R-07	8	125	137.0	139.2	38.1	63	63.7	5	B	3.0	-		
10160-50.8R-07	10	160	172.0	173.8	50.8	63	63.7	5	B	4.7	-		

Spare parts

Designation	Wedge screw	Wedge	Wrench		
TFM43Z0FW	WS8, WS8S*, WS8M	WFO-8Z	T-TW4		



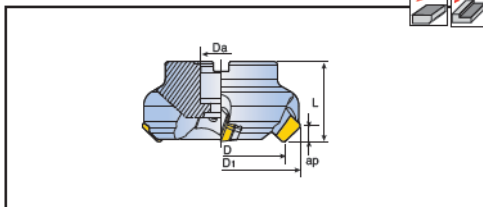
*WS8S: For TFM43Z0FW-463...only

E220-E221

TE97-TE46

TE79

Face mill



Designation	Z	Dimension (mm)					Arbor style	K _a	Mounting bolt	Insert
		D	D ₁	D _a	L	a _p				
LM45SD 480-25.4R-12	4	80	93.8	25.4	50	6.5	A	1.6	LH M12x1.75x30	SDKN 1203... E197
5100-31.75R-12	5	100	113.8	31.75	80	6.5	A	2.8	LH M16x2x35	
6125-38.1R-12	6	125	138.8	38.1	83	6.5	B	3.5	-	
8160-50.8R-12	8	160	173.9	50.8	83	6.5	B	5.5	-	
10200-47.625R-12	10	200	213.9	47.625	83	6.5	C	7.6	-	
12250-47.625R-12	12	250	263.9	47.625	83	6.5	C	12.6	-	
LM45SD 480-25.4R-15	4	80	93.8	25.4	50	8.7	A	1.6	LH M12x1.75x30	SDKN 1504... E197
5100-31.75R-15	5	100	118.6	31.75	80	8.7	A	2.8	LH M16x2x35	
6125-38.1R-15	6	125	143.6	38.1	83	8.7	B	3.5	-	
8160-50.8R-15	8	160	178.6	50.8	83	8.7	B	5.5	-	
10200-47.625R-15	10	200	218.6	47.625	83	8.7	C	7.6	-	
12250-47.625R-15	12	250	268.6	47.625	83	8.7	C	12.6	-	
14315-47.625R-15	14	315	333.54	47.625	83	6.7	C	18.7	-	

• Metric bore cutter is available upon request

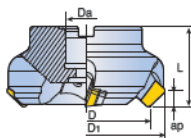
Spare parts

Designation	Carbide shim	Wedge	Shim screw	Wedge screw	Wrench	Shim screw wrench
LM45SD-12	TSSDSE 12N	WPA 8	TS 40B100I	TS 80200W ⁽¹⁾	T-W4	T-T15
LM45SD-15	TSSDSE 15N	WPA 8	TS 40B100I	TS 80160W ⁽¹⁾	T-W4	T-T15



- ⁽¹⁾ TS 80160W is for D80 cutter
- The shim screw wrench T-T15⁽²⁾ shall be ordered separately

Face mill



Designation		Dimension (mm)						Arbor style	Kg	Mounting bolt	Insert
		D	D ₁	D _a	L	ap					
LM45SE 480-25.4R-12	4	80	93.7	25.4	55	6.5	A	1.8	LH M12x1.75x30	SEKN 1203... 	
5100-31.75R-12	5	100	113.6	31.75	60	6.5	A	2.8	LH M16x2x35		
6125-38.1R-12	6	125	138.6	38.1	63	6.5	B	3.4	-		
8160-50.8R-12	8	160	173.6	50.8	63	6.5	B	5	-		
10200-47.625R-12	10	200	213.6	47.625	63	6.5	C	7.5	-		
12250-47.625R-12	12	250	263.6	47.625	63	6.5	C	12.2	-		
LM45SE 480-25.4R-15	4	80	97.8	25.4	55	8.7	A	1.8	LH M12x1.75x30	SEKN 1504... 	
5100-31.75R-15	5	100	118	31.75	60	8.7	A	2.8	LH M16x2x35		
6125-38.1R-15	6	125	143	38.1	63	8.7	B	3.5	-		
8160-50.8R-15	8	160	178	50.8	63	8.7	B	5.7	-		
10200-47.625R-15	10	200	218	47.625	63	8.7	C	7.8	-		
12250-47.625R-15	12	250	268	47.625	63	8.7	C	12.8	-		

• Metric bore cutter is available upon request

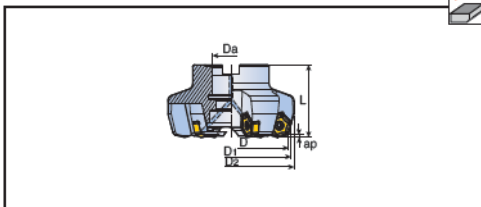
Spare parts

Designation	Carbide shim	Wedge	Shim screw	Wedge screw	Wrench	Shim screw wrench
LM45SE-12	TSSDSE 12N	WPA 8	TS 40B100I	TS 80200W TS 80160W ⁽¹⁾	T-W4	T-T15
LM45SE-15	TSSDSE 15N	WPA 8	TS 40B100I	TS 80160W ⁽¹⁾	T-W4	T-T15



- ⁽¹⁾ TS 80160W is for D80 cutter
- The shim screw wrench T-T15⁽²⁾ shall be ordered separately

Face mill



Designation		Dimension (mm)						Coolant	Arbor style		Mountingbolt	Insert
		D	D1	D2	Da	L	ap					
TFM15HNS 580-27R-10	5	80	85	89	27	55	2	•	A	1.3	SH M12x1.75x35	HNHX1006 ANT-N-M
6100-32R-10	6	100	105	109	32	63	2	x	B	1.9	-	
8125-40R-10	8	125	130	134	40	63	2	x	B	2.9	-	-

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFM15HNS	TS 50C130VHG	T-T20			



E220-E221

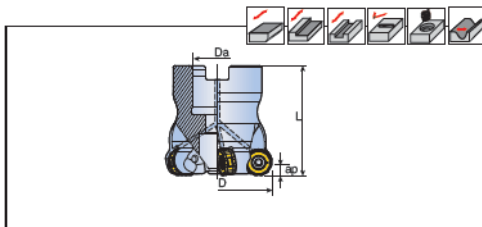


TE37-TE43



TE7Z

Face mill



Designation	Z	Dimension (mm)				Coolant	Arbor style	K _r	Mounting bolt	Insert
		D	Da	L	ap					
TFMRNS 432-16R-10	4	32	16	40	5	●	E	0.1	KTB 32B	RNMU 1004...
433-16R-10	4	33	16	40	5	●	E	0.1	KTB 32B	E193
540-16R-10	5	40	16	40	5	●	A	0.2	SH M8x1.25x30	
650-22R-10	6	50	22	50	5	●	A	0.4	SH M10x1.5x30	
662-22R-10	6	52	22	50	5	●	A	0.4	SH M10x1.5x30	
440-16R-12	4	40	16	40	6	●	A	0.2	SH M8x1.25x30	RNMU 1205...
450-22R-12	4	50	22	50	6	●	A	0.3	SH M10x1.5x30	E193
550-22R-12	5	50	22	50	6	●	A	0.3	SH M10x1.5x30	
552-22R-12	5	52	22	50	6	●	A	0.4	SH M10x1.5x30	
563-22R-12	5	63	22	50	6	●	A	0.6	SH M10x1.5x30	
663-22R-12	6	63	22	50	6	●	A	0.6	SH M10x1.5x30	
666-27R-12	6	66	27	50	6	●	A	0.6	SH M12x1.75x35	
680-27R-12	6	80	27	50	6	●	A	1.1	SH M12x1.75x35	
780-27R-12	7	80	27	50	6	●	A	1.0	SH M12x1.75x35	
7100-32R-12	7	100	32	50	6	●	A	1.5	LH M16x2x35	
8100-32R-12	8	100	32	50	6	●	A	1.5	LH M16x2x35	



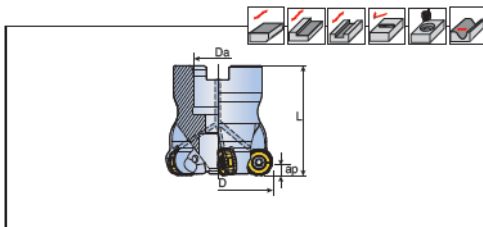
E220-E221

TE12

TE58-TE59

TE70-TE71

Face mill



Designation		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert
		D	Da	L	ap					
TFMRNS 340-16R-16	3	40	16	55	8	•	E	0.3	KTB 32B	RNMU 1606...
350-16R-16	3	50	16	50	8	•	A	0.2	SH M8x1.25x30	
450-16R-16	4	50	16	50	8	•	A	0.2	SH M8x1.25x30	
452-22R-16	4	52	22	50	8	•	A	0.3	SH M10x1.5x30	
463-22R-16	4	63	22	50	8	•	A	0.5	SH M10x1.5x30	
566-27R-16	5	66	27	50	8	•	A	0.6	LH M12x1.75x30	
580-27R-16	5	80	27	50	8	•	A	0.9	LH M12x1.75x30	
680-27R-16	6	80	27	50	8	•	A	0.8	LH M12x1.75x30	
6100-32R-16	6	100	32	50	8	•	A	1.7	LH M16x2.0x35	
7125-40R-16	7	125	40	63	8	•	A	3.0	SH M20x2.5x40	
8125-40R-16	8	125	40	63	8	•	A	2.9	SH M20x2.5x40	
9160-40R-16	9	160	40	63	8	x	C	3.8	-	
10200-60R-16	10	200	60	63	8	x	C	5.6	-	

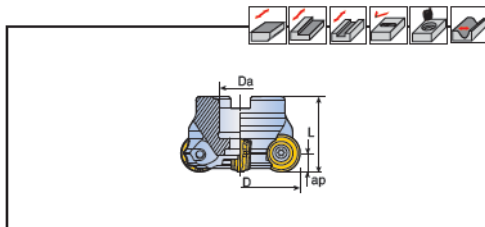
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench		
TFMRNS-10	TS 35085I/HG	T-T15		
TFMRNS-12	TS 40G110I	T-T15		
TFMRNS-16	TS 50A121I/HG	T-T20		



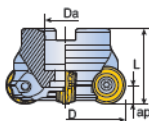
Face mill



Designation	⌀	Dimension (mm)				Coolant	Arbor style	K _G	Mounting bolt	Insert
		D	Da	L	ap					
TFMRX 650-22R-10	6	50	22	40	5	•	A	0.3	SH M10x1.5x30	RXM(H)X 1003...
652-22R-10	6	52	22	40	5	•	A	0.3	SH M10x1.5x30	E194
450-22R-12	4	50	22	40	6	•	A	0.2	SH M10x1.5x25	RXM(H)X 12T3...
550-22R-12	5	50	22	40	6	•	A	0.2	SH M10x1.5x25	E194
552-22R-12	5	52	22	40	6	•	A	0.3	SH M10x1.5x30	
563-22R-12	5	63	22	40	6	•	A	0.4	SH M10x1.5x25	
663-22R-12	6	63	22	40	6	•	A	0.4	SH M10x1.5x25	
666-27R-12	6	66	27	50	6	•	A	0.6	SH M10x1.5x25	
680-27R-12	6	80	27	50	6	•	A	0.8	SH M12x1.75x35	
7100-32R-12	7	100	32	50	6	x	B	1.2	-	



Face mill



Designation		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert
		D	Da	L	ap					
TFMRX 350-16R-16	3	50	16	40	8	•	A	0.2	SH M8x1.25x30	RXMX 1604...
450-16R-16	4	50	16	40	8	•	A	0.2	SH M8x1.25x30	
452-16R-16	4	52	16	40	8	•	A	0.2	SH M8x1.25x30	
463-22R-16	4	63	22	40	8	•	A	0.4	SH M10x1.5x25	
566-27R-16	5	66	27	50	8	•	A	0.5	SH M12x1.75x35	
580-27R-16	5	80	27	50	8	•	A	0.8	SH M12x1.75x35	
6100-32R-16	6	100	32	50	8	x	B	1.1	-	RXMX 2006...
7125-40R-16	7	125	40	63	8	x	B	2.4	-	
8160-40R-16	8	160	40	63	8	x	C	3.6	-	
463-22R-20	4	63	22	40	10	•	A	0.3	LH M10x1.5x25	
580-27R-20	5	80	27	50	10	•	A	0.8	LH M12x1.75x30	
6100-32R-20	6	100	32	50	10	x	B	1.0	-	
7125-40R-20	7	125	40	63	10	x	B	2.5	-	
8160-40R-20	8	160	40	63	10	x	C	3.7	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFMRX-10	TS 35070I/HG	T-T15			
TFMRX-12	TS 35085I/HG	T-T15			
TFMRX-16	TS 45A100I/HG	T-T20			
TFMRX-20	TS 50115I/HG	T-T20			



E220-E221



TE37-TE46

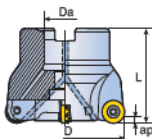


TE60-TE61



TE71

Face mill



Designation	R		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert
			D	Da	L	ap					
TFMRY 532-16R-08	4	5	32	16	40	4	•	A	0.12	SH M8x1.25x30	RYM(H)X 0803...
	4	6	40	16	40	4	•	A	0.22	SH M8x1.25x30	E195-E196
432-16R-10	5	4	32	16	40	5	•	A	0.12	SH M8x1.25x30	RYM(H)X 1004...
540-16R-10	5	5	40	16	40	5	•	A	0.22	SH M8x1.25x30	E195-E196
640-16R-10	5	6	40	16	40	5	•	A	0.23	SH M8x1.25x30	
650-22R-10	5	6	50	22	50	5	•	A	0.33	SH M10x1.5x30	
652-22R-10	5	6	52	22	50	5	•	A	0.36	SH M10x1.5x30	
766-27R-10	5	7	66	27	50	5	•	A	0.68	SH M12x1.75x30	



E220-E221



TE11

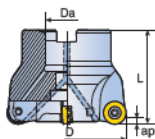


TE62-TE64



TE71

Face mill



Designation	R		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert
			D	Da	L	ap					
TFMRY 332-16R-12	6	3	32	16	40	6	•	E	0.12	KTB 32B	RYM(H)X 1205... E195-E196
440-16R-12	6	4	40	16	40	6	•	A	0.15	SH M8x1.25x30	
450-22R-12	6	4	50	22	50	6	•	A	0.33	SH M10x1.5x30	
550-22R-12	6	5	50	22	50	6	•	A	0.33	SH M10x1.5x30	
552-22R-12	6	5	52	22	50	6	•	A	0.34	SH M10x1.5x30	
463-22R-12	6	4	63	22	50	6	•	A	0.57	SH M10x1.5x30	
563-22R-12	6	5	63	22	50	6	•	A	0.58	SH M10x1.5x30	
663-22R-12	6	6	63	22	50	6	•	A	0.58	SH M10x1.5x30	
763-22R-12	6	7	63	22	50	6	•	A	0.71	SH M10x1.5x30	
666-27R-12	6	6	66	27	50	6	•	A	0.62	LH M12x1.75x30	
766-27R-12	6	7	66	27	50	6	•	A	0.62	LH M12x1.75x30	
680-27R-12	6	6	80	27	50	6	•	A	0.90	LH M12x1.75x30	
780-27R-12	6	7	80	27	50	6	•	A	0.92	LH M12x1.75x30	
880-27R-12	6	8	80	27	50	6	•	A	0.98	LH M12x1.75x30	
7100-32R-12	6	7	100	32	50	6	•	A	1.29	LH M16x2x35	
8100-32R-12	6	8	100	32	50	6	•	A	1.37	LH M16x2x35	
8125-40R-12	6	8	125	40	63	6	•	A	3.00	SH M20x2.5x40	
9125-40R-12	6	9	125	40	63	6	•	A	2.99	SH M20x2.5x40	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench		
TFMRY-08	TS 30A60I/HG	TD 9		
TFMRY-10	TS 35085/HG	T-T15		
TFMRY-12	TS 40093I	T-T15		



E220-E221



TE11



TE37-TE43

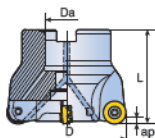


TE62-TE64



TE71

Face mill

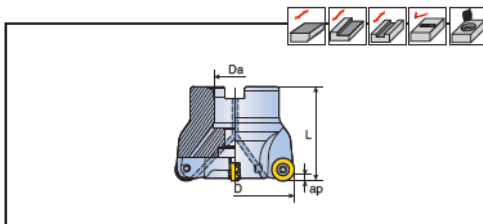


Designation	R		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert
			D	Da	L	ap					
TFMRY 350-16R-16	8	3	50	16	50	8	•	A	0.3	SH M6x1.25x35	RYM(H)X 1606... E195-E196
450-16R-16	8	4	50	16	50	8	•	A	0.3	SH M8x1.25x35	
450-22R-16	8	4	50	22	50	8	•	A	0.3	SH M10x1.5x30	
452-22R-16	8	4	52	22	50	8	•	A	0.3	SH M10x1.5x30	
463-22R-16	8	4	63	22	50	8	•	A	0.5	SH M10x1.5x30	
463H-22R-16*	8	4	63	22	50	8	•	A	0.5	SH M10x1.5x30	
566-27R-16	8	5	66	27	50	8	•	A	0.6	LH M12x1.75x30	
580-27R-16	8	5	80	27	50	8	•	A	0.8	LH M12x1.75x30	
580H-27R-16*	8	5	80	27	50	8	•	A	0.8	LH M12x1.75x30	
680-27R-16	8	6	80	27	50	8	•	A	0.8	LH M12x1.75x30	
6100-32R-16	8	6	100	32	50	8	•	A	1.2	LH M16x2x35	
6100H-32R-16*	8	6	100	32	50	8	•	A	1.2	LH M16x2x35	
7125-40R-16	8	7	125	40	63	8	•	A	2.7	SH M20x2.5x40	
7125H-40R-16*	8	7	125	40	63	8	•	A	2.6	SH M20x2.5x40	
8125-40R-16	8	8	125	40	63	8	•	A	2.7	SH M20x2.5x40	
8160H-40R-16*	8	8	160	40	63	8	x	C	3.3	-	



* Carbide shim type

Face mill



Designation	R		Dimension (mm)				Coolant	Arbor style		Mounting bolt	Insert
			D	Da	L	ap					
TFMRY 463-22R-20	10	4	63	22	50	10	•	A	0.5	SH M10x1.5x30	RYMX 2007... E195-E196
580-27R-20	10	5	80	27	50	10	•	A	0.8	LH M12x1.75x30	
5100H-32R-20*	10	5	100	32	50	10	•	A	1.1	LH M16x2x35	
6100-32R-20	10	6	100	32	50	10	•	A	1.2	LH M16x2x35	
5125H-40R-20*	10	5	125	40	63	10	•	A	2.7	SH M20x2.5x40	
7125-40R-20	10	7	125	40	63	10	•	A	2.5	SH M20x2.5x40	
6160H-40R-20*	10	6	160	40	63	10	x	C	2.7	-	
8160-40R-20	10	8	160	40	63	10	x	C	3.8	-	
8200H-60R-20*	10	8	200	60	63	10	x	C	5.3	-	
9250H-60R-20*	10	9	250	60	63	10	x	C	9.3	-	

• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

• *Carbide shim type

Spare parts

Designation	Shim	Shim screw	Screw	Wrench	
TFMRY-16					
TFMRY-20	-	-	TS 50115I	T-T20	
TFMRY...H-16	TSRY 16NS	TS 8050088S	TS 50115I	SW6-T, BLD T25/M7	
TFMRY...H-20	TSRY 20NS	TS 9060011S	TS 60A130I	T-T20	
			TS 60A130I	SW6-T, BLD T25/M7	



E220-E221



TE11



TE37-TE43



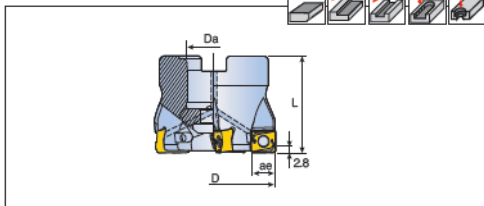
TE62-TE64



TE71

TPM-PL09

Plunge mill



Designation		Dimension (mm)				Arbor style		Mounting bolt	Insert
		D	Da	L	ae				
TPM 440-16R-PL09	4	40	16	40	9	A	0.2	SH M8x1.25x30	PLNG 0904... E192
550-22R-PL09	5	50	22	40	9	A	0.3	SH M10x1.5x30	
552-22R-PL09	5	52	22	40	9	A	0.4	SH M10x1.5x30	
663-22R-PL09	6	63	22	40	9	A	0.5	SH M10x1.5x30	
763-22R-PL09	7	63	22	40	9	A	0.5	SH M10x1.5x30	
666-22R-PL09	6	66	22	40	9	A	0.6	SH M10x1.5x30	
766-22R-PL09	7	66	22	40	9	A	0.6	SH M10x1.5x30	
880-27R-PL09	8	80	27	50	9	A	1.0	LH M12x1.75x30	
10100-32R-PL09	10	100	32	50	9	A	2.0	LH M16x2x35	

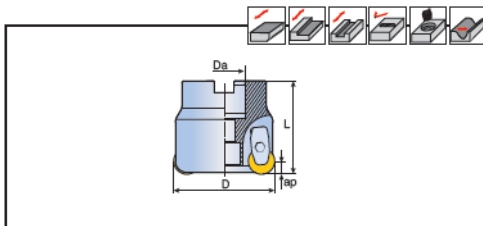
• Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TPM-PL09	TS 30085I/HG	TD 9			



Face mill



Designation		Dimension (mm)				Arbor style		Mounting bolt	Insert
		D	Da	L	ap				
TFMRN 350-22R-12CH	3	50	22	50	6	A	0.4	SH M10x1.5x30	RNX 1207 CH... E193
450-22R-12CH	4	50	22	50	6	A	0.3	SH M10x1.5x30	
463-22R-12CH	4	63	22	50	6	A	0.5	SH M10x1.5x30	
580-27R-12CH	5	80	27	50	6	A	0.9	SH M12x1.75x35	

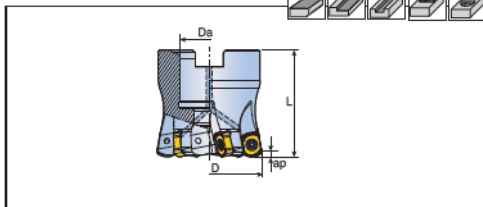
Spare parts

Designation	Clamp	Screw	Spring	Wrench	
TFMRN-12CH	CCL 5M	DLS 4	DSP 4	T-W 3	



TFMBL-06

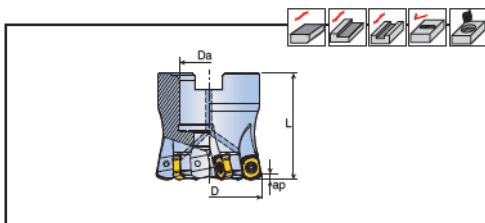
Face mill



Designation		Dimension (mm)				Arbor style		Mounting bolt	Insert
		D	Da	L	ap				
TFMBL 432-16R-06	4	32	16	40	1	A	0.1	SH M8x1.25x25	BLMP 0603... E183
532-16R-06	5	32	16	40	1	A	0.1	SH M8x1.25x25	
640-16R-06	6	40	16	40	1	A	0.2	SH M8x1.25x25	
640-22R-06	6	40	22	40	1	A	0.2	SH M10x1.5x30	
650-22R-06	6	50	22	50	1	A	0.4	SH M10x1.5x30	
750-22R-06	7	50	22	50	1	A	0.4	SH M10x1.5x30	
850-22R-06	8	50	22	50	1	A	0.4	SH M10x1.5x30	
752-22R-06	7	52	22	40	1	A	0.4	SH M10x1.5x30	
852-22R-06	8	52	22	40	1	A	0.4	SH M10x1.5x30	
763-22R-06	7	63	22	50	1	A	0.6	SH M10x1.5x30	
863-22R-06	8	63	22	50	1	A	0.6	SH M10x1.5x30	
963-22R-06	9	63	22	50	1	A	0.6	SH M10x1.5x30	
966-27R-06	9	66	27	50	1	A	0.7	SH M12x1.75x35	

E220-E221	TE10	TE54-TE55	TE70
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Face mill

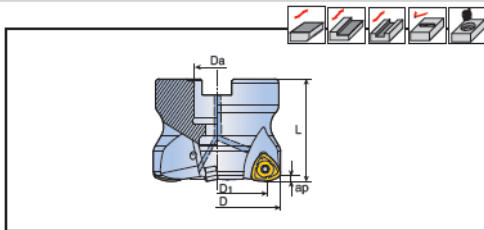


Designation		Dimension (mm)				Arbor style	K _a	Mounting bolt	Insert
		D	Da	L	ap				
TFMBL 432-16R-09	4	32	16	40	1.5	E	0.1	KTB 32B	BLMP 0904... E183
440-16R-09	4	40	16	40	1.5	A	0.2	SH M8x1.25x25	
540-16R-09	5	40	16	40	1.5	A	0.2	SH M8x1.25x25	
550-22R-09	5	50	22	50	1.5	A	0.4	SH M10x1.5x30	
650-22R-09	6	50	22	50	1.5	A	0.4	SH M10x1.5x30	
750-22R-09	7	50	22	50	1.5	A	0.4	SH M10x1.5x30	
652-22R-09	6	52	22	40	1.5	A	0.4	SH M10x1.5x30	
752-22R-09	7	52	22	40	1.5	A	0.4	SH M10x1.5x30	
663-22R-09	6	63	22	50	1.5	A	0.6	SH M10x1.5x30	
763-22R-09	7	63	22	50	1.5	A	0.6	SH M10x1.5x30	
863-22R-09	8	63	22	50	1.5	A	0.6	SH M10x1.5x30	
766-27R-09	7	66	27	50	1.5	A	0.7	SH M12x1.75x35	
866-27R-09	8	66	27	50	1.5	A	0.8	SH M12x1.75x35	
780-27R-09	7	80	27	50	1.5	A	1.2	SH M12x1.75x35	
880-27R-09	8	80	27	50	1.5	A	1.2	SH M12x1.75x35	
980-27R-09	9	80	27	50	1.5	A	1.2	SH M12x1.75x35	
1080-27R-09	10	80	27	50	1.5	A	1.2	SH M12x1.75x35	
8100-32R-09	8	100	32	60	1.5	A	2.3	SH M16x2.0x35	
9100-32R-09	9	100	32	60	1.5	A	2.3	SH M16x2.0x35	
10100-32R-09	10	100	32	60	1.5	A	2.3	SH M16x2.0x35	
11100-32R-09	11	100	32	60	1.5	A	2.3	SH M16x2.0x35	
12100-32R-09	12	100	32	60	1.5	A	2.3	SH M16x2.0x35	
12125-40R-09	12	125	40	60	1.5	A	2.7	SH M20x2.5x40	
14125-40R-09	14	125	40	60	1.5	A	2.7	SH M20x2.5x40	



TFMBL-12

Face mill



Designation		Dimension (mm)						Arbor style		Mounting bolt	Insert
		D	D1	Da	L	ap					
TFMBL 350-22R-12	3	50	33.3	22	40	2	A	0.3	SH M10x1.5x30	BLMP 1205... E184	
450-22R-12	4	50	33.3	22	40	2	A	0.3	SH M10x1.5x30		
452-22R-12	4	52	35.3	22	40	2	A	0.3	SH M10x1.5x30		
463-22R-12	4	63	46.0	22	50	2	A	0.8	SH M10x1.5x30		
563-22R-12	5	63	46.0	22	50	2	A	0.8	SH M10x1.5x30		
566-22R-12	5	66	49.0	22	50	2	A	0.8	SH M10x1.5x30		
580-27R-12	5	80	63.2	27	60	2	A	1.4	SH M12x1.75x30		
580-32R-12	5	80	63.1	32	60	2	A	1.4	SH M16x2x35		
6100-32R-12	6	100	83.0	32	60	2	A	2.2	SH M16x2x35		
7125-40R-12	7	125	108.0	40	60	2	A	2.8	SH M20x2.5x40		

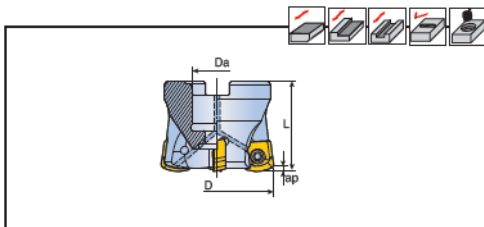
- Coolant through type
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TFMBL-06	TS 25064I/HG-P	TD 8P			
TFMBL-09	TS 35A088I/HG	TD 10P			
TFMBL-12	TS 40120I	T-T15			





Face mill



Designation	Z	Dimension (mm)				Arbor style	K ₉	Mounting bolt	Insert
		D	Da	L	ap				
TFMXD 550-22R-08	5	50	22	40	1	A	0.3	SH M10x1.5x30	XDMX 08T3... E211
TFMXD 350-22R-13	3	50	22	40	2	A	0.3	SH M10x.5x0	XDMX 1305... E211
450-22R-13	4	50	22	40	2	A	0.3	SH M10x1.5x30	
463-22R-13	4	63	22	50	2	A	1.0	SH M10x1.5x30	
580-27R-13	5	80	27	60	2	A	1.4	SH M12x1.75x35	
580-32R-13	5	80	32	60	2	A	1.3	SH M16x2.0x35	
6100-32R-13	6	100	32	60	2	A	2.0	SH M16x2.0x35	
6125-40R-13	6	125	40	60	2	A	2.7	SH M20x2.5x40	

- Coolant through type
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
					
TFMXD-08	TS 25A075I/HG	TD 8P			
TFMXD-13	TS 40120I	T-T15			



3P TE90-06

MILL-RUSH

End mill



90°

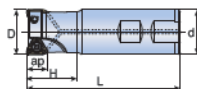


Fig.1

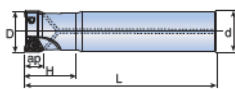


Fig.2

Designation	⊕	Dimension (mm)					Fig.	Insert
		D	d	L	H	ap		
3P TE90-112-12-06-L80	1	12	12	80	20	4.7	2	3PK(H)T 0603... E175
114-12-06-L80	1	14	12	80	20	4.7	2	
216-W16-06	2	16	16	90	25	4.7	1	
216-16-06-L110	2	16	16	110	25	4.7	2	
216-16-06-L150	2	16	16	150	25	4.7	2	
317-16-06-L110	3	17	16	110	25	4.7	2	
318-W16-06	3	18	16	90	25	4.7	1	
318-16-06-L150	3	18	16	150	25	4.7	2	
319-16-06-L150	3	19	16	150	25	4.7	2	
320-W20-06	3	20	20	105	25	4.7	1	
420-W20-06	4	20	20	105	25	4.7	1	
320-20-06-L160	3	20	20	160	25	4.7	2	
420-19-06-L160	4	20	19	160	25	4.7	2	
421-20-06-L160	4	21	20	160	25	4.7	2	
422-W20-06	4	22	20	110	25	4.7	1	
425-W20-06	4	25	20	115	25	4.7	1	
525-W20-06	5	25	20	115	25	4.7	1	
525-W25-06	5	25	25	115	25	4.7	1	
630-W25-06	6	30	25	130	30	4.7	1	
632-W25-06	6	32	25	130	30	4.7	1	
732-W25-06	7	32	25	130	30	4.7	1	
840-W32-06	8	40	32	130	30	4.7	1	



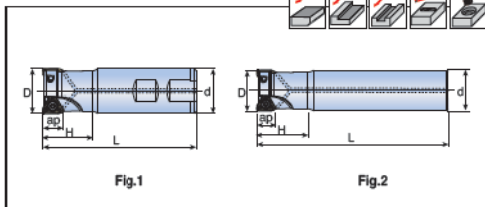
• Coolant through type

Contents

End mill



90°



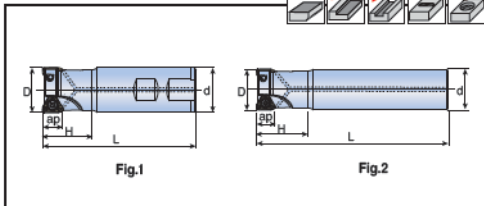
Designation		Dimension (mm)					Coolant	Fig.	Insert
		D	d	L	H	ap			
3P TE90-116-W16-10	1	16	16	90	20	7	●	1	3PK(H)T 1004... E175
220-W20-10	2	20	20	90	25	7	●	1	
220-19-10-L170	2	20	19	170	30	7	x	2	
220-20-10-L170	2	20	20	170	40	7	x	2	
221-20-10-L200	2	21	20	200	30	7	x	2	
222-W20-10	2	22	20	100	25	7	●	1	
225-25-10-L210	2	25	25	210	40	7	x	2	
325-W20-10	3	25	20	100	30	7	●	1	
325-W25-10	3	25	25	100	30	7	●	1	
325-24-10-L210	3	25	24	210	35	7	x	2	
325-25-10-L210	3	25	25	210	40	7	x	2	
226-25-10-L250	2	26	25	250	30	7	x	2	
330-W25-10	3	30	25	110	35	7	●	1	
232-W25-10	2	32	25	110	35	7	●	1	
332-W25-10	3	32	25	110	35	7	●	1	
332-32-10-L250	3	32	32	250	60	7	x	2	
432-W32-10	4	32	32	110	40	7	●	1	
532-W32-10	5	32	32	110	40	7	●	1	
333-32-10-L250	3	33	32	250	35	7	x	2	
440-32-10-L200	4	40	32	200	40	7	x	2	
540-W32-10	5	40	32	115	40	7	●	1	
640-W32-10	6	40	32	115	40	7	●	1	






3P TE90-15/19

MILL•RUSH

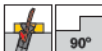
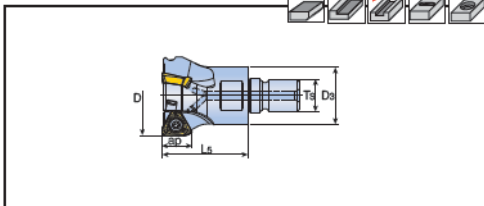
End mill



Designation		Dimension (mm)					Coolant	Fig.	Insert
		D	d	L	H	ap			
3P TE90-232-W32-15	2	32	32	110	40	11	●	1	3PK(H)T 1505...  E175
232-32-15-L250	2	32	32	250	60	11	x	2	
332-W25-15	3	32	25	100	40	11	●	1	
332-W25-15-L155	3	32	25	155	35	11	x	2	
332-W32-15	3	32	32	110	40	11	●	1	
332-32-15-L150	3	32	32	150	40	11	x	2	
332-32-15-L250	3	32	32	250	60	11	x	2	
233-32-15-L200	2	33	32	200	40	11	x	2	
233-32-15-L250	2	33	32	250	40	11	x	2	
335-W32-15	3	35	32	110	40	11	●	1	
340-W32-15	3	40	32	110	40	11	●	1	
340-32-15-L200	3	40	32	200	40	11	x	2	
440-W32-15	4	40	32	110	40	11	●	1	
3P TE90-240-32-19-L250	2	40	32	250	45	15	x	2	3PK(H)T 1906...  E175
340-W32-19	3	40	32	115	45	15	●	1	
340-32-19-L200	3	40	32	200	45	15	x	2	
460-W32-19	4	50	32	115	45	15	●	1	



Modular



90°

Designation	⊕	Dimension (mm)					Insert
		D	D ₃	L ₅	T _s	ap	
3P TE90-216-M08-06	2	16	13	23	8	4.7	3PKT 0603... E175
320-M10-06	3	20	18	35	10	4.7	
420-M10-06	4	20	18	35	10	4.7	
425-M12-06	4	25	21	35	12	4.7	
525-M12-06	5	25	21	35	12	4.7	
632-M16-06	6	32	29	43	16	4.7	
732-M16-06	7	32	29	43	16	4.7	
735-M16-06	7	35	29	43	16	4.7	
3P TE90-220-M10-10	2	20	18	35	10	7	3PK(H)T 1004... E175
325-M12-10	3	25	21	35	12	7	
326-M12-10	3	26	21	35	12	7	
432-M16-10	4	32	29	43	16	7	
532-M16-10	5	32	29	43	16	7	
535-M16-10	5	35	29	43	16	7	
540-M16-10	5	40	29	43	16	7	
640-M16-10	6	40	29	43	16	7	
642-M16-10	6	42	29	43	16	7	
3P TE90-232-M16-15	2	32	29	43	16	11	3PK(H)T 1505... E175
332-M16-15	3	32	29	43	16	11	
340-M16-15	3	40	29	43	16	11	
440-M16-15	4	40	29	43	16	11	3PK(H)T 1906... E175
3P TE90-340-M16-19	3	40	29	43	16	15	

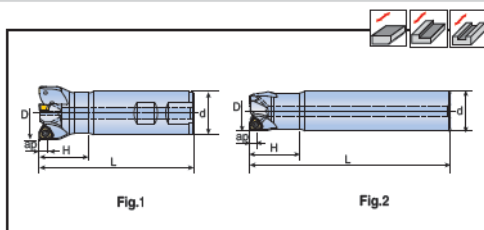
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
3P TE90-06	TS 20043/HG-P	TD6P			
3P TE90-10	TS 25C065/HG	TD6			
3P TE90-15	TS 40B100I	TD15			
3P TE90-19	TS 45120I	T-T20			



End Mill

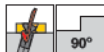
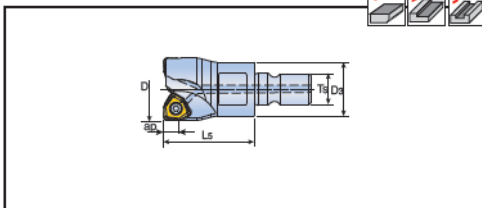


Designation	④	Dimension (mm)					Fig.	Insert
		D	d	L	H	ap		
6N TE90-225-W25-06	2	25	25	100	30	6.2	1	6NGU 0604... E176
225-25-06 -L160	2	25	25	150	30	6.2	2	
232-W32-06	2	32	32	110	40	6.2	1	
232-32-06 -L160	2	32	32	160	40	6.2	2	
332-W32-06	3	32	32	110	40	6.2	1	
332-32-06 -L160	3	32	32	160	40	6.2	2	
340-W32-06	3	40	32	115	40	6.2	1	
340-32-06 -L200	3	40	32	200	40	6.2	2	
440-W32-06	4	40	32	115	40	6.2	1	
6N TE90-232-W32-09	2	32	32	110	40	9.2	1	6NGU 0604... E176
232-32-09-L160	2	32	32	160	60	9.2	2	
340-W32-09	3	40	32	120	40	9.2	1	
340-32-09-L200	3	40	32	200	40	9.2	2	
440-W32-09	4	40	32	120	40	9.2	1	



• Coolant through type

Modular



Designation		Dimension (mm)					Insert
		D	Da	Ls	Ts	ap	
6N TE90-225-M12-06	2	25	21	35	12	6.2	6NGU 0604...
332-M16-06	3	32	29	43	16	6.2	
440-M16-06	4	40	29	43	16	6.2	
6N TE90-232-M16-09	2	32	29	43	16	9.2	6NGU 0905...
340-M16-09	3	40	29	43	16	9.2	
440-M16-09	4	40	29	43	16	9.2	

• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
6N TE90...-06	TS 30085/HG	TD9			
6N TE90...-09	TS 40B100I	TD15			



End mill

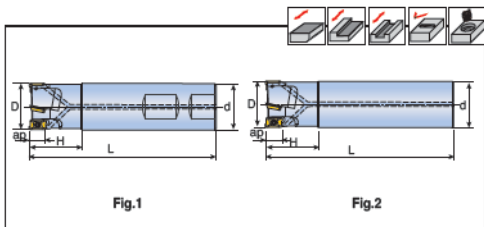
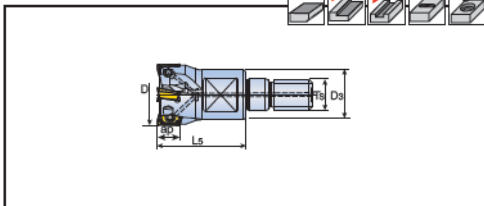


Fig.1

Fig.2

Designation	⊕	Dimension (mm)					Coolant	Fig.	Insert
		D	d	L	H	ap			
TE90AX 108-08-06-C	1	8	8	80	17	5.75	•	2	AXM(C)T 0602 ... E182
210-09-06-L120	2	10	9	120	17	5.75	x	2	
210-10-06	2	10	10	80	17	5.75	x	2	
210-10-06-C	2	10	10	80	17	5.75	•	2	
211-10-06	2	11	10	80	17	5.75	x	2	
212-12-06	2	12	12	80	18	5.75	x	2	
212-12-06-C	2	12	12	80	18	5.75	•	2	
212-12-06-L	2	12	12	130	18	5.75	x	2	
212-11-06-L120	2	12	11	120	20	5.75	x	2	
312-12-06	3	12	12	80	18	5.75	x	2	
312-12-06-C	3	12	12	80	18	5.75	•	2	
313-12-06-C	3	13	12	90	20	5.75	•	2	
314-12-06	3	14	12	80	18	5.75	x	2	
415-12-06	4	15	12	80	18	5.75	x	2	
316-16-06	3	16	16	110	20	5.75	x	2	
316-16-06-C	3	16	16	110	20	5.75	•	2	
316-16-06-L	3	16	16	150	20	5.75	x	2	
416-W16-06	4	16	16	90	20	5.75	x	1	
416-W16-06-C	4	16	16	90	20	5.75	•	1	
417-16-06	4	17	16	90	20	5.75	x	2	
418-W16-06	4	18	16	90	20	5.75	x	1	
418-W16-06-C	4	18	16	90	20	5.75	•	1	
418-16-06-L	4	18	16	150	20	5.75	x	2	
419-W16-06	4	19	16	90	20	5.75	x	1	
420-20-06	4	20	20	160	25	5.75	x	2	
420-W20-06-C	4	20	20	160	25	5.75	•	1	
520-19-06-L	5	20	19	160	25	5.75	x	1	
520-W20-06	5	20	20	105	25	5.75	x	1	
520-W20-06-C	5	20	20	105	25	5.75	•	1	
521-20-06	5	21	20	105	25	5.75	x	2	
725-W20-06	7	25	20	115	25	5.75	x	1	
725-W20-06-C	7	25	20	115	25	5.75	•	1	
725-W25-06	7	25	25	120	30	5.75	x	1	
832-W25-06	8	32	25	130	32	5.75	x	1	
832-W25-06-C	8	32	25	130	32	5.75	•	1	
1040-W32-06	10	40	32	140	40	5.75	x	1	
1040-W32-06-C	10	40	32	140	40	5.75	•	1	

Modular



Designation	⊙	Dimension (mm)					Insert
		D	D ₃	L ₅	T _s	ap	
TE90AX 210-M06-06	2	10	9.68	23	6	5.5	AXM(C)T 0602... E182
312-M06-06	3	12	9.68	23	6	5.5	
416-M08-06	4	16	13	23	8	5.5	
520-M10-06	5	20	18	30	10	5.5	
725-M12-06	7	25	21	35	12	5.5	
832-M16-06	8	32	29	43	16	5.5	
1040-M16-06	10	40	29	43	16	5.5	

- Matched with T-FLEXTEC: see part G • Coolant through type
- Cutter body for 'AXMT 06' insert with corner radius more than 1.0mm should be modified accordingly Body "R"=Insert "R"-0.1mm

Spare parts

Designation	Screw	Wrench			
TE90AX-06	TS 18041/HG	TD6P			



End mill



90°

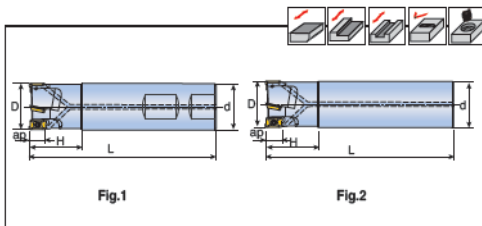
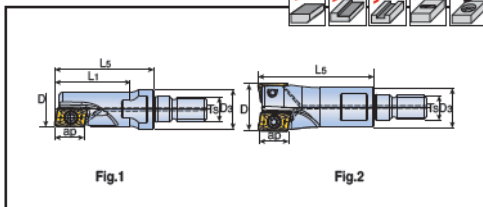


Fig.1

Fig.2

Designation	⊕	Dimension (mm)					Coolant	Fig.	Insert
		D	d	L	H	ap			
2S-TE90AP 110-W10-09	1	10	10	80	23.5	8.8	x	1	APK(C)T 09T3... E179,E182
110-W10-09-C	1	10	10	80	23.5	8.8	●	1	
112-W12-09	1	12	12	80	23.0	8.8	x	1	
112-W16-09-C	1	12	16	80	21.7	8.8	●	1	
114-W12-09	1	14	12	80	25.0	8.8	x	1	
216-16-09-L	2	16	15	170	30.0	8.8	x	2	
216-W16-09	2	16	16	90	22.1	8.8	x	1	
216-W16-09-C	2	16	16	90	22.1	8.8	●	1	
216-16-09-L	2	16	16	145	27.1	8.8	x	2	
217-16-09-L	2	17	16	180	25.0	8.8	x	2	
218-W16-09	2	18	16	90	25.0	8.8	x	1	
218-W16-09-C	2	18	16	90	25.0	8.8	●	1	
220-19-09-L	2	20	19	170	25.0	8.8	x	2	
220-20-09-L	2	20	20	170	37.1	8.8	x	2	
320-W20-09	3	20	20	110	27.1	8.8	x	1	
320-W20-09-C	3	20	20	110	27.1	8.8	●	1	
221-20-09-L	2	21	20	200	25.0	8.8	x	2	
322-W20-09	3	22	20	110	30.0	8.8	x	1	
322-W20-09-C	3	22	20	110	30.0	8.8	●	1	
225-24-09-L	2	25	24	210	28.0	8.8	x	2	
225-25-09-L	2	25	25	210	37.1	8.8	x	2	
325-W20-09	3	25	20	110	30.0	8.8	x	1	
325-W20-09-C	3	25	20	110	30.0	8.8	●	1	
325-W25-09	3	25	25	110	26.6	8.8	x	1	
425-W20-09-C	4	25	20	110	30.0	8.8	●	1	
226-25-09-L	2	26	25	250	28.0	8.8	x	2	
430-W25-09	4	30	25	130	32.0	8.8	x	1	
430-W25-09-C	4	30	25	130	30.0	8.8	●	1	
232-32-09-L	2	32	32	250	62.0	8.8	x	2	
432-W25-09	4	32	25	130	32.0	8.8	x	1	
432-W25-09-C	4	32	25	130	32.0	8.8	●	1	
532-W25-09-C	5	32	25	130	32.0	8.8	●	1	
333-32-09-L	3	33	32	250	40.0	8.8	x	2	
240-32-09-L	2	40	32	250	32.0	8.8	x	2	
540-W32-09	5	40	32	130	32.0	8.8	x	1	
540-W32-09-C	5	40	32	130	32.0	8.8	●	1	
640-W32-09	6	40	32	130	32.0	8.8	x	1	

Modular



Designation		Dimension (mm)						Fig.	Insert
		D	D ₃	L _s	L ₁	T _s	ap		
2S-TE90AP 110-M06-09	1	10	9.7	33	19	6	8.8	1	APK(C)T 09T3... E179,E182
112-M08-09	1	12	13	33	25	8	8.8	1	
216-M08-09	2	16	13	38	-	8	8.8	2	
320-M10-09	3	20	18	38	-	10	8.8	2	
325-M12-09	3	25	21	38	-	12	8.8	2	
425-M12-09	4	25	21	38	-	12	8.8	2	
432-M16-09	4	32	29	38	-	16	8.8	2	
532-M16-09	5	32	29	38	-	16	8.8	2	
540-M16-09	5	40	29	43	-	16	8.8	2	
640-M16-09	6	40	29	43	-	16	8.8	2	

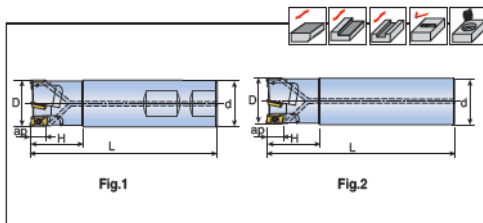
- Matched with T-FLEXTEC: see part G
- Coolant through type
- Cutter body for 'APKT09' insert with corner radius more than 2.4mm should be modified accordingly body "R"=insert "R"-0.2mm

Spare parts

Designation	Screw	Wrench			
2S-TE90AP-09	TS 25055I/HG	TD3			



End mill

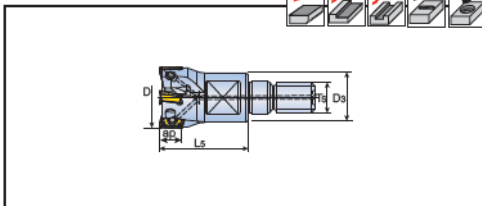


Designation	⊕	Dimension (mm)					Fig.	Insert
		D	d	L	H	ap		
TE90AP 116-W16-12-C	1	16	16	85	26	12	1	APK(C)T 1204.... E180,E182
218-W20-12-C	2	18	20	85	26	12	1	
220-19-12-L	2	20	19	170	30	12	2	
220-W20-12-C	2	20	20	90	30	12	1	
220-W20-12-L-C	2	20	20	125	30	12	1	
220-20-12-L	2	20	20	170	30	12	2	
220-20-12-L200	2	20	20	200	30	12	2	
221-20-12-L200	2	21	20	200	30	12	2	
221-20-12-L250	2	21	20	250	30	12	2	
225-24-12-L	2	25	24	200	40	12	2	
225-W26-12-L-C	2	25	25	145	40	12	1	
225-25-12-L	2	25	25	210	40	12	2	
225-25-12-L200	2	25	25	200	40	12	2	
325-W26-12-C	3	25	25	100	40	12	1	
226-25-12-L200	2	26	25	200	40	12	2	
226-25-12-L250	2	26	25	250	40	12	2	
232-25-12-L	2	32	25	250	40	12	2	
332-W26-12-L-C	3	32	25	155	35	12	1	
332-W32-12-C	3	32	32	110	40	12	1	
332-32-12-L	3	32	32	250	40	12	2	
332-32-12-L150	3	32	32	150	40	12	2	
432-W26-12-C	4	32	25	100	40	12	1	
233-32-12-L200	2	33	32	200	40	12	2	
233-32-12-L250	2	33	32	250	40	12	2	
333-32-12-L200	3	33	32	200	40	12	2	
333-32-12-L250	3	33	32	250	40	12	2	
435-W26-12	4	35	25	100	40	12	1	
440-W32-12-C	4	40	32	115	45	12	1	
440-32-12-L	4	40	32	250	40	12	2	
540-W32-12-C	5	40	32	115	45	12	1	



• Coolant through type

Modular



Designation		Dimension (mm)					Insert
		D	D ₃	L _s	T _s	ap	
TE90AP 116-M08-12	1	16	13	35	8	12	APK(C)T 1204... E180, E182
220-M10-12	2	20	18	35	10	12	
325-M12-12	3	25	21	35	12	12	
432-M16-12	4	32	29	43	16	12	
540-M16-12	5	40	29	43	16	12	
542-M16-12	5	42	29	43	16	12	

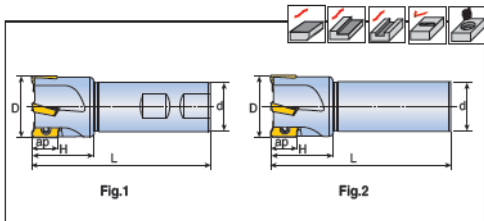
- Matched with T-FLEXTEC: see part G
- Coolant through type
- Cutter body for 'APKT 12' insert with corner radius more than 1.6mm should be modified accordingly body "R"=Insert "R"-0.5mm

Spare parts

Designation	Screw	Wrench			
TE90AP-12(O16-O25)	TS 35A070I/HG	TD10P			
TE90AP-12(O32-)	TS 35A088I/HG	TD10P			



End mill



Designation	⊖	Dimension (mm)					Coolant	Fig.	Insert
		D	d	L	H	ap			
TE90AP 120-W20-17	1	20	20	90	32	16.1	x	1	APKT 1705... E181
120-W20-17-C	1	20	20	90	32	16.1	•	1	
225-24-17-L	2	25	24	210	40	16.1	x	2	
225-W25-17	2	25	25	100	39	16.1	x	1	
225-W25-17-C	2	25	25	100	39	16.1	•	1	
225-25-17-L	2	25	25	210	40	16.1	x	2	
226-25-17-L200	2	26	25	200	40	16.1	•	2	
226-25-17-L250	2	26	25	250	40	16.1	•	2	
232-32-17-L	2	32	32	250	65	16.1	x	2	
233-32-17-L250	2	33	32	250	40	16.1	•	2	
233-32-17-L300	2	33	32	300	40	16.1	•	2	
332-W32-17	3	32	32	110	40	16.1	x	1	
332-W32-17-C	3	32	32	110	40	16.1	•	1	
332-32-17-L	3	32	32	200	65	16.1	x	2	
333-32-17-L200	3	33	32	200	55	16.1	•	2	
333-32-17-L250	3	33	32	250	55	16.1	•	2	
240-32-17-L	2	40	32	250	54	16.1	x	2	
340-W32-17	3	40	32	110	40	16.1	x	1	
340-32-17-L	3	40	32	200	54	16.1	x	2	
440-W32-17	4	40	32	115	45	16.1	x	1	
440-W32-17-C	4	40	32	115	45	16.1	•	1	
440-32-17-L	4	40	32	200	57	16.1	x	2	

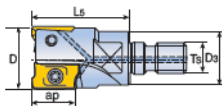


TE47-TE51



TE67

Modular



Designation		Dimension (mm)					Insert
		D	D ₃	L _s	T _s	a _p	
TE90AP 120-M10-17	1	20	18	43	10	16.1	APKT 1705...
225-M12-17	2	25	21	43	12	16.1	
232-M16-17	2	32	29	43	16	16.1	
332-M16-17	3	32	29	43	16	16.1	
340-M16-17	3	40	29	43	16	16.1	
440-M16-17	4	40	29	43	16	16.1	

• Matched with T-FLEXTEC: see part G • Coolant through type

• Cutter body for 'APKT 17' insert with corner radius more than 1.6mm should be modified accordingly Body "R"=Insert "R"-0.8mm

Spare parts

Designation	Screw	Wrench			
TE90AP-17 (Ø20-Ø25)	TS 40085I/HG	TD15			
TE90AP-17 (Ø32-Ø63)	TS 40093I/HG	TD15			
TE90AP-17 (Ø80-)	TS 40120I/HG	TD15			



TE37-TE43



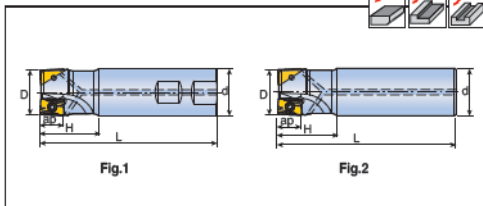
TE47-TE49



TE67

TE90AN-11/16

End mill

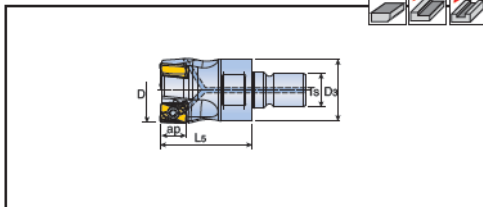


Designation	⊕	Dimension (mm)					Fig.	Insert	
		D	d	L	H	ap			
TE90AN 225-24-11-L	2	25	24	200	40	11	2	ANM(H)X 1106... E178	
225-W25-11	2	25	25	100	40	11	1		
225-25-11-L	2	25	25	200	40	11	2		
226-25-11-L	2	26	25	200	40	11	2		
332-W32-11	3	32	32	110	40	11	1		
332-32-11-L	3	32	32	200	40	11	2		
233-32-11-L	2	33	32	250	40	11	2		
333-32-11-L	3	33	32	200	40	11	2		
340-32-11-L	3	40	32	250	40	11	2		
440-W32-11	4	40	32	115	40	11	1		
440-32-11-L	4	40	32	200	40	11	2		
TE90AN 232-W32-16	2	32	32	110	30	15	1	ANM(H)X 1607... E178	
232-32-16	2	32	32	150	45	15	2		
232-32-16-L250	2	32	32	250	40	15	2		
233-32-16-L200	2	33	32	200	55	15	2		
340-W32-16	3	40	32	115	35	15	1		
340-32-16	3	40	32	150	45	15	2		
340-32-16-L250	3	40	32	250	45	15	2		
450-32-16	4	50	32	150	50	15	2		

• Coolant through type



Modular



Designation	⊕	Dimension (mm)					Insert
		D	D ₃	L _s	T _s	ap	
TE90AN 225-M12-11	2	25	21	35	12	11	ANM(H)X 1106... E178
332-M16-11	3	32	29	43	16	11	
440-M16-11	4	40	29	43	16	11	
TE90AN 232-M16-16	2	32	29	43	16	15	ANM(H)X 1607... E178
340-M16-16	3	40	29	43	16	15	

• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

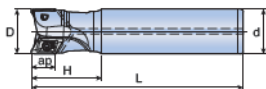
Designation	Screw	Wrench			
TE90AN-11	TS 35A088I/HG	TD10P			
TE90AN-16	TS 40120I	TD15			



TE90XE-16

CHASEALU

End mill



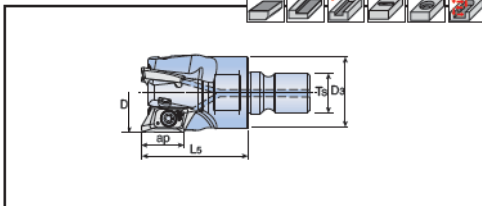
Designation		Dimension (mm)					Max RPM	Insert	
		D	d	L	H	ap			
TE90XE 225-25-16	2	25	25	125	55	16	38,000	XECT 1605... E212	
225-25-16-L170	2	25	25	170	70	16	38,000		
232-32-16	2	32	32	150	50	16	34,000		
232-32-16-L200	2	32	32	200	80	16	34,000		
332-32-16	3	32	32	150	50	16	34,000		
332-32-16-L200	3	32	32	200	80	16	34,000		
340-32-16	3	40	32	170	55	16	30,000		
340-32-16-L250	3	40	32	250	55	16	30,000		

• Coolant through type



Contents

Modular



Designation		Dimension (mm)					Max RPM	Insert
		D	Ds	Ls	Ts	ap		
TE90XE 225-M12-16	2	25	21	43	12	16	38,000	XECT 1605... E212
232-M16-16	2	32	29	43	16	16	34,000	
332-M16-16	3	32	29	43	16	16	34,000	
340-M16-16	3	40	29	43	16	16	30,000	

- Matched with T-FLEXTEC: see part G
- Coolant through type
- Cutter body for 'XECT 16' insert with corner radius more than 3.2mm should be modified accordingly body "R"=insert "R"-0.3mm

Spare parts

Designation	Screw	Wrench			
TE90XE...-16 (Ø25)	TS 40085I/HG	T-T15			
TE90XE...-16 (Ø32-)	TS 40093I/HG	T-T15			

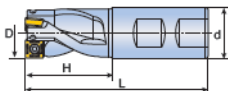
TE18

TE37-TE48

TE52-TE53

TE67

End mill



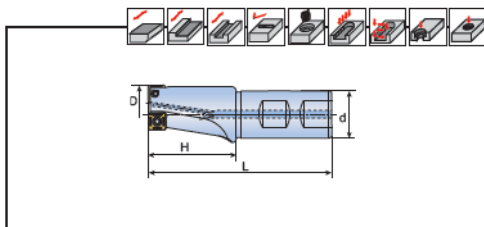
Designation		Dimension (mm)				Coolant	End milling depth, ap	Insert
		D	d	L	H			
TSF- 112-W16-06	1	12	16	80	27	x	5.6	XOMT 060204...
216-W20-06	2	16	20	90	27	x	5.6	E204
320-W20-06	3	20	20	100	25	x	5.6	
222-W25-09	2	22	25	100	40	x	9.0	SPMG(T) 0904...
225-W25-09	2	25	25	100	40	x	9.0	E204
332-W32-11	3	32	32	115	55	x	10.7	SPMG(T) 1104...
440-W32-11	4	40	32	125	55	x	10.7	E204
445-W32-14	4	45	32	130	70	x	13.4	SPMG(T) 1405...
450-W32-14	4	50	32	140	80	x	13.4	E204

Spare parts

Designation	Screw	Wrench			
TSF (Ø12)	TS 22046I	TD7			
TSF (Ø16-Ø20)	TS 22052I/HG	TD7			
TSF (Ø22-Ø25)	TS 35088I	TD10			
TSF (Ø32-Ø40)	TS 40093I	TD15			
TSF (Ø45-Ø50)	TS 50A121I/HG	TD20			





End mill



Designation	Z	Dimension (mm)				Max. drilling depth, Cd	End milling depth, ap	Insert
		D	d	L	H			
TDM-112-W16-06	1	12	16	80	20	12	5.6	XOMT 0602... E204
216-W20-06	2	16	20	90	25	16	5.6	
218-W20-06	2	18	20	90	25	16	5.6	
220-W25-06	2	20	25	100	40	20	5.6	
222-W25-06	2	22	25	110	47	25	5.6	SPMG(T) 0904...-EM E204
225-W25-09	2	25	25	110	50	30	9.0	
228-W32-09	2	28	32	125	60	38	9.0	SPMG(T) 1104...-EM E204
232-W32-11	2	32	32	125	60	38	10.7	
240-W32-11	2	40	32	125	60	38	10.7	SPMG(T) 1405...-EM E204
245-W32-14	2	45	32	130	66	40	13.4	
260-W32-14	2	50	32	150	66	40	13.4	

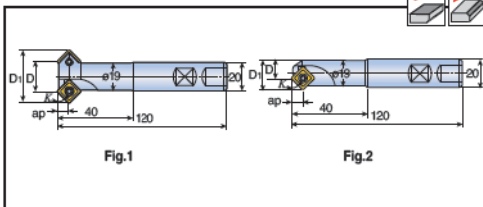
• Coolant through type

Spare parts

Designation	Screw	Wrench			
					
TDM (Ø12)	TS 22046I	TD7			
TDM (Ø16-Ø20)	TS 22052I/HG	TD7			
TDM (Ø22-Ø25)	TS 35088I	TD10			
TDM (Ø32-Ø40)	TS 40093I	TD15			
TDM (Ø45-Ø50)	TS 50A121I/HG	TD20			



End mill



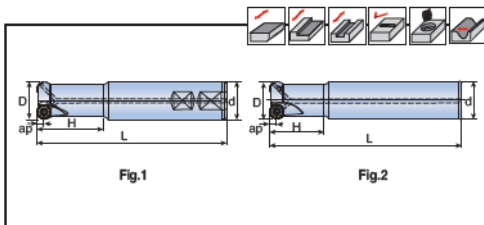
Designation		Dimension (mm)				Fig.	Application range(mm)	Insert
		K	D	D ₁	ap			
TCF 15 D25-11	2	75°	25	30.5	10.1	1	Ø26.3 - Ø30.0	SPMT(G) 1104...EM
30 D25-11	2	60°	25	35.5	8.9	1	Ø26.3 - Ø34.0	E204
45 D07-11	1	45°	7	21.5	7.2	2	Ø8.3 - Ø20.9	
45 D19-11	2	45°	19	33.4	7.2	1	Ø20.3 - Ø32.9	
45 D25-11	3	45°	25	39.4	7.2	1	Ø26.3 - Ø38.9	

Spare parts

Designation	Screw	Wrench			
TCF-11	TS 40093I	TD15			



End mill

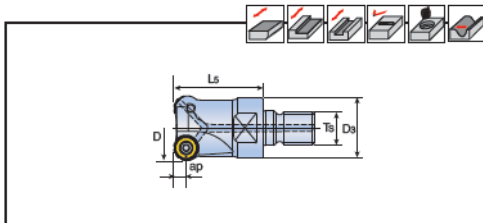


Designation	⊕	Dimension (mm)					Fig.	Insert
		D	d	L	H	ap		
TERNS 225-25-10-L160	2	25	25	160	60	5	2	RNMU 1004... E193
225-32-10-L250	2	25	32	250	40	5	2	
325-25-10-L160	3	25	25	160	60	5	2	
226-25-10-L200	2	26	25	200	80	5	2	
332-32-10-L180	3	32	32	180	70	5	2	
332-32-10-L250	3	32	32	250	100	5	2	
432-32-10-L180	4	32	32	180	70	5	2	
432-32-10-L250	4	32	32	250	100	5	2	
433-32-10-L200	4	33	32	200	80	5	2	
433-32-10-L250	4	33	32	250	100	5	2	
232-32-12-L150	2	32	32	150	50	6	2	RNMU 1205... E193
232-32-12-L200	2	32	32	200	60	6	2	
232-32-12-L	2	32	32	250	50	6	2	
332-W32-12	3	32	32	160	60	6	1	
332-32-12-L200	3	32	32	200	70	6	2	
332-32-12-L250	3	32	32	250	60	6	2	
233-32-12-L200	2	33	32	200	50	6	2	
233-32-12-L250	2	33	32	250	60	6	1	
333-32-12-L200	3	33	32	200	70	6	2	
333-32-12-L250	3	33	32	250	60	6	2	
340-W32-12	3	40	32	160	50	6	1	RNMU 1606... 193
340-32-12-L250	3	40	32	250	50	6	2	
440-W32-12	4	40	32	160	50	6	1	
440-32-12-L250	4	40	32	250	60	6	2	
450-32-12-L200	4	50	32	200	70	6	2	
550-32-12-L250	5	50	32	250	60	6	2	
240-32-16-L180	2	40	32	180	70	8	2	
240-32-16-L250	2	40	32	250	100	8	2	
340-32-16-L180	3	40	32	180	70	8	2	
340-32-16-L250	3	40	32	250	100	8	2	

• Coolant through type



Modular



Designation		Dimension (mm)					Insert
		D	D ₃	L _s	T _s	ap	
TERNS 225-M12-10	2	25	21	35	12	5	RNMU 1004...
325-M12-10	3	25	21	35	12	5	
432-M16-10	4	32	29	43	16	5	
542-M16-10	5	42	29	43	16	5	RNMU 1205...
232-M16-12	2	32	29	43	16	6	
332-M16-12	3	32	29	43	16	6	
233-M16-12	2	33	29	43	16	6	
333-M16-12	3	33	29	43	16	6	
340-M16-12	3	40	29	43	16	6	
440-M16-12	4	40	29	43	16	6	RNMU 1606...
240-M16-16	2	40	29	43	16	8	
340-M16-16	3	40	29	43	16	8	

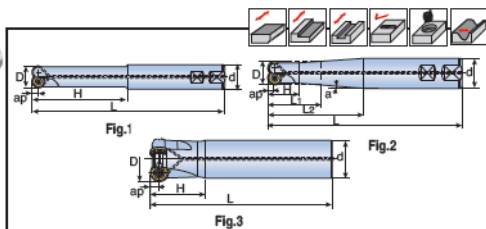
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
TERNS-10	TS 35085I/HG	TD 15			
TERNS-12	TS 40G110I	T-T15			
TERNS-16	TS 50A121I/HG	TD 20			



End mill

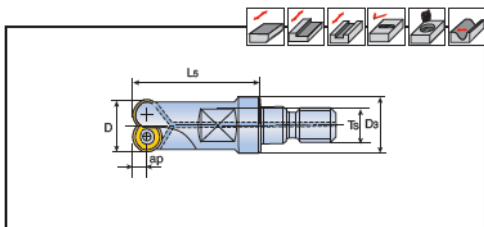


Designation	⊕	Dimension (mm)								Fig.	Insert
		D	d	L	H	L1	L2	a°	ap		
TERD 108-W10-05	1	8	10	80	20	-	-	-	2.5	1	RDMX 0501... E194
210-W12-05	2	10	12	80	30	-	-	-	2.5	1	
212-W12-05	2	12	12	100	40	-	-	-	2.5	1	
212-16-05-L	2	12	16	200	20	34	60	2.0	2.5	2	RDMX 0702... E194
215-W20-07	2	15	20	140	40	-	-	-	3.5	1	
215-20-07-L	2	15	20	200	25	34	60	3.5	3.5	2	
217-16-07-L160	2	17	16	160	25	-	-	-	3.5	3	
217-16-07-L200	2	17	16	200	25	-	-	-	3.5	3	
TERX 220-W20-10	2	20	20	160	60	-	-	-	5	1	RXM(H)X 1003... E194
220-25-10-L	2	20	25	250	46	60	80	4.0	5	2	
221-20-10-L160	2	21	20	160	30	-	-	-	5	3	
221-20-10-L200	2	21	20	200	30	-	-	-	5	3	
225-W25-10	2	25	25	160	60	-	-	-	5	1	
225-32-10-L	2	25	32	250	30	50	80	6.8	5	2	
226-25-10-L200	2	26	25	200	30	-	-	-	5	3	
226-25-10-L250	2	26	25	250	30	-	-	-	5	3	
226-25-10-L300	2	26	25	200	30	-	-	-	5	3	
325-W25-10	3	25	25	160	60	-	-	-	5	1	
432-W32-10	4	32	32	160	60	-	-	-	5	1	
225-W25-12	2	25	25	160	60	-	-	-	6	1	
226-25-12-L250	2	26	25	250	40	-	-	-	6	3	
232-32-12-L	2	32	32	250	50	-	-	-	6	3	
332-W32-12	3	32	32	160	64	-	-	-	6	1	
233-32-12-L200	2	33	32	200	40	-	-	-	6	3	
233-32-12-L250	2	33	32	250	40	-	-	-	6	3	
233-32-12-L300	2	33	32	300	40	-	-	-	6	3	
235-32-12-L250	2	35	32	250	40	-	-	-	6	3	
340-32-12-L250	3	40	32	250	40	-	-	-	6	3	
440-W32-12	4	40	32	160	50	-	-	-	6	1	
240-W32-16	2	40	32	160	50	-	-	-	8	1	RXMX 1604... E194
340-32-16-L250	3	40	32	250	50	-	-	-	8	3	
350-32-20	3	50	32	160	50	-	-	-	10	3	
350-40-20	3	50	40	200	60	-	-	-	10	3	
350-42-20	3	50	42	200	60	-	-	-	10	3	



• Coolant through type

Modular



Designation		Dimension (mm)					Insert
		D	D ₃	L _s	T _s	ap	
TERD 108-M06-05	1	8	9.7	28	6	2.5	RDMX 0501... E194
210-M06-05	2	10	9.7	28	6	2.5	
210-M08-05	2	10	13	28	8	2.5	
212-M08-05	2	12	13	28	8	2.5	
312-M08-05	3	12	13	28	8	2.5	
215-M08-07	2	15	13	23	8	3.5	
220-M08-07	2	20	13	30	8	3.5	
320-M08-07	3	20	13	30	8	3.5	RXM(H)X 1003... E194
TERX 220-M10-10	2	20	18	30	10	5.0	
225-M12-10	2	25	21	35	12	5.0	
325-M12-10	3	25	21	35	12	5.0	
430-M16-10	4	30	29	43	16	5.0	
432-M16-10	4	32	29	43	16	5.0	
435-M16-10	4	35	29	43	16	5.0	
542-M16-10	5	42	29	43	16	5.0	
224-M12-12	2	24	21	35	12	6.0	
232-M16-12	2	32	29	43	16	6.0	
332-M16-12	3	32	29	43	16	6.0	
335-M16-12	3	35	29	43	16	6.0	
340-M16-12	3	40	29	43	16	6.0	
442-M16-12	4	42	29	43	16	6.0	
232-M16-16	2	32	29	43	16	8.0	RXMX 1604... E194
240-M16-16	2	40	29	43	16	8.0	
342-M16-16	3	42	29	43	16	8.0	

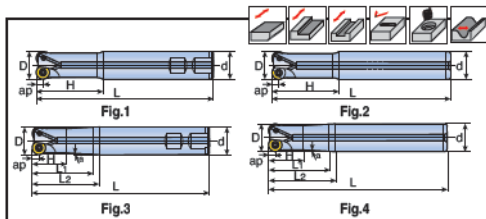
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
TERD-05	TS 20038I	TD 6			
TERD-07	SO 25050I	TD 7			
TERX-10	TS 35070I/HG	TD 15			
TERX-12	TS 35085I/HG	TD 15			
TERX-16	TS 45A100I/HG	TD 20			
TERX-20	TS 50115I/HG	TD 20			



End mill

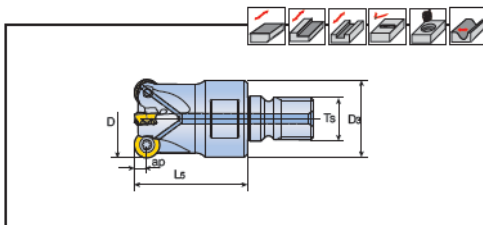


Designation	R		Dimension (mm)								Fig.	Insert	
			D	d	L	H	L1	L2	a ^p	ap			
TERY 216-W20-08-L	4	2	16	20	110	25	45	55	4.1	4	3	RYM(H)X 0803... E195-E196	
217-16-08-L130	4	2	17	16	130	30	-	-	-	4	2		
218-16-08-L150	4	2	18	16	150	30	-	-	-	4	2		
320-W20-08	4	3	20	20	150	40	-	-	-	4	1		
320-20-08-L110	4	3	20	20	110	60	-	-	-	4	2		
321-20-08-L150	4	3	21	20	150	40	-	-	-	4	2		
426-W25-08	4	4	25	25	150	40	-	-	-	4	1		
426-25-08-L150	4	4	26	25	150	40	-	-	-	4	2		
532-W32-08	4	5	32	32	160	60	-	-	-	4	1		
220-W20-10	5	2	20	20	160	60	-	-	-	5	1		RYM(H)X 1004... E195-E196
220-25-10-L	5	2	20	25	250	36	60	80	3.5	5	4		
221-20-10-L200	5	2	21	20	200	30	-	-	-	5	2		
226-32-10-L	5	2	25	32	250	36	53	80	5.0	5	4		
226-W25-10	5	2	25	25	160	60	-	-	-	5	1		
326-W25-10	5	3	25	25	160	60	-	-	-	5	1		
226-25-10-L200	5	2	26	25	200	30	-	-	-	5	2		
326-25-10-L200	5	3	26	25	200	60	-	-	-	5	2		
432-W32-10	5	4	32	32	160	60	-	-	-	5	1		
226-W25-12	6	2	25	25	160	60	-	-	-	6	1	RYM(H)X 1205... E195-E196	
226-25-12-L200	6	2	26	25	200	60	-	-	-	6	2		
232-32-12-L	6	2	32	32	250	50	-	-	-	6	2		
332-W32-12	6	3	32	32	160	64	-	-	-	6	1		
332-W32-12-S	6	3	32	32	105	35	-	-	-	6	1		
233-32-12-L250	6	2	33	32	250	40	-	-	-	6	2		
333-32-12-L200	6	3	33	32	200	60	-	-	-	6	2		
340-W32-12	6	3	40	32	160	50	-	-	-	6	1		
340-W32-12-S	6	3	40	32	105	35	-	-	-	6	1		
340-32-12-L250	6	3	40	32	250	50	-	-	-	6	2		
440-W32-12	6	4	40	32	150	35	-	-	-	6	1	RYM(H)X 1606... E195-E196	
440-W32-12-S	6	4	40	32	105	35	-	-	-	6	1		
240-W32-16	8	2	40	32	160	50	-	-	-	8	1		
340-32-16-L250	8	3	40	32	250	50	-	-	-	8	2		
360-32-20	10	3	50	32	160	50	-	-	-	10	2		RYM(H)X 2007... E195-E196
360-40-20	10	3	50	40	200	60	-	-	-	10	2		



• Coolant through type

Modular



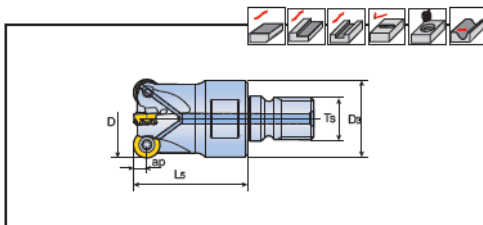
Designation	R		Dimension (mm)					Insert	
			D	Ds	Ls	Ts	ap		
TERY 216-M08-08	4	2	16	13	23	8	4	RYM(H)X 0803... E195-E196	
218-M08-08	4	2	18	13	23	8	4		
220-M10-08	4	2	20	18	30	10	4		
320-M10-08	4	3	20	18	30	10	4		
426-M12-08	4	4	25	21	35	12	4		
530-M16-08	4	5	30	29	43	16	4		
532-M16-08	4	5	32	29	43	16	4		
540-M16-08	4	5	40	29	43	16	4		
640-M16-08	4	6	40	29	43	16	4		
220-M10-10	5	2	20	18	30	10	5		RYM(H)X 1004... E195-E196
226-M12-10	5	2	25	21	35	12	5		
326-M12-10	5	3	25	21	35	12	5		
430-M16-10	5	4	30	29	43	16	5		
432-M16-10	5	4	32	29	43	16	5		
436-M16-10	5	4	35	29	43	16	5		
542-M16-10	5	5	42	29	43	16	5		
642-M16-10	5	6	42	29	43	16	5		

Ramping Guide TE11
 Ramping Data TE62-TE64
 Cutting Condition TE71

- Matched with T-FLEXTEC: see part G
- Coolant through type

Contents

Modular



Designation	R		Dimension (mm)					Insert
			D	Ds	Ls	Ts	ap	
TERY 225-M12-12	6	2	25	21	35	12	6	RYM(H)X 1205... E195-E196
232-M16-12	6	2	32	29	43	16	6	
332-M16-12	6	3	32	29	43	16	6	
335-M16-12	6	3	40	29	43	16	6	
340-M16-12	6	4	42	29	43	16	6	
440-M16-12	6	2	32	29	43	16	6	
442-M16-12	6	2	40	29	43	16	6	
232-M16-16	8	3	42	29	43	16	8	RYM(H)X 1606... E195-E196
240-M16-16	8	2	40	29	43	16	8	
342-M16-16	8	3	42	29	43	16	8	

• Matched with T-FLEXTEC: see part G • Coolant through type

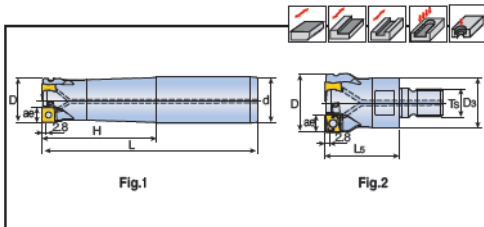
Spare parts

Designation	Screw	Wrench		
TERY-08	TS 30A060/HG	TD 9		
TERY-10	TS 35070/HG(UnderD21), TS 35085/HG	TD15		
TERY-12	TS 40093I	TD15		
TERY-16	TS 50115I	TD20		
TERY-20	TS 60A130I	SW6-T, BLD T25M7		



TPM-PL09/TPM...-...M-PL09

End mill & modular



	Designation	⌀	Dimension (mm)							Fig.	Insert	
			D	D _s	d	L	L ₅	H	T _s			ae
TPM	225-25-PL09	2	25	-	25	200		120	-	9	1	PLNG 0904... E192
	226-25-PL09	2	26	-	25	200		50	-	9	1	
	330-32-PL09	3	30	-	32	250		150	-	9	1	
	332-32-PL09	3	32	-	32	250		150	-	9	1	
	333-32-PL09	3	33	-	32	250		50	-	9	1	
	440-32-PL09	4	40	-	32	250		50	-	9	1	
TPM	225-M12-PL09	2	25	21	-	-	35	-	12	9	2	
	332-M16-PL09	3	32	29	-	-	43	-	16	9	2	
	335-M16-PL09	3	35	29	-	-	43	-	16	9	2	
	440-M16-PL09	4	40	29	-	-	43	-	16	9	2	
	442-M16-PL09	4	42	29	-	-	43	-	16	9	2	

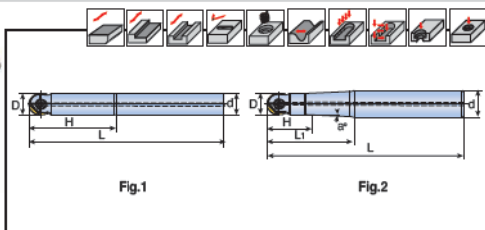
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
TPM-09	TS 30085I/HG	TD 9			



Steel shank type



Designation	Dimension (mm)						Fig.	Insert
	D	d	L	H	L1	α°		
TNF 080-08S	8	8	90	20	-	-	1	NFB 080...
080-12S	8	12	100	10	20	9.5°	2	NFR 080A...
080-12M	8	12	130	10	50	3°	2	
100-10S	10	10	90	30	-	-	1	NFB 100...
100-12S	10	12	110	15	25	5°	2	NFR 100A...
100-16M	10	16	130	15	60	3.5°	2	NFR 110A...
120-12S	12	12	110	30	-	-	1	NFB 120...
120-12M	12	12	180	60	-	-	1	NFR 120A...
120-16M	12	16	140	25	60	2.4°	2	NFR 130A...
120-20L	12	20	180	40	80	5°	2	
160-16M	16	16	130	40	-	-	1	NFB 160...
160-16L	16	16	200	100	-	-	1	NFR 160A...
160-20M	16	20	160	25	60	2.5°	2	NFR 170A...
160-25L	16	25	220	55	100	5°	2	
200-20S	20	20	110	40	-	-	1	NFB 200...
200-20M	20	20	150	50	-	-	1	NFR 200A...
200-20L	20	20	220	70	-	-	1	NFR 210A...
200-25M	20	25	180	40	80	2.5°	2	
200-25L	20	25	220	45	110	1.5°	2	
250-25S	25	25	125	40	-	-	1	NFB 250...
250-25M	25	25	170	70	-	-	1	NFR 250A...
250-32M	25	32	200	32	90	3°	2	NFR 260A...
250-32L	25	32	250	40	130	1.5°	2	
300-32S	30	32	140	55	-	-	1	NFB 300...
300-32M	30	32	190	75	-	-	1	NFB 320...
300-32L	30	32	250	65	100	1°	2	NFR 300A...
300-32XL	30	32	300	150	-	-	1	NFR 320A...
300-32-L220	30	32	220	55	100	1°	2	
320-32L	32	32	250	60	-	-	1	NFB 320...
								NFR 320A...
								E187-E189



• Coolant through type

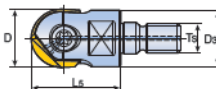
Tungsten carbide shank type



Designation	Dimension (mm)				Insert
	D	d	L	H	
TNF 080-08-CT-L100	8	8	100	30	NFB 080...
080-10-CT-L140	8	10	140	75	NFR 080A...
080-08-CT-L160	8	8	160	80	
100-10-CT-L100	10	10	100	35	NFB 100...
100-10-CT-L140	10	10	140	75	NFR 100A...
100-10-CT-L200	10	10	200	70	NFR 110A...
100-10-CT-L220	10	10	220	140	
120-12-CT-L120	12	12	120	50	NFB 120...
120-12-CT-L160-S	12	12	160	70	NFR 120A...
120-12-CT-L160	12	12	160	90	NFR 130A...
120-12-CT-L200	12	12	200	70	
120-12-CT-L220	12	12	220	150	
160-16-CT-L120	16	16	120	60	NFB 160...
160-16-CT-L160-S	16	16	160	60	NFR 160A...
160-16-CT-L160	16	16	160	80	NFR 170A...
160-16-CT-L200	16	16	200	70	
160-16-CT-L220	16	16	220	150	
200-20-CT-L200	20	20	200	70	NFB 200...
250-25-CT-L220-S	25	25	220	80	NFR 200A...
200-20-CT-L220	20	20	220	120	NFR 210A...
200-20-CT-L300	20	20	300	220	
250-25-CT-L200	25	25	200	70	NFB 250...
250-25-CT-L220	25	25	220	120	NFR 250A...
250-25-CT-L300	25	25	300	220	NFR 260A...
300-32-CT-L200	30	32	200	70	NFB 300...
300-32-CT-L260-S	30	32	250	80	NFB 320...
300-32-CT-L260	30	32	250	150	NFR 300A...
300-32-CT-L360-S	30	32	350	80	NFR 320A...
300-32-CT-L360	30	32	350	230	
320-32-CT-L300	32	32	300	220	NFB 320...
					NFR 320A...
					E187-E189



Modular



Designation	Dimension (mm)				Insert
	D	Ds	Ls	Ts	
TNF 100-M06	10	9.7	20	6	NFB 100... NFR 100A... NFR 110A...
120-M06	12	11.5	23	6	NFB 120...
120-M08	12	13	23	8	NFR 120A... NFR 130A...
160-M08	16	13	30	8	NFB 160... NFR 160A... NFR 170A...
200-M10	20	19	30	10	NFB 200... NFR 200A... NFR 210A...
250-M12	25	24	35	12	NFB 250...
250-M16	25	29	43	16	NFR 250A... NFR 260A...
300-M16	30	29	43	16	NFB 300... NFB 320... NFR 300A... NFR 320A...
320-M16	32	29.5	43	16	NFB 320... NFR 320A...

E187-E189

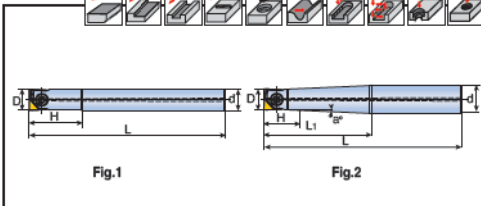
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
TNF 080	TS 25F080A	TD 8			
TNF 100	TS 30F100A	TD 10			
TNF 120	TS 40F120A	TD 15			
TNF 160	TS 50F160A	T-T20			
TNF 200	TS 60F200A	SW6-T, BLD T25/M7			
TNF 250	TS 70F250A	SW6-T, BLD T25/M7			
TNF 300, TNF 320	TS 80F300A	T-T30			



Steel shank type

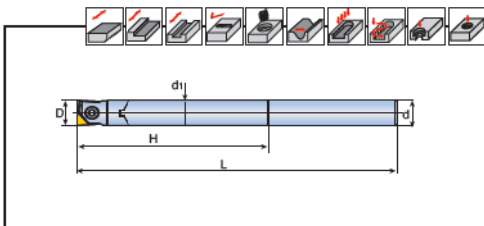


Designation	Dimension (mm)						Fig.	Insert
	D	d	L	H	L1	a°		
TNFR 080-12S	8	12	100	10	22	9°	2	NFR 080A...
080-12M	8	12	130	10	50	2.8°	2	
100-12S	10	12	110	15	25	5°	2	NFR 100A...
100-16M	10	16	150	15	50	3.5°	2	NFR 110A...
120-12S	12	12	110	30	-	-	1	NFR 120A...
120-16M	12	16	160	18	60	2.5°	2	NFR 130A...
160-16S	16	16	130	50	-	-	1	NFR 160A...
160-16M	16	16	170	70	-	-	1	NFR 170A...
160-16L	16	16	200	100	-	-	1	
200-20S	20	20	140	60	-	-	1	NFR 200A...
200-20M	20	20	180	80	-	-	1	NFR 210A...
200-20L	20	20	250	120	-	-	1	
250-25S	25	25	150	70	-	-	1	NFR 250A...
250-25M	25	25	200	100	-	-	1	NFR 260A...
250-25L	25	25	250	120	-	-	1	
300-32S	30	32	140	55	-	-	1	NFR 300A
300-32M	30	32	190	75	-	-	1	NFR 320A
300-32L	30	32	250	65	100	1	2	
320-32L	32	32	250	60	-	-	1	NFR 320A E188-E189



• Coolant through type

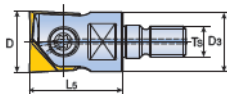
Tungsten carbide shank type



Designation	Dimension (mm)					Insert
	D	d	d ₁	L	H	
TNFR 080-08-CT-L140	8	8	7.8	140	75	NFR 080A...
100-10-CT-L140	10	10	9.5	140	75	NFR 100A... NFR 110A...
120-12-CT-L160	12	12	11.5	160	95	NFR 120A... NFR 130A...
160-16-CT-L200	16	16	15.5	200	120	NFR 160A... NFR 170A...
200-20-CT-L250	20	20	19.5	250	160	NFR 200A... NFR 210A...
250-25-CT-L300	25	25	24.5	300	200	NFR 250A... NFR 260A...
300-32-CT-L350	30	32	29.5	350	230	NFR 300A NFR 320A
320-32-CT-L350	32	32	31.5	350	230	NFR 320A E188-E189



Modular



Designation	Dimension (mm)				Insert
	D	Da	Ls	Ts	
TNFR 100-M06	10	9.7	20	6	NFR 100A... NFR 110A...
120-M06	12	11.5	23	6	NFR 120A...
120-M08	12	13	23	8	NFR 130A...
160-M08	16	13	30	8	NFR 160A... NFR 170A...
200-M10	20	19	30	10	NFR 200A... NFR 210A...
250-M12	25	24	35	12	NFR 250A... NFR 260A...
300-M16	30	29	43	16	NFR 300A NFR 320A
320-M16	32	29.5	43	16	NFR 320A E188-E189

• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

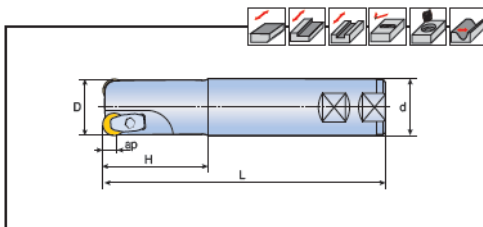
Designation	Screw	Wrench			
TNFR 080	TS 25F080A	TD 8			
TNFR 100	TS 30F100A	TD 10			
TNFR 120	TS 40F120A	TD 15			
TNFR 160	TS 50F160A	T-T20			
TNFR 200	TS 60F200A	SW6-T, BLD T25/M7			
TNFR 250	TS 70F250A	SW6-T, BLD T25/M7			
TNFR 300, TNFR 320	TS 80F300A	T-T30			



TERP-12CH

CHASESPEED

End mill



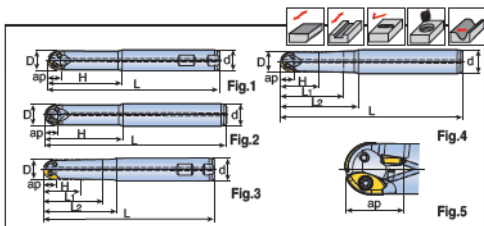
Designation	🔩	Dimension (mm)					Insert
		D	d	L	H	ap	
TERP 232-W32-12CH	2	32	32	140	75	6	RPGX 1204-CH E193
340-W32-12CH	3	40	32	140	40	6	

Spare parts

Designation	Clamp 	Screw 	Spring 	Wrench 	
TERP-12CH	CCL 5M	DLS 4-18L	DSP 4	L-W 3	

Components
 Cutting Condition
 TE37-TE43 TE72

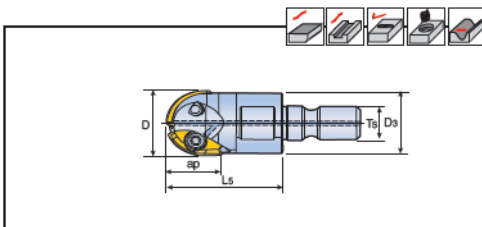
End mill



Designation	Dimension (mm)							Fig.	Insert			
	D	d	L	H	L1	L2	ap		Ball	Periphery		
2F 16-11-W20-L120	16	20	120	27	35.5	60	11.8	3	2FB160-M	2	-	-
16-11-20-L130	16	20	130	35	45.9	60	11.8	4		2	-	-
16-11-20-L200	16	20	200	35	45.9	60	11.8	4		2	-	-
16-20-W20-L120-P	16	20	120	35	41.8	60	20.5	5		2	APKT 09T3	1
16-20-25-L200-P	16	25	200	40	43.4	65	11.8	5		2	APKT 09T3	1
20-13-W25-L105	20	25	105	45	-	-	13.6	1		2	-	-
20-13-W25-L150	20	25	150	40	45.7	65	13.6	3		2	-	-
20-13-20-L220	20	20	220	70	-	-	13.6	2		2	-	-
20-13-25-L160	20	25	160	45	54.5	75	13.6	4		2	-	-
20-13-25-L220	20	25	220	60	65.7	85	13.6	4		2	-	-
20-22-25-L125-P	20	25	125	40	45.7	65	22.3	5	2	APKT 09T3	1	
20-22-25-L200-P	20	25	200	70	74.3	90	22.3	5	2	APKT 09T3	1	
20-22-32-L250-P	20	32	250	70	72.3	100	22.3	5	2	APKT 09T3	1	
25-17-W25-L150	25	25	150	60	-	-	17.7	1	2	-	-	
25-17-32-L150	25	32	150	50	55.7	75	17.7	4	2	-	-	
25-17-32-L200	25	32	200	55	61.6	85	17.7	4	2	-	-	
25-17-32-L300	25	32	300	70	80	120	17.7	4	2	-	-	
25-35-25-L200-P	25	25	200	87.55	-	-	35.1	5	2	APKT 09T3	2	
25-35-32-L200-P	25	32	200	100	-	-	35.1	5	2	APKT 09T3	2	
25-35-32-L250-P	25	32	250	110	-	-	35.1	5	2	APKT 09T3	2	
25-43-32-L300-P	25	32	300	120	-	-	43.7	5	2	APKT 09T3	3	
30-20-W32-L180	30	32	180	86.13	-	-	20.0	1	2	-	-	
30-20-30-L250	30	30	250	104.56	-	-	20.0	2	2	-	-	
30-20-32-L200	30	32	200	86.13	-	-	20.0	2	2	-	-	
30-20-32-L300	30	32	300	126.13	-	-	20.0	2	2	-	-	
30-43-32-L200-P	30	32	200	85.58	-	-	43.7	5	2	APKT 1204	2	
30-43-32-L250-P	30	32	250	125.58	-	-	43.7	5	2	APKT 1204	2	
30-51-32-L300-P	30	32	300	145.58	-	-	55.3	5	2	APKT 1204	3	
32-21-W32-L200	32	32	200	100	-	-	21.4	1	2	-	-	
32-21-32-L180	32	32	180	100	-	-	21.4	2	2	-	-	
32-21-32-L300	32	32	300	130	-	-	21.4	1	2	-	-	
32-44-32-L200-P	32	32	200	83.68	-	-	44.7	5	2	APKT 1204	2	
32-44-32-L250-P	32	32	250	123.68	-	-	44.7	5	2	APKT 1204	2	
32-44-32-L300-P	32	32	300	143.68	-	-	44.7	5	2	APKT 1204	2	



* Coolant through type

Modular


Designation		Dimension (mm)					Insert
		D	Ds	Ls	Ts	ap	
2F 16-11-M08	2	16	13	25	8	11.8	2FB160-M
20-13-M10	2	20	18	30	10	13.6	2FB200-M
25-17-M12	2	25	21	35	12	17.7	2FB250-M
30-20-M16	2	30	29	43	16	20.0	2FB300-M
32-21-M16	2	32	29	43	16	21.4	2FB320-M
							E174

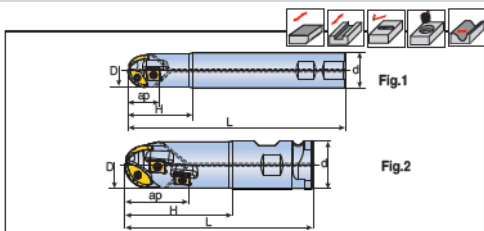
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw		Wrench	
	Ball	Periphery	Ball	Periphery
2FB160-M/APKT 09T3	TS 25064I	TS 25055I/HG	TD 8	TD 8
2FB200-M/APKT 09T3	TS 30085I/HG	TS 25055I/HG	TD 9	TD 8
2FB250-M/APKT 09T3	TS 30085I/HG	TS 25055I/HG	TD 15	TD 8
2FB300-M/APKT 1204	TS 40A115I	TS 35A038I/HG	TD 15	TD 10P
2FB320-M/APKT 1204	TS 40A115I	TS 35A038I/HG	TD 15	TD 10P



End mill



Designation	Dimension (mm)					Fig.	Insert					
	D	d	L	H	ap		Ball1	Ball2	Periphery			
3F 32-39-W32-150	32	32	150	60	39	1	3FB320C-M	1	3FB320P-M	2	CNHX 131108T	2
32-39-W32-200	32	32	200	60	39	1	3FB320C-M	1	3FB320P-M	2	CNHX 131108T	2
32-39-W32-250	32	32	250	60	39	1	3FB320C-M	1	3FB320P-M	2	CNHX 131108T	2
50-54-W40-150	50	40	150	70	54	1	3FB500C-M	1	3FB500P-M	2	CNHX 160608T	2
50-80-W50-200	50	50	200	110	80	1	3FB500C-M	1	3FB500P-M	2	CNHX 160608T	4
50-80-W50-250	50	50	250	110	80	1	3FB500C-M	1	3FB500P-M	2	CNHX 160608T	4
3F 50-68-CN50.8-200	50	50.8	200	115	68	2	3FB500C-M	1	3FB500P-M	2	CNHX 160608T	3
50-94-CN50.8-250	50	50.8	250	165	94	2	3FB500C-M	1	3FB500P-M	2	CNHX 160608T	5
							E174		E174		E184	

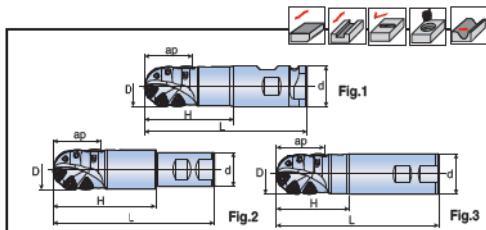
• Coolant through type • When machining over 'ap', please calculate Z=1

Spare parts

Designation	Screw	Wrench		
	3F 32	TS 40093I	TD 15	
3F 50	TS 50115I	T-T20		



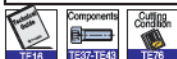
End mill



Designation	⌀	Dimension (mm)						Fig.	Insert
		D	d	L	H	ap			
TDB50X 69-CN50.8-L200	6	50	50.8	200	110	59	1	6RBE 50-M E177	
69-CN50.8-L250	7	50	50.8	250	160	69	1		
TDB50X 69-W40-L200	6	50	40	200	128	59	2		
69-W40-L250	7	50	40	250	178	69	2		
69-W42-L200	6	50	42	200	128	59	2		
69-W42-L250	7	50	42	250	178	69	2		
69-W50-L200	6	50	50	200	90	59	3		
69-W50-L250	7	50	50	250	140	69	3		

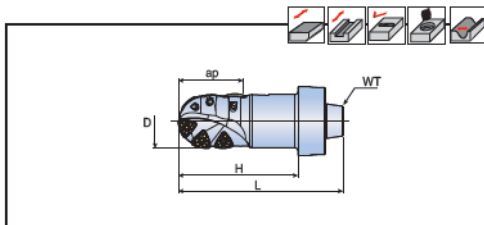
Spare parts

Designation	Screw	Wrench			
TDB50X	TS50B106/HG	T-T20			



TDB50X-WT

End mill



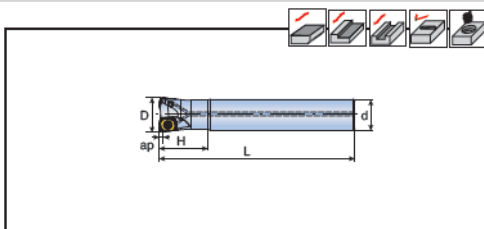
Designation		Dimension (mm)					Insert
		D	L	WT	H	ap	
TDB50X 59-WT30-L150	6	50	150	30	109	59	6RBE 50-M E177
69-WT30-L200	7	50	200	30	159	69	

Spare parts

Designation	Screw	Wrench			
TDB50X	TS50B106I/HG	T-T20			

TE18	TE37-TE43	TE76
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End mill

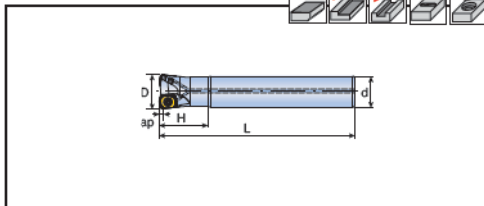


Designation	✱	Dimension (mm)					Insert
		D	d	L	H	ap	
TEBL 216-16-06-L150	2	16	15	150	40	0.7	BLMP 0603... E183
216-16-06	2	16	16	150	40	0.7	
216-16-06-S	2	16	16	100	30	0.7	
217-16-06-S	2	17	16	100	30	0.7	
217-16-06	2	17	16	150	40	0.7	
217-16-06-L200	2	17	16	200	20	0.7	
218-16-06	2	18	16	150	25	0.7	
220-20-06-L200	2	20	20	200	80	1.0	
320-19-06-L180	3	20	19	180	80	1.0	
320-20-06-S	3	20	20	130	50	1.0	
320-20-06	3	20	20	160	80	1.0	
321-20-06-S	3	21	20	150	20	1.0	
321-20-06-L200	3	21	20	200	20	1.0	
325-25-06-L220	3	25	25	220	50	1.0	
425-24-06-L180	4	25	24	180	60	1.0	
425-25-06-S	4	25	25	140	60	1.0	
425-25-06	4	25	25	180	60	1.0	
425-25-06-L250	4	25	25	250	40	1.0	
326-25-06-L200	3	26	25	200	30	1.0	
326-25-06-L250	3	26	25	250	30	1.0	
426-25-06-S	4	26	25	150	30	1.0	
426-25-06-L200	4	26	25	200	30	1.0	
426-25-06-L250	4	26	25	250	30	1.0	
530-32-06-S	5	30	32	150	70	1.0	
530-32-06-L200	5	30	32	200	120	1.0	
432-32-06-S	4	32	32	150	70	1.0	
532-32-06-S	5	32	32	150	70	1.0	
532-32-06-L200	5	32	32	200	120	1.0	
433-32-06-L220	4	33	32	220	40	1.0	
433-32-06-L300	4	33	32	300	50	1.0	
533-32-06-S	5	33	32	150	30	1.0	
533-32-06-L200	5	33	32	200	40	1.0	
533-32-06-L250	5	33	32	250	40	1.0	
436-32-06-L200	4	35	32	200	50	1.0	
436-32-06-L300	4	35	32	300	50	1.0	



TEBL-06

End mill



Designation		Dimension (mm)					Insert
		D	d	L	H	ap	
TEBL 535-32-06-L200	5	35	32	200	50	1.0	BLMP 0603... E183
535-32-06-L300	5	35	32	300	50	1.0	
540-32-06-L220	5	40	32	220	40	1.0	
640-32-06-S	6	40	32	150	40	1.0	
640-32-06-L220	6	40	32	220	40	1.0	

• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
TEBL-06	TS 25064/HG-P	TD 8P			

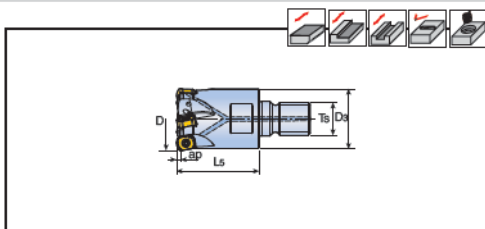
TE10

TE37-TE43

TE54-TE55

TE70

Modular



Designation	⊕	Dimension (mm)									Insert
		D	D ₃	d	L	L _s	H	T _s	ap		
TEBL 216-M08-06	2	16	13	-	-	25	-	08	0.7	BLMP 0603... E183	
217-M08-06	2	17	13	-	-	25	-	08	0.7		
218-M08-06	2	18	13	-	-	25	-	08	0.7		
220-M10-06	2	20	18	-	-	30	-	10	1.0		
320-M10-06	3	20	18	-	-	30	-	10	1.0		
321-M10-06	3	21	18	-	-	30	-	10	1.0		
322-M10-06	3	22	18	-	-	30	-	10	1.0		
325-M12-06	3	25	21	-	-	35	-	12	1.0		
425-M12-06	4	25	21	-	-	35	-	12	1.0		
326-M12-06	3	26	21	-	-	35	-	12	1.0		
432-M16-06	4	32	29	-	-	40	-	16	1.0		
532-M16-06	5	32	29	-	-	40	-	16	1.0		
435-M16-06	4	35	29	-	-	43	-	16	1.0		
535-M16-06	5	35	29	-	-	43	-	16	1.0		
640-M16-06	6	40	29	-	-	43	-	16	1.0		
542-M16-06	5	42	29	-	-	43	-	16	1.0		
642-M16-06	6	42	29	-	-	43	-	16	1.0		

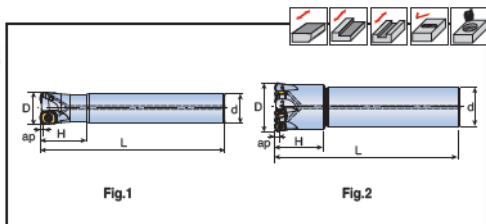
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
	TEBL-06	TS 25064/HG-P	TD 8P		



End mill

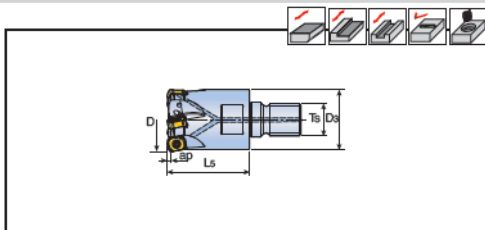


Designation	✳	Dimension (mm)					Fig.	Insert	
		D	d	L	H	ap			
TEBL 225-25-09-L150	2	25	25	150	70	1.5	1	BLMP 0904... E183	
225-25-09-L200	2	25	25	200	100	1.5	1		
325-25-09-L150	3	25	25	150	70	1.5	1		
325-25-09-L200	3	25	25	200	110	1.5	1		
326-25-09-L150	3	26	25	150	30	1.5	1		
326-25-09-L220	3	26	25	220	30	1.5	1		
330-32-09-L160	3	30	32	160	70	1.5	1		
330-32-09-L220	3	30	32	220	120	1.5	1		
332-32-09-L160	3	32	32	160	70	1.5	1		
332-32-09-L220	3	32	32	220	120	1.5	1		
432-32-09-L160	4	32	32	160	70	1.5	1		
432-32-09-L220	4	32	32	220	120	1.5	1		
433-32-09-L180	4	33	32	180	30	1.5	1		
433-32-09-L250	4	33	32	250	30	1.5	1		
440-32-09-L180	4	40	32	180	40	1.5	2		
440-32-09-L250	4	40	32	250	40	1.5	2		
540-32-09-L180	5	40	32	180	40	1.5	2		
540-32-09-L250	5	40	32	250	40	1.5	2		



• Coolant through type

Modular



Designation		Dimension (mm)					Insert
		D	D ₃	L _s	T _s	ap	
TEBL 225-M12-09	2	25	21	35	12	1.5	BLMP 0904...
325-M12-09	3	25	21	35	12	1.5	
326-M12-09	3	26	21	35	12	1.5	
330-M16-09	3	30	29	43	16	1.5	
332-M16-09	3	32	29	43	16	1.5	
432-M16-09	4	32	29	43	16	1.5	
433-M16-09	4	33	29	43	16	1.5	
335-M16-09	3	35	29	43	16	1.5	
435-M16-09	4	35	29	43	16	1.5	
440-M16-09	4	40	29	43	16	1.5	
540-M16-09	5	40	29	43	16	1.5	
542-M16-09	5	42	29	43	16	1.5	

• Matched with T-FLEXTEC: see part G • Coolant through type

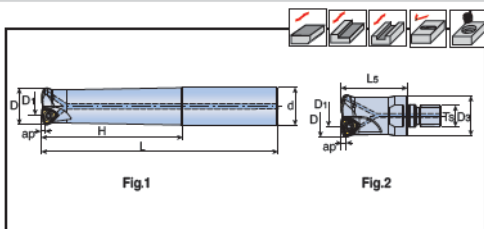
Spare parts

Designation	Screw	Wrench			
	TEBL-09	 TS 35A088/HG	 TD 10P		



TEBL-12/TEBL...-M...-12

End mill & modular



Designation	G	Dimension (mm)										Fig.	Insert
		D	D1	d	Da	L	Ls	H	Ts	ap			
TEBL 232-32-12-S	2	32	15.4	32	-	150	-	70	-	2	1	BLMP 1205... E184	
232-32-12	2	32	15.4	32	-	200	-	45	-	2	1		
232-32-12-L	2	32	15.4	32	-	200	-	120	-	2	1		
233-32-12-L250	2	33	16.4	32	-	250	-	45	-	2	1		
340-32-12-S	3	40	23.1	32	-	150	-	30	-	2	1		
340-42-12-S	3	40	23.1	42	-	150	-	70	-	2	1		
340-32-12-L	3	40	23.1	32	-	200	-	30	-	2	1		
240-42-12-XL	2	40	23.1	42	-	300	-	120	-	2	1		
TEBL 232-M16-12	2	32	15.4	-	30	-	50	-	12	2	2		
235-M16-12	2	35	18.4	-	30	-	50	-	16	2	2		
340-M16-12	3	40	23.1	-	30	-	50	-	16	2	2		
342-M16-12	3	42	25.1	-	30	-	50	-	16	2	2		

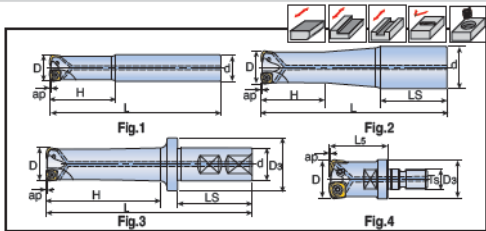
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
	TEBL-12	TS 40120I	TD 15		



End mill & modular



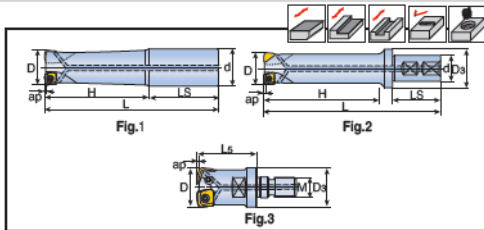
Designation		Dimension (mm)									Fig.	Insert
		D	D ₃	d	L	L _s	H	L _S	T _s	ap		
TEXD 220-20-08-L	2	20	-	20	180	-	50	130	-	1	1	XDMX 08T3... E211
225-25-08-L	2	25	-	25	200	-	60	140	-	1	1	
325-25-08	3	25	-	25	200	-	60	140	-	1	1	
225-32-08-L	2	25	-	32	250	-	60	160	-	1	2	
220-W25F-08-L	2	20	40	25	141	-	72	56	-	1	3	
225-W25F-08-L	2	25	40	25	156	-	87	56	-	1	3	
221-20-08-L200	2	21	-	20	200	-	30	170	-	1	1	
226-25-08-L200	2	26	-	25	200	-	30	170	-	1	1	
226-25-08-L250	2	26	-	25	250	-	30	220	-	1	1	
TEXD 220-M10-08	2	20	18	-	-	30	-	-	10	1	4	
225-M12-08	2	25	21	-	-	35	-	-	12	1	4	
325-M12-08	3	25	21	-	-	35	-	-	12	1	4	
332-M16-08	3	32	29	-	-	43	-	-	16	1	4	
440-M16-08	4	40	29	-	-	43	-	-	16	1	4	



- Matched with T-FLEXTEC: see part G
- Coolant through type

TEXD-13/TEXD...-M...-13

End mill & modular



Designation	G	Dimension (mm)									Fig.	Insert
		D	d	Ds	L	Ls	H	LS	M	ap		
TEXD 232-W25F-13-L	2	32	25	40	166	-	97	56	-	2	2	XDMX 1305... E211
232-32-13-L	2	32	32	-	200	-	120	80	-	2	1	
340-32-13-L	3	40	32	-	200	-	50	150	-	2	1	
340-W32F-13-L	3	40	32	48	220	-	140	60	-	2	2	
340-W32F-13-XL	3	40	32	48	270	-	190	60	-	2	2	
240-42-13-XL	2	40	42	-	300	-	120	180	-	2	1	
233-32-13-L200	2	33	32	-	200	-	45	155	-	2	1	
233-32-13-L250	2	33	32	-	250	-	45	205	-	2	1	
233-32-13-L300	2	33	32	-	300	-	45	255	-	2	1	
235-32-13-L250	2	35	32	-	250	-	45	205	-	2	1	
340-32-13-L250	3	40	32	-	250	-	45	210	-	2	1	
TEXD 232-M16-13	2	32	-	29	-	50	-	-	M16	2	3	
340-M16-13	3	40	-	29	-	50	-	-	M16	2	3	

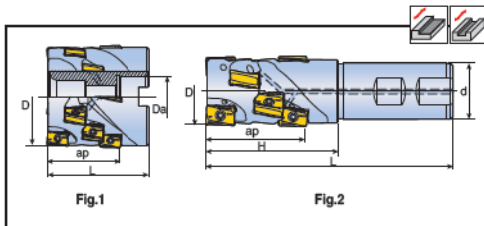
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench			
TEXD-08	TS 25A075I/HG	TD 8P			
TEXD-13	TS 40120I	T-T15			



Extended flute cutter



Designation	No. of insert	Dimension (mm)							kg	Fig.	Mounting bolt	Insert
		D	Da	d	L	H	ap					
TES D50-40-22R-AN11	3	12	50	22	-	60	-	40	0.6	1	SH M10x1.5x40	ANM(H)X 1106-- E178
D63-60-27R-AN11	4	24	63	27	-	80	-	60	1.3	1	SH M12x1.75x60	
D80-60-32R-AN11	5	30	80	32	-	80	-	60	2.3	1	SH M16x2x60	
TEF D32-40-W32-AN11	2	8	32	-	32	110	48	40	-	2	-	
D40-40-W32-AN11	3	12	40	-	32	125	50	40	-	2	-	

- Coolant through type
- Mounting bolts supplied do not have coolant through facility. If the application demands a coolant through cutter, the mounting bolt with coolant through holes needs to be ordered separately.
Ex) SH M10x1.5x30: Bolt without hole.
SH M10x1.5x30-C: Bolt with hole.

Spare parts

Designation	Screw	Wrench			
TES/TEF-AN11	TS 35A088/HG	TD 10P			

E220-E221

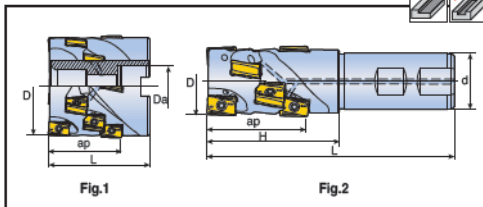
TE19-TE20

TE37-TE43

TE69

TES/TEF-AN16

Extended flute cutter



Designation		No. of insert	Dimension (mm)							Fig.	Mounting bolt	Insert	
			D	Da	d	L	H	ap					
TES D50-42-22R-AN16		2	6	50	22	-	65	-	42	0.7	1	SH M10x1.5x40	ANM(H)X 1607...
D63-42-27R-AN16		3	9	63	27	-	70	-	42	1.1	1	SH M12x1.75x50	E178
D63-56-27R-AN16		3	12	63	27	-	80	-	56	1.3	1	SH M12x1.75x50	
D80-56-32R-AN16		4	16	80	32	-	80	-	56	2.2	1	SH M16x2x50	
D100-69-40R-AN16		5	25	100	40	-	100	-	69	4.5	1	SH M20x2.5x60	
TEF D40-42-W32-AN16		2	6	40	-	32	120	55	42	-	2	-	
D40-56-W32-AN16		2	8	40	-	32	140	75	56	-	2	-	
D50-56-W40-AN16		3	12	50	-	40	140	70	56	-	2	-	

- Coolant through type
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

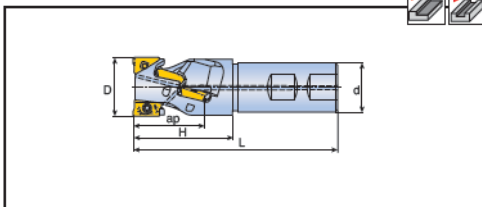
Designation	Screw	Wrench			
TES/TEF-AN16	TS 40120I/HG	T-T15			



TEF-AX06

CHASEMILL

Extended flute cutter



Designation	⊕	No. of insert	Dimension (mm)					Coolant	Insert
			D	d	L	H	ap		
TEF D16-16-W16-AX06	2	6	16	16	80	28	16	x	AXM(C)T 0602... E182
D20-21-W20-AX06	3	12	20	20	85	33	21	•	
D25-26-W25-AX06	4	20	25	25	95	38	26	•	

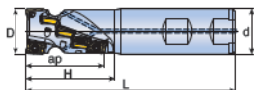
Spare parts

Designation	Screw	Wrench			
TEF-AX06	TS 18041 I/HG	TD6P			



2S-TEF-AP09

Extended flute cutter



90°

Designation	🌀	No. of insert	Dimension (mm)					Insert
			D	d	L	H	ap	
2S-TEF D20-25-W20-AP09	1	3	20	20	110	38	26	APK(C)T 09T3... E179
D25-42-W25-AP09	2	10	25	25	115	48	42	
D32-42-W32-AP09	2	10	32	32	120	51	42	

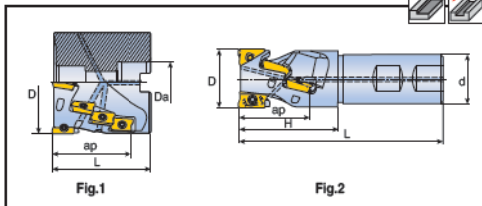
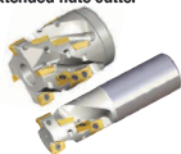
• Coolant through type

Spare parts

Designation	Screw	Wrench			
2S-TEF-AP09	TS 25055I/HG	TD6			



Extended flute cutter



Designation	No. of insert	Dimension (mm)						kg	Fig.	Mounting bolt	Insert
		D	Da/d	L	H	ap					
TES D50-45-22R-AP12	4	16	50	22	65	-	45	0.6	1	SH M10x1.5x40	APKT 1204...
D63-56-27R-AP12	5	25	63	27	75	-	56	1.2	1	SH M10x1.5x50	E180
TEF D25-34-W25-AP12	2	6	25	25	120	47	34	-	2	-	
D32-45-W32-AP12	2	8	32	32	120	58	45	-	2	-	
D40-45-W32-AP12	3	12	40	32	140	65	45	-	2	-	

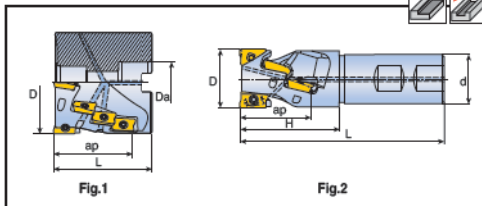
- Coolant through type
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TES/TEF-AP12 (Ø16-Ø25)	TS 35A070I/HG	TD10P			
TES/TEF-AP12 (Ø32-)	TS 35A088I/HG	TD10P			



Extended flute cutter



Designation	⊙	No. of insert	Dimension (mm)						Kg	Fig.	Mounting bolt	Insert
			D	Da/d	L	H	ap					
TES D50-44-22-AP17		2	6	50	22	60	-	44	0.5	1	SH M10x1.5x40	APKT 1705...
D63-44-27-AP17		3	9	63	27	63	-	44	0.9	1	SH M12x1.75x40	E181
D80-58-32-AP17		4	16	80	32	75	-	58	1.9	1	SH M16x2x50	
D100-88-40-AP17		5	30	100	40	110	-	88	4.8	1	SH M20x2.5x80	
D63-44-25.4-AP17		3	9	63	25.4	63	-	44	0.9	1	SH M12x1.75x40	
D80-58-31.75-AP17		4	16	80	31.75	75	-	58	1.9	1	SH M16x2x50	
D100-88-38.1-AP17		5	30	100	38.1	110	-	88	4.8	1	SH M20x2.5x80	
TEF D32-30-W32-AP17		2	4	32	32	120	50	30	-	2	-	
D40-44-W32-AP17		2	6	40	32	140	65	44	-	2	-	

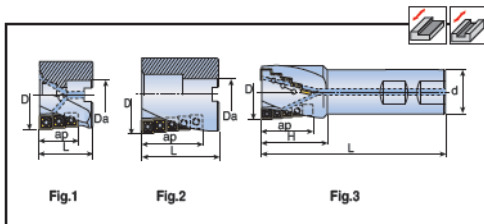
- Coolant through type
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TES-AP17	TS 40093I/HG	T-T15			
TEF-AP17	TS 40093I/HG	TD 15			



Extended flute cutter



Designation		No. of insert	Dimension (mm)					Fig.	Mounting bolt	Insert	
			D	Da/d	L	H	ap				
TES D50-29-22-11		3	9	50	22	52	-	29.0	1	SH M10x1.5x30	SPMG(T) 110408-EM
D63-36-27-11		4	16	63	27	55	-	35.0	1	SH M12x1.75x35	
D80-47-32-14		4	16	80	32	65	-	47.0	1	SH M16x2x40	SPMG(T)140508-EM
D100-60-40-14		5	25	100	40	88	-	60.0	2	-	
D63-36-25.4-11		4	16	63	25.4	55	-	35.0	1	SH M12x1.75x35	SPMG(T) 110408-EM
D80-47-31.75-14		4	16	80	31.75	65	-	47.0	1	SH M16x2x40	SPMG(T)140508-EM
D100-60-38.1-14		5	25	100	38.1	88	-	60.0	2	-	
TEF D32-23-W32-09		2	6	32	32	120	40	23.8	3	-	SPMG(T) 090408-EM
D40-38-W32-11		2	8	40	32	130	60	38.9	3	-	SPMG(T)110408-EM
D50-48-W40-11		3	15	50	40	140	70	48.4	3	-	E204
D50-48-W42-11		3	15	50	42	140	70	48.4	3	-	

- Fig1 & Fig3: Coolant through type
- Mounting bolts with coolant through hole is available on request (ordering example: SH M10x1.5x30-C)

Spare parts

Designation	Screw	Wrench			
TES (050-063)	TS 40093I	TD 15			
TES (080-0100)	TS 50A121I/HG	T-T20			
TEF (032)	TS 35088I	TD 10			
TEF (040-050)	TS 40093I	TD 15			



E220-E221



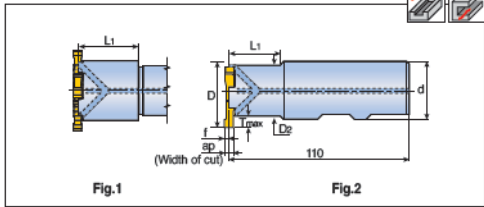
TE37-TE48



TE69

TSM...-W...-TS16

Slotting cutter: End mill



Designation		Dimension (mm)						Fig.		Insert
		D	D ₂	d	L ₁	ap				
TSM D32-W25-3Z-TS16	3	32.2	21.7	25	52.3	1.20-4.0	2	0.34	TS16-1.2-4.0	
D32-W25-3Z-B-TS16	3	32.2	21.7	25	52.3	4.01-6.0	2	0.46	TS16-4.01-6.0	
D40-W25-4Z-TS16	4	40.0	29.7	25	30.0	1.20-4.0	1	0.44	TS16-1.2-4.0	
D40-W25-4Z-B-TS16	4	40.0	29.7	25	30.0	4.01-6.0	1	0.53	TS16-4.01-6.0	
D60-W32-6Z-TS16	6	50.0	39.7	32	30.0	1.20-4.0	1	0.75	TS16-1.2-4.0	
									E210	

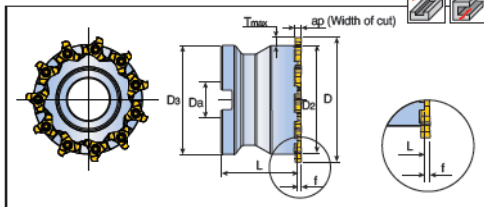
• f, T_{max} refer to insert data • Coolant through type

Spare parts

Designation	Screw	Wrench			
TSM D32-W25-3Z-TS16	TS 400971-N3.5	BLD T15/S7			
TSM D32-W25-3Z-B-TS16	TS 400971	BLD T15/S7			
TSM D40-W25-4Z-TS16	TS 400971-N3.5	BLD T15/S7			
TSM D40-W25-4Z-B-TS16	TS 400971	BLD T15/S7			
TSM D60-W32-6Z-TS16	TS 400971-N3.5	BLD T15/S7			



Slotting cutter: Flange type



Designation		Dimension (mm)						Arbor style		Insert
		D	Da	D2	D3	L	ap			
TSM D50-22R-6Z-TS16	6	50	22	39.7	39.7	39	1.20-4.0	A	0.24	TS16-1.20-4.0
D50-22R-6Z-B-TS16	6	50	22	39.7	39.7	39	4.01-6.0	A	0.24	TS16-4.01-6.0
D63-22R-8Z-TS16	8	63	22	52.7	40.0	39	1.20-4.0	A	0.40	TS16-1.20-4.0
D63-22R-8Z-B-TS16	8	63	22	52.7	40.0	39	4.01-6.0	A	0.27	TS16-4.01-6.0
D80-27R-11Z-TS16	11	80	27	69.7	69.7	49	1.20-4.0	B	0.40	TS16-1.20-4.0
D80-27R-11Z-B-TS16	11	80	27	69.7	69.7	49	4.01-6.0	B	0.95	TS16-4.01-6.0
										E210

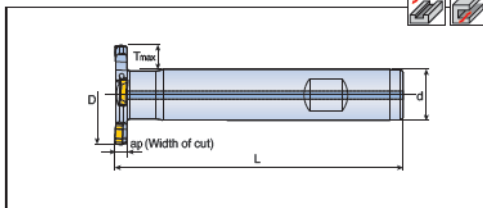
• f, Tmax refer to insert data

Spare parts

Designation	Screw	Wrench			
TSM D50-22R-6Z-TS16	TS 40097I-N3.5	BLD T15/S7			
TSM D50-22R-6Z-B-TS16	TS 40097I	BLD T15/S7			
TSM D63-22R-8Z-TS16	TS 40097I-N3.5	BLD T15/S7			
TSM D63-22R-8Z-B-TS16	TS 40097I	BLD T15/S7			
TSM D80-27R-11Z-TS16	TS 40097I-N3.5	BLD T15/S7			
TSM D80-27R-11Z-B-TS16	TS 40097I	BLD T15/S7			



Slotting cutter: End mill

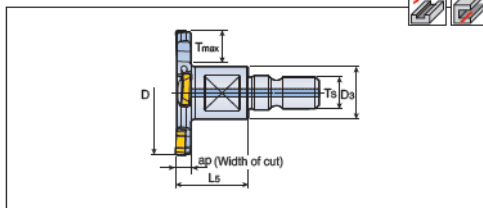


Designation	ap (mm)		Dimension (mm)				Insert
			D	d	L	T _{max}	
TSM D25-03-W12-SL18	3	1+1	25	12	90	6.5	SLOT 018...
D32-03-W16-SL18	3	2+2	32	16	90	8.0	
D40-03-W16-SL18	3	3+3	40	16	105	12.0	
D50-03-W20-SL18	3	4+4	50	20	110	15.0	
D63-03-W20-SL18	3	5+5	63	20	110	21.5	SLOT 023...
D25-04-W12-SL23	4	1+1	25	12	90	6.5	
D32-04-W16-SL23	4	2+2	32	16	90	8.0	
D40-04-W16-SL23	4	3+3	40	16	105	12.0	
D50-04-W20-SL23	4	4+4	50	20	110	15.0	SLOT 028...
D63-04-W20-SL23	4	5+5	63	20	110	21.5	
D25-05-W12-SL28	5	1+1	25	12	90	6.5	
D32-05-W16-SL28	5	2+2	32	16	90	8.0	
D40-05-W16-SL28	5	3+3	40	16	105	12.0	SLOT 033...
D50-05-W20-SL28	5	4+4	50	20	110	15.0	
D63-05-W20-SL28	5	5+5	63	20	110	21.5	
D25-06-W12-SL33	6	1+1	25	12	90	6.5	
D32-06-W16-SL33	6	2+2	32	16	90	8.0	
D40-06-W16-SL33	6	3+3	40	16	105	12.0	
D50-06-W20-SL33	6	4+4	50	20	110	15.0	
D63-06-W20-SL33	6	5+5	63	20	110	21.5	



• Coolant through type

Slotting cutter: Modular



Designation	ap (mm)		Dimension (mm)					Insert
			D	D3	Ls	Ts	Tmax	
TSM D25-03-M08-SL18	3	1+1	25	13	18	8	6	SLOT 018...
D32-03-M08-SL18	3	2+2	32	13	18	8	9	
D40-03-M08-SL18	3	3+3	40	13	18	8	13	
D50-03-M10-SL18	3	4+4	50	18	18	10	15	SLOT 023...
D63-03-M10-SL18	3	5+5	63	18	18	10	22	
D25-04-M08-SL23	4	1+1	25	13	18	8	6	
D32-04-M08-SL23	4	2+2	32	13	18	8	9	SLOT 028...
D40-04-M08-SL23	4	3+3	40	13	18	8	13	
D50-04-M10-SL23	4	4+4	50	18	18	10	15	
D63-04-M10-SL23	4	5+5	63	18	18	10	22	SLOT 028...
D25-05-M08-SL28	5	1+1	25	13	18	8	6	
D32-05-M08-SL28	5	2+2	32	13	18	8	9	
D40-05-M08-SL28	5	3+3	40	13	18	8	13	SLOT 033...
D50-05-M10-SL28	5	4+4	50	18	18	10	15	
D63-05-M10-SL28	5	5+5	63	18	18	10	22	
D25-06-M08-SL33	6	1+1	25	13	18	8	6	SLOT 033...
D32-06-M08-SL33	6	2+2	32	13	18	8	9	
D40-06-M08-SL33	6	3+3	40	13	18	8	13	
D50-06-M10-SL33	6	4+4	50	18	18	10	15	
D63-06-M10-SL33	6	5+5	63	18	18	10	22	

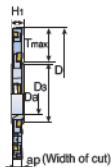
• Matched with T-FLEXTEC: see part G • Coolant through type

Spare parts

Designation	Screw	Wrench	L-Wrench		
TSM...-03...-SL18	TS 25B024I/HG	TD7P	L-T7P		
TSM...-04...-SL23	TS 25B031I/HG	TD7P	L-T7P		
TSM...-05...-SL28	TS 25B042I/HG	TD7P	L-T7P		
TSM...-06...-SL33	TS 25B053I/HG	TD7P	L-T7P		



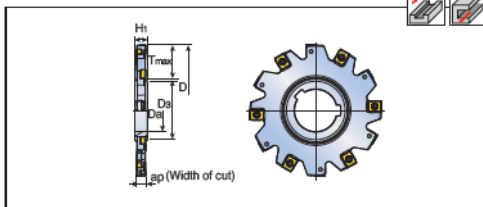
Slotting cutter: Fixed pocket disk type



Designation	ap (mm)		Dimension (mm)						Insert
			D	Da	Ds	H1	Tmax		
TSM 063FD-03-22N-Z018	3	4+4	63	22	34	8	12.0	0.1	ZNHT 018...
080FD-03-22N-Z018	3	5+5	80	22	34	8	20.5	0.1	
100FD-03-27N-Z018	3	6+6	100	27	41	12	26.0	0.2	
125FD-03-40N-Z018	3	7+7	125	40	55	12	31.5	0.3	
160FD-03-40N-Z018	3	9+9	160	40	55	12	49.0	0.4	ZNHT 023...
063FD-04-22N-Z023	4	4+4	63	22	34	8	12.0	0.1	
080FD-04-22N-Z023	4	5+5	80	22	34	8	21.0	0.1	
100FD-04-27N-Z023	4	6+6	100	27	41	12	27.0	0.2	
125FD-04-40N-Z023	4	7+7	125	40	55	12	32.0	0.4	ZNHT 028...
160FD-04-40N-Z023	4	9+9	160	40	55	12	50.0	0.6	
063FD-06-22N-Z028	5	4+4	63	22	34	8	13.0	0.1	
080FD-06-22N-Z028	5	5+5	80	22	34	8	21.0	0.2	
100FD-06-27N-Z028	5	6+6	100	27	41	12	27.0	0.3	ZNHT 033...
125FD-06-40N-Z028	5	7+7	125	40	55	12	33.0	0.4	
160FD-06-40N-Z028	5	9+9	160	40	55	12	50.0	0.7	
063FD-06-22N-Z033	6	4+4	63	22	34	8	13.0	0.1	
080FD-06-22N-Z033	6	5+5	80	22	34	8	21.5	0.2	ZNHT 038...
100FD-06-27N-Z033	6	6+6	100	27	41	12	27.0	0.3	
125FD-06-40N-Z033	6	7+7	125	40	55	12	33.0	0.5	
160FD-06-40N-Z033	6	9+9	160	40	55	12	50.0	0.8	
200FD-06-50N-Z033	6	10+10	200	50	69	12	63.0	1.2	
250FD-06-50N-Z033	6	12+12	250	50	69	12	88.0	2.0	
080FD-07-22N-Z038	7	4+4	80	22	34	12	20.0	0.2	
100FD-07-27N-Z038	7	5+5	100	27	41	12	26.5	0.3	
125FD-07-40N-Z038	7	6+6	125	40	55	12	32.0	0.5	
160FD-07-40N-Z038	7	8+8	160	40	55	12	49.5	0.8	
200FD-07-50N-Z038	7	9+9	200	50	69	12	62.5	1.3	
250FD-07-50N-Z038	7	12+12	250	50	69	12	87.5	2.1	



Slotting cutter: Fixed pocket disk type



Designation	ap (mm)		Dimension (mm)						Insert
			D	Da	Ds	H1	Tmax		
TSM 080FD-08-22N-Z043	8	4+4	80	22	34	12	20.5	0.2	ZNHT 043...
100FD-08-27N-Z043	8	5+5	100	27	41	12	27.0	0.3	
125FD-08-40N-Z043	8	6+6	125	40	55	12	32.5	0.9	
160FD-08-40N-Z043	8	8+8	160	40	55	12	50.0	0.9	
200FD-08-50N-Z043	8	9+9	200	50	69	12	63.0	1.4	
250FD-08-50N-Z043	8	12+12	250	50	69	12	88.0	2.3	ZNHT 048...
100FD-09-27N-Z048	9	5+5	100	27	41	12	27.5	0.4	
125FD-09-40N-Z048	9	6+6	125	40	55	12	33.0	0.6	
160FD-09-40N-Z048	9	8+8	160	40	55	12	50.5	1.0	
200FD-09-50N-Z048	9	9+9	200	50	69	12	63.5	1.6	
250FD-09-50N-Z048	9	12+12	250	50	69	12	88.5	2.6	ZNHT 053...
100FD-10-27N-Z053	10	5+5	100	27	41	12	28.0	0.4	
125FD-10-40N-Z053	10	6+6	125	40	55	12	33.5	0.6	
160FD-10-40N-Z053	10	8+8	160	40	55	12	51.0	1.1	
200FD-10-50N-Z053	10	9+9	200	50	69	12	64.0	1.8	
250FD-10-50N-Z053	10	12+12	250	50	69	12	89.0	2.9	

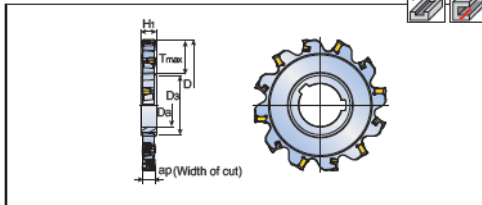
• Arbor: SCA

Spare parts

Designation	Screw	Wrench	Designation	Screw	Wrench
TSM-Z018	TS 25B024I/HG	TD7P/L-T7P	TSM-Z038	TS 40K051I	T-T15/L-T15
TSM-Z023	TS 25B031I/HG	TD7P/L-T7P	TSM-Z043	TS 40K061I	T-T15/L-T15
TSM-Z028	TS 25B042I/HG	TD7P/L-T7P	TSM-Z048	TS 40K0701I	T-T15/L-T15
TSM-Z033	TS 25B053I/HG	TD7P/L-T7P	TSM-Z053	TS 40K0801I	T-T15/L-T15



Slotting cutter: Fixed pocket disk type



Designation	ap (mm)		Dimension (mm)						Insert
			D	Da	Ds	L	Tmax		
TSM 080FD-10-27N-ZN08	10.0	4+4	80	27	41	15	15.5	0.3	ZNHU 080... E216
100FD-10-27N-ZN08	10.0	5+5	100	27	41	15	25.5	0.5	
125FD-10-40N-ZN08	10.0	6+6	125	40	55	15	31.0	0.7	
080FD-12-27N-ZN08	12.0	4+4	80	27	41	15	16.5	0.3	
100FD-12-27N-ZN08	12.0	5+5	100	27	41	15	26.5	0.5	
125FD-12-40N-ZN08	12.0	6+6	125	40	55	15	32.0	0.8	

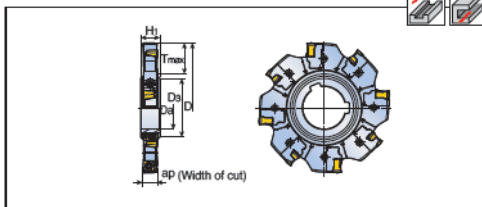
• Arbor: SCA

Spare parts

Designation	Screw	Wrench			
TSM...FD...-ZN08	TS 30085/HG	TD9			



Slotting cutter: Adjustable disk type



Designation	ap (mm)		Dimension (mm)						Insert
			D	Da	D3	H1	Tmax		
TSM 100FD-S-27N-ZN08	10-12	4+4	100	27	41	15	26.5	0.4	ZNHU 080...
125FD-S-40N-ZN08	10-12	5+5	125	40	55	15	31.5	0.7	
160FD-S-40N-ZN08	10-12	6+6	160	40	55	15	48.5	1.1	
200FD-S-50N-ZN08	10-12	8+8	200	50	69	15	61.5	1.8	
250FD-S-50N-ZN08	10-12	9+9	250	50	69	15	87.5	2.8	
100FD-W-27N-ZN08	12-14	4+4	100	27	41	15	27.0	0.5	
125FD-W-40N-ZN08	12-14	5+5	125	40	55	15	31.5	0.8	
160FD-W-40N-ZN08	12-14	6+6	160	40	55	15	49.5	1.3	
200FD-W-50N-ZN08	12-14	8+8	200	50	69	15	62.5	2.1	
250FD-W-50N-ZN08	12-14	9+9	250	50	69	15	87.5	3.4	

- Cutters are set at the minimum width of cut range, unless specific width is not ordered
- Arbor: SCA

Spare parts

Designation	Right cartridge 	Left cartridge 	Cartridge screw 	Adjust screw 	Insert screw
TSM...FD-S/W...-ZN08	TCT-SR-ZN08 TCT-WR-ZN08	TCT-SL-ZN08 TCT-WL-ZN08	TS 50G120C	SA M8-6.0	TS 30085/HG
	Wrench 				
	TD9	L-W3			



TE29-TE33

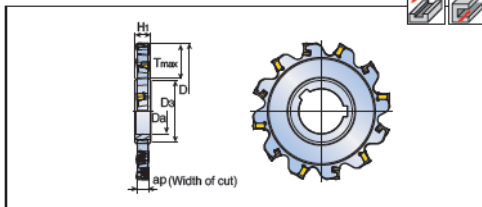


TE37-TE43



TE77

Slotting cutter: Fixed pocket disk type

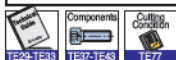


Designation	ap (mm)		Dimension (mm)						Insert
			D	Da	D3	Ht	Tmax		
TSM 125FD-14-40N-ZN11	14.0	6+6	125	40	55	15	34.5	0.9	ZNHU 110... E216
125FD-17-40N-ZN11	17.0	6+6	125	40	55	18	34.5	1.1	
125FD-20-40N-ZN11	20.0	6+6	125	40	55	20	34.5	1.3	

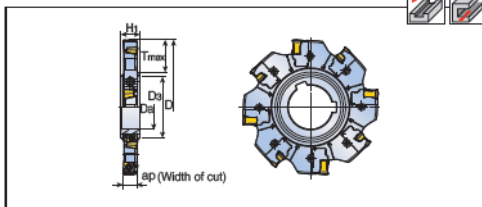
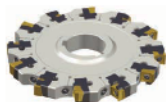
• Arbor: SCA




Spare parts

Designation	Screw	Wrench			
TSM...FD...-ZN11	TS 40120/HG	T-T15			










Slotting cutter: Adjustable disk type



Designation	ap (mm)		Dimension (mm)						Insert
			D	Da	Dd	H1	Tmax		
TSM 100FD-S-27N-ZN11	14-17	3+3	100	27	41	18	28.0	0.6	ZNHU 110... 
125FD-S-40N-ZN11	14-17	4+4	125	40	55	18	31.0	1.0	
160FD-S-40N-ZN11	14-17	6+6	160	40	55	18	48.5	1.6	
200FD-S-50N-ZN11	14-17	7+7	200	50	69	18	61.5	2.6	
250FD-S-50N-ZN11	14-17	9+9	250	50	69	18	86.5	4.2	
315FD-S-60N-ZN11	14-17	12+12	315	60	85	18	110.0	6.8	
100FD-W-27N-ZN11	17-20	3+3	100	27	41	22	28.0	0.8	
125FD-W-40N-ZN11	17-20	4+4	125	40	55	22	31.0	1.2	
160FD-W-40N-ZN11	17-20	6+6	160	40	55	22	48.5	2.0	
200FD-W-50N-ZN11	17-20	7+7	200	50	69	22	61.5	3.2	
250FD-W-50N-ZN11	17-20	9+9	250	50	69	22	86.5	5.2	
315FD-W-60N-ZN11	17-20	12+12	315	60	85	22	110.0	8.5	

- Cutters are set at the minimum width of cut range, unless specific width is not ordered
- Arbor: SCA

Spare parts

Designation	Right cartridge 	Left cartridge 	Cartridge screw 	Adjust screw 	Insert screw 
TSM...FD-S/W...-ZN11	TCT-SR-ZN11 TCT-WR-ZN11	TCT-SL-ZN11 TCT-WL-ZN11	TS 70B160C	SA M8-9.0	TS 40120/HG
	Wrench 		L-Wrench 		
	T-T15	L-W4			



TE29-TE33

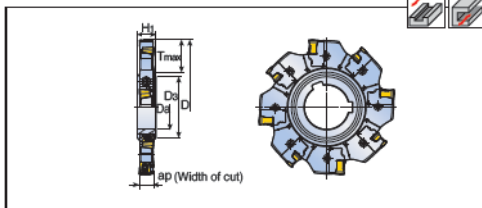


TE37-TE43



TE77

Slotting cutter: Adjustable disk type

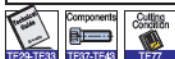


Designation	ap (mm)		Dimension (mm)					Kg	Insert
			D	Da	D ₃	H ₁	T _{max}		
TSM 125FD-S-40N-ZN14	20-23	3+3	125	40	55	24.5	32.0	1.4	ZNHU 140... E216
160FD-S-40N-ZN14	20-23	5+5	160	40	55	24.5	49.0	2.4	
200FD-S-50N-ZN14	20-23	6+6	200	50	69	24.5	62.5	3.9	
250FD-S-50N-ZN14	20-23	8+8	250	50	69	24.5	87.0	6.3	
315FD-S-60N-ZN14	20-23	10+10	315	60	85	24.5	111.5	10.2	
125FD-W-40N-ZN14	23-26	3+3	125	40	55	27.5	32.0	1.6	
160FD-W-40N-ZN14	23-26	5+5	160	40	55	27.5	49.0	2.7	
200FD-W-50N-ZN14	23-26	6+6	200	50	69	27.5	62.5	4.3	
250FD-W-50N-ZN14	23-26	8+8	250	50	69	27.5	87.0	7.1	
315FD-W-60N-ZN14	23-26	10+10	315	60	85	27.5	111.5	11.6	

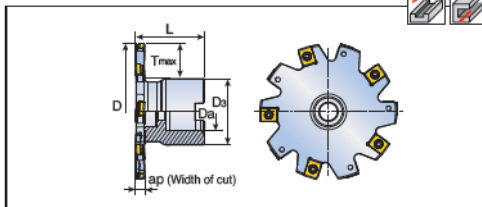
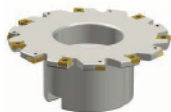
- Cutters are set at the minimum width of cut range, unless specific width is not ordered
- Arbor: SCA

Spare parts

Designation	Right cartridge	Left cartridge	Cartridge screw	Adjust screw	Insert screw
TSM...FD-S/W...-ZN14					
	TCT-SR-ZN14	TCT-SL-ZN14	TS 70B160C	SA M8-9.0	TS 40120I/HG
	T-T15	L-W4			



Slotting cutter: Fixed pocket flange type



Designation	ap (mm)		Dimension (mm)					Arbor style		Mounting bolt	Insert
			D	D _a	D _s	L	T _{max}				
TSM 080FF-03-22R-Z018	3	5+5	80	22	40	50	20.0	A	0.4	SH M10x1.5x35	ZNHT 018...
100FF-03-27R-Z018	3	6+6	100	27	48	50	26.0	A	0.6	SH M12x1.75x35	
080FF-04-22R-Z023	4	5+5	80	22	40	50	20.0	A	0.4	SH M10x1.5x35	ZNHT 023...
100FF-04-27R-Z023	4	6+6	100	27	48	50	26.0	A	0.6	SH M12x1.75x35	
080FF-05-22R-Z028	5	5+5	80	22	40	50	20.0	A	0.5	SH M10x1.5x35	ZNHT 028...
100FF-05-27R-Z028	5	6+6	100	27	48	50	26.0	A	0.7	SH M12x1.75x35	
080FF-06-22R-Z033	6	5+5	80	22	40	50	20.0	A	0.6	SH M10x1.5x35	ZNHT 033...
100FF-06-27R-Z033	6	6+6	100	27	48	50	26.0	A	0.7	SH M12x1.75x35	E215
125FF-06-40R-Z033	6	7+7	125	40	70	50	25.0	B	1.2	-	
160FF-06-40R-Z033	6	9+9	160	40	70	50	43.0	B	1.5	-	
080FF-07-22R-Z038	7	4+4	80	22	40	50	20.0	A	0.5	SH M10x1.5x40	ZNHT 038...
100FF-07-27R-Z038	7	5+5	100	27	48	50	25.5	A	0.7	SH M12x1.75x35	E215
125FF-07-40R-Z038	7	6+6	125	40	70	50	24.5	B	1.2	-	
160FF-07-40R-Z038	7	8+8	160	40	70	50	42.0	B	1.5	-	
080FF-08-22R-Z043	8	4+4	80	22	40	50	20.0	A	0.5	SH M10x1.5x35	ZNHT 043...
100FF-08-27R-Z043	8	5+5	100	27	48	50	25.5	A	0.8	SH M12x1.75x35	E215
125FF-08-40R-Z043	8	6+6	125	40	70	50	24.5	B	1.2	-	
160FF-08-40R-Z043	8	8+8	160	40	70	50	42.0	B	1.6	-	
100FF-09-27R-Z048	9	5+5	100	27	48	50	26.0	A	0.8	SH M12x1.75x35	ZNHT 048...
125FF-09-40R-Z048	9	6+6	125	40	70	50	24.5	B	1.3	-	E215
160FF-09-40R-Z048	9	8+8	160	40	70	50	42.0	B	1.7	-	
100FF-10-27R-Z053	10	5+5	100	27	48	50	26.0	A	0.8	SH M12x1.75x35	ZNHT 053...
125FF-10-40R-Z053	10	6+6	125	40	70	50	24.5	B	1.4	-	E215
160FF-10-40R-Z053	10	8+8	160	40	70	50	42.0	B	1.9	-	

Spare parts

Designation	Screw	Wrench	Designation	Screw	Wrench
TSM-Z018	TS 25B024I/HG	TD7P/L-T7P	TSM-Z038	TS 40K051I	T-T15/L-T15
TSM-Z023	TS 25B031I/HG	TD7P/L-T7P	TSM-Z043	TS 40K061I	T-T15/L-T15
TSM-Z028	TS 25B042I/HG	TD7P/L-T7P	TSM-Z048	TS 40K0701I	T-T15/L-T15
TSM-Z033	TS 25B053I/HG	TD7P/L-T7P	TSM-Z053	TS 40K0801I	T-T15/L-T15



E220-E221



TE29-TE30

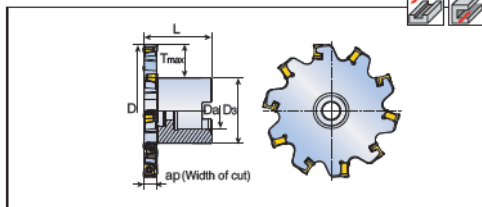


TE37-TE43



TE7

Slotting cutter: Fixed pocket flange type



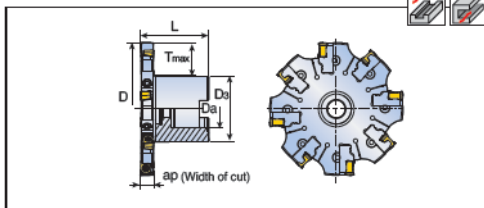
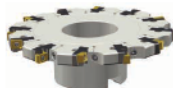
Designation	ap (mm)		Dimension (mm)					Arbor style		Mounting bolt	Insert
			D	Da	Ds	L	Tmax				
TSM 063FF-10-22R-ZN08	10.0	3+3	63	22	40	50	15	A	0.4	SH M10x1.5x35	ZNHU 080...
080FF-10-22R-ZN08	10.0	4+4	80	22	40	50	24	A	0.5	SH M10x1.5x35	
100FF-10-27R-ZN08	10.0	5+5	100	27	48	50	26	A	0.8	SH M12x1.75x35	
125FF-10-32R-ZN08	10.0	6+6	125	32	58	50	34	B	1.1	-	
063FF-12-22R-ZN08	12.0	3+3	63	22	40	50	15	A	0.4	SH M10x1.5x35	
080FF-12-22R-ZN08	12.0	4+4	80	22	40	50	24	A	0.5	SH M10x1.5x35	
100FF-12-27R-ZN08	12.0	5+5	100	27	48	50	26	A	0.9	SH M12x1.75x35	
125FF-12-32R-ZN08	12.0	6+6	125	32	58	50	34	B	1.2	-	

Spare parts

Designation	Screw	Wrench			
TSM...FF...-ZN08	TS 30085I/HG	TD9			



Slotting cutter: Adjustable flange type



Designation	ap (mm)	⊕	Dimension (mm)					Arbor style	K9	Mounting bolt	Insert
			D	D _a	D _s	L	T _{max}				
TSM 100FF-S-27R-ZN08	10-12	4+4	100	27	48	50	25	A	0.8	SH M12x1.75x35	ZNHU 080... E216
125FF-S-32R-ZN08	10-12	5+5	125	32	58	50	31.5	B	1.1	-	
160FF-S-40R-ZN08	10-12	6+6	160	40	70	50	43	B	1.8	-	
200FF-S-40R-ZN08	10-12	8+8	200	40	90	50	53	C	2.9	-	
100FF-W-27R-ZN08	12-14	4+4	100	27	48	50	25	A	0.9	SH M12x1.75x35	
125FF-W-32R-ZN08	12-14	5+5	125	32	58	50	31.5	B	1.2	-	
160FF-W-40R-ZN08	12-14	6+6	160	40	70	50	43	B	2.0	-	
200FF-W-40R-ZN08	12-14	8+8	200	40	90	50	53	C	3.2	-	

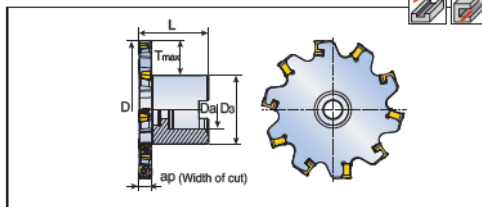
• Cutters are set at the minimum width of cut range, unless specific width is not ordered

Spare parts

Designation	Right cartridge	Left cartridge	Cartridge screw	Adjust screw	Insert screw
TSM...FF-S/W...-ZN08	TCT-SR-ZN08 TCT-WR-ZN08	TCT-SL-ZN08 TCT-WL-ZN08	TS 50G120C	SA M8-6.0	TS 30085/HG
	Wrench	L-Wrench			
	TD9	L-W3			



Slotting cutter: Fixed pocket flange type



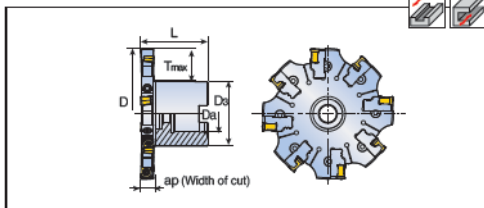
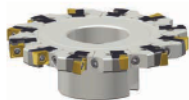
Designation	ap (mm)		Dimension (mm)					Arbor style		Mounting bolt	Insert
			D	D _a	D ₃	L	T _{max}				
TSM 063FF-14-22R-ZN11	14.0	3+3	63	22	40	50	15	A	0.4	SH M10x1.5x35	ZNHU 110...
080FF-14-22R-ZN11	14.0	4+4	80	22	40	50	24	A	0.5	SH M10x1.5x35	
100FF-14-27R-ZN11	14.0	5+5	100	27	48	50	26	A	1.0	SH M12x1.75x35	
125FF-14-32R-ZN11	14.0	6+6	125	32	58	50	34	B	1.3	-	
080FF-17-22R-ZN11	17.0	4+4	80	22	40	50	24	A	0.6	SH M10x1.5x35	
100FF-17-27R-ZN11	17.0	5+5	100	27	48	50	26	A	1.0	SH M12x1.75x35	
125FF-17-32R-ZN11	17.0	6+6	125	32	58	50	34	B	1.5	-	
080FF-20-22R-ZN11	20.0	4+4	80	22	40	50	24	A	0.7	SH M10x1.5x35	
100FF-20-27R-ZN11	20.0	5+5	100	27	48	50	26	A	1.1	SH M12x1.75x35	
125FF-20-32R-ZN11	20.0	6+6	125	32	58	50	34	B	1.6	-	

Spare parts

Designation	Insert screw	Wrench			
TSM...FF...-ZN11	 TS 40120/HG	 T-T15			



Slotting cutter: Adjustable flange type



Designation	ap (mm)		Dimension (mm)					Arbor style		Mounting bolt	Insert
			D	Da	D ₃	L	T _{max}				
TSM 100FF-S-27R-ZN11	14-17	3+3	100	27	48	50	25.0	A	0.9	SH M12x1.75x35	ZNHU 110...
125FF-S-32R-ZN11	14-17	4+4	125	32	58	50	31.5	B	1.3	-	E216
160FF-S-40R-ZN11	14-17	6+6	160	40	70	50	43.0	B	2.2	-	
200FF-S-40R-ZN11	14-17	7+7	200	40	90	50	53.0	C	3.9	-	
250FF-S-60R-ZN11	14-17	9+9	250	60	130	50	55.0	C	6.2	-	
315FF-S-60R-ZN11	14-17	12+12	315	60	130	50	90.0	C	8.9	-	
100FF-W-27R-ZN11	17-20	3+3	100	27	48	50	25.0	A	1.0	SH M12x1.75x35	
125FF-W-32R-ZN11	17-20	4+4	125	32	58	50	31.5	B	1.5	-	
160FF-W-40R-ZN11	17-20	6+6	160	40	70	50	43.0	B	2.2	-	
200FF-W-40R-ZN11	17-20	7+7	200	40	90	50	53.0	C	4.1	-	
250FF-W-60R-ZN11	17-20	9+9	250	60	130	50	55.0	C	6.9	-	
315FF-W-60R-ZN11	17-20	12+12	315	60	130	50	90.0	C	10.2	-	

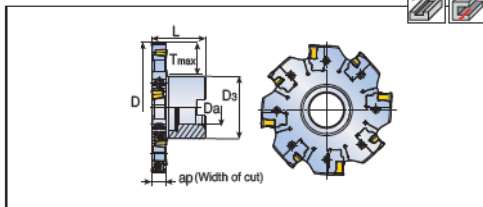
• Cutters are set at the minimum width of cut range, unless specific width is not ordered

Spare parts

Designation	Right cartridge	Left cartridge	Cartridge screw	Adjust screw	Insert screw
TSM...FD-S/W...-ZN11					
	TCT-SR-ZN11 TCT-WR-ZN11	TCT-SL-ZN11 TCT-WL-ZN11	TS 70B160C	SA M8-9.0	TS 40120I/HG
	Wrench	L-Wrench			
	T-T15	L-W4			



Slotting cutter: Adjustable flange type



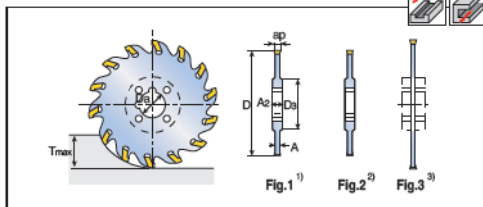
Designation	ap (mm)		Dimension (mm)				Arbor style		Insert	
			D	D _a	D _s	L				T _{max}
TSM 125FF-S-32R-ZN14	20-23	3+3	125	32	58	50	32.5	A	2.6	ZNHU 140...
160FF-S-40R-ZN14	20-23	5+5	160	40	70	50	43.0	A	2.8	
200FF-S-40R-ZN14	20-23	6+6	200	40	90	50	53.0	B	4.6	
250FF-S-60R-ZN14	20-23	8+8	250	60	130	50	58.0	B	7.2	
315FF-S-60R-ZN14	20-23	10+10	315	60	130	50	90.0	B	11.3	
125FF-W-32R-ZN14	23-26	3+3	125	32	58	50	32.5	A	1.8	
160FF-W-40R-ZN14	23-26	5+5	160	40	70	50	43.0	A	3.0	
200FF-W-40R-ZN14	23-26	6+6	200	40	90	50	53.0	B	5.0	
250FF-W-60R-ZN14	23-26	8+8	250	60	130	50	58.0	B	7.5	
315FF-W-60R-ZN14	23-26	10+10	315	60	130	50	90.0	B	12.2	

• Cutters are set at the minimum width of cut range, unless specific width is not ordered

Spare parts

Designation	Right cartridge	Left cartridge	Cartridge screw	Adjust screw	Insert screw
TSM...FD-S/W...-ZN14					
	TCT-SR-ZN14	TCT-SL-ZN14	TS 70B160C	SA M8-9.0	TS 40120/HG
	T-T15	L-W4			





Designation	ap (mm)		Dimension (mm)						Fig.	Insert seat size	Insert
			D	Da	Ds	A	A2	Tmax			
TSC 75-1.6-22A	1.6	8	75	22.0	39	1.24	2.4	18	1	1	TIMC TIMJ TIPV
100-1.6-22A	1.6	10	100	22.0	39	1.24	2.4	30	1	1	
125-1.6-27A	1.6	12	125	27.0	64	1.24	2.4	30	1	1	
75-2-22A	2.0-2.3	8	75	22.0	39	1.6	2.4	18	1	2	
100-2-22A	2.0-2.3	10	100	22.0	39	1.6	2.4	30	1	2	
125-2-27A	2.0-2.3	12	125	27.0	64	1.6	2.4	30	1	2	
100-2.4-22K	2.3-2.5	10	100	22.0	46	1.9	2.4	26	2	2	
125-2.4-32K	2.3-2.5	12	125	32.0	55	1.9	2.4	34	2	2	
160-2.4-32K	2.3-2.5	16	160	32.0	55	1.9	2.4	52	2	2	
100-3-22K	2.8-3.58	6	100	22.0	-	2.4	-	26	3	4	
125-3-32K	2.8-3.53	8	125	32.0	-	2.4	-	34	3	4	
160-3-40K	2.8-3.53	10	160	40.0	-	2.4	-	39	3	4	
100-4-22K	3.54-4.52	6	100	22.0	-	3.2	-	27	3	4	
125-4-32K	3.54-4.52	8	125	32.0	-	3.2	-	34	3	4	
160-4-40K	3.54-4.52	10	160	40.0	-	3.2	-	39	3	4	

• ¹⁾Key drive, ²⁾Flange drive, ³⁾Flange+Drive shank

Spare parts

Designation	Drive flange set	Drive shank		
TSC-2.4-22K	TR22-46	-		
TSC-2.4-32K	TR32-55	-		
TSC-22K	TR22-46	TW32-40		
TSC-32K	TR32-55	T32-55		
TSC-40K	TR40-80	T40-80		



- Extractor(ESG 1) supplied with each cutter
- Flange set should be ordered separately

Milling Inserts



Insert Designation System

S

P

K

N

1

2

3

4

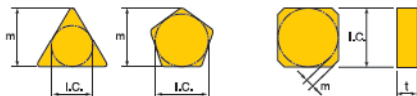
1 Shape

											Special
A	B	C	H	L	O	P	R	S	T	W	X

2 Clearance angle

B	C	D	E	F	G	N	P
5°	7°	15°	20°	25°	30°	0°	11°

3 Tolerance



Class	Tolerance (mm)			I.C. Dimension (mm)					
	m	t	I.C.	6.35	9.525	12.7	15.875	19.05	25.4
A	±0.005	±0.025	±0.025	•	•	•	•	•	•
E	±0.025	±0.025	±0.025	•	•	•	•	•	•
F	±0.005	±0.025	±0.013	•	•	•	•	•	•
G	±0.025	±0.130	±0.025	•	•	•	•	•	•
H	±0.013	±0.025	±0.013	•	•	•	•	•	•
K	±0.013	±0.025	±0.05	•	•				
			±0.08			•			
			±0.10				•		
			±0.13					•	
M	±0.130	±0.130	±0.05	•	•				
			±0.08			•			
			±0.10				•		
			±0.13					•	

4 Chipformer and clamp type

								Special
A	F	G	M	N	R	T	W	X

Insert Designation System

12 **03** **08** **T** **R** - **10**
5 **6** **7** **8** **9** **10**

5 Cutting edge length

I.C.(mm)	C	R.S	T	H	O
	5.56				
6.35	06	06	11		
7.94	08		13		
9.525	09	09	16		
12.7	12	12	22	05	05
15.875	16	15	27	09	
17.94					17
19.05	19	19	33	10	
25.4	25	25			

6 Thickness

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

7 Corner radius

02R	0.2mm
04R	0.4mm
05R	0.5mm
06R	0.8mm
10R	1.0mm
12R	1.2mm
15R	1.5mm
16R	1.6mm
24R	2.4mm
32R	3.2mm
40R	4.0mm

7 Parallel land

A=45° D=60° E=75° F=85° P=90° Z=Special
Entering angle
B=5° F=25° C=7° G=30° D=15° N=0° E=20° P=11° Z=Special
Clearance angle of wiper

8 Edge condition

F	
E	
T	
S	

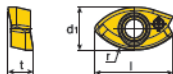
9 Hand of tool

R	
L	
N	

10 Manufacturer's option

AL	Aluminum
WC	Wiper crown
MR	Medium rough
M	Medium
L	Light
ML	Medium light
E□	Economical

Insert



Size	Dimension (mm)					
	l	d1	t	ap	r	
160-M	12.4	6.8	3.7	8.0	8.0	
200-M	14.9	8.2	4.8	10.0	10.0	
250-M	18.9	10.2	5.9	12.5	12.5	
300-M	22.1	11.8	6.9	15.0	15.0	
320-M	23.9	12.8	7.5	16.0	16.0	



Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated		
				TT9080	TT9030	TT8080	TT9020	TT7080	TT6800	TT6080	TT2510	K10
	2FB 160-M	0.07-0.30	2.0-6.5	●	●	●	●			●		
	200-M	0.08-0.35	3.0-8.0	●	●	●	●			●		
	250-M	0.08-0.35	3.5-10.0	●	●	●	●			●		
	300-M	0.08-0.40	4.0-12.5	●	●	●	●			●		
	320-M	0.08-0.40	4.5-13.0	●	●	●	●			●		



●: Standard item

3FB

Insert



Size	Dimension (mm)					
	l	d1	t	ap	r	
320C-M	23	12.0	5.2	16	16	
500C-M	36	18.6	7.0	25	25	
320P-M	21	9.9	5.2	16	16	
500P-M	32.9	15.3	7.0	25	25	

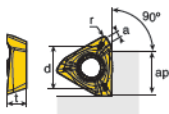


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated		
				TT9080	TT9030	TT8080	TT9020	TT7080	TT6800	TT6080	TT2510	K10
	3FB 320C-M	0.08-0.15	4.5-13.0	●	●	●				●		
	500C-M	0.15-0.30	7.5-20.0	●	●	●				●		
	3FB 320P-M	0.08-0.15	4.5-13.0	●	●	●				●		
	500P-M	0.08-0.30	7.5-20.0	●	●	●				●		



●: Standard item

Insert



Size	Dimension (mm)				
	d	t	ap	a	r
06	5.3	2.8	4.7	0.6-1.2	0.2-0.8
10	6.9	4.0	7.0	0.5-1.3	0.4-1.6
15	10.7	5.0	11.0	0.5-2.0	0.4-2.4
19	13.5	6.0	15.0	0.5-2.0	0.4-3.2

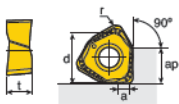


Insert	Designation	Feed (mm/tooth)	ap (mm)	Cement							Uncoated										
				CT7000	TT9080	TT9080	TT9020	TT7800	TT7080	TT6800		TT6080	TT2510								
	3PKT	060302R-M	0.04-0.10	1.0-4.0		•	•	•													
		060304R-M	0.04-0.10	1.0-4.0		•	•	•				•	•								
		060308R-M	0.04-0.10	1.0-4.0		•	•	•				•	•								
		100404R-M	0.05-0.12	2.0-6.0		•	•	•		•	•	•	•								
		100408R-M	0.05-0.12	2.0-6.0		•	•	•		•	•	•	•								
		100416R-M	0.05-0.12	2.0-6.0		•								•							
		150508R-M	0.07-0.17	3.0-9.0		•	•	•	•	•	•	•	•	•							
		150516R-M	0.07-0.17	3.0-9.0		•				•					•						
		150524R-M	0.07-0.17	3.0-12.0		•										•					
		190608R-M	0.09-0.22	4.5-12.0		•	•	•	•	•	•	•	•	•							
		190616R-M	0.09-0.22	4.5-12.0		•	•	•		•					•						
		190624R-M	0.09-0.22	4.5-12.0		•											•				
		190632R-M	0.09-0.22	4.5-12.0		•												•			
	3PKT	100404R-M	0.05-0.12	2.0-6.0	•	•															
		100408R-M	0.05-0.12	2.0-6.0	•	•															
		150504R-M	0.07-0.17	3.0-9.0		•															
		150508R-M	0.07-0.17	3.0-9.0		•	•														
		150516R-M	0.07-0.17	3.0-9.0		•	•														
		190608R-M	0.09-0.22	4.5-12.0		•															
	3PKT	100404R-ML	0.04-0.10	2.0-6.0		•	•	•			•										
		100408R-ML	0.04-0.10	2.0-6.0		•	•	•													
		150508R-ML	0.05-0.12	3.0-9.0		•	•	•													
		190608R-ML	0.06-0.14	4.5-12.0		•	•	•				•									
		3PHT	100408R-ML	0.04-0.10	2.0-6.0		•	•													
	3PHT	060304R-AL	0.07-0.22	1.0-4.0															•		
		100404R-AL	0.10-0.40	2.0-6.0																•	
		100408R-AL	0.10-0.40	2.0-6.0																•	
		150504R-AL	0.10-0.50	3.0-9.0																•	
		150508R-AL	0.10-0.50	3.0-9.0																•	
		190604R-AL	0.15-0.50	4.5-12.0																•	
		190608R-AL	0.15-0.50	4.5-12.0																•	

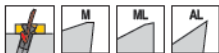
• Standard item



Insert



Size	Dimension (mm)				
	d	t	ap	a	r
06	9.26	4.76	6.2	1.2-2.4	0.4-1.6
09	13.05	6.70	9.2	1.2-2.2	0.4-1.6



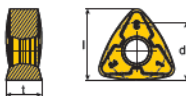
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated				
				TT9080	TT6080	TT8020	TT7800	TT7080	TT6800	TT6080	TT2510	K10			
	6NGU	060404R-M	0.08-0.15	1.5-5.0	•	•			•	•					
		060405R-M	0.08-0.15	1.5-5.0	•					•					
		060408R-M	0.08-0.15	1.5-5.0	•	•	•	•	•	•					
		060410R-M	0.08-0.15	1.5-5.0	•					•					
		060416R-M	0.08-0.15	1.5-5.0	•	•				•	•				
		090504R-M	0.10-0.20	2.5-7.5	•					•	•				
		090508R-M	0.10-0.20	2.5-7.5	•	•	•	•	•	•	•				
		090516R-M	0.10-0.20	2.5-7.5	•	•		•	•	•	•				
			6NGU	060404R-ML	0.05-0.10	1.5-5.0	•	•				•			
060405R-ML	0.05-0.10			1.5-5.0	•										
060408R-ML	0.05-0.10			1.5-5.0	•	•	•		•	•					
060416R-ML	0.05-0.10			1.5-5.0	•	•				•					
090504R-ML	0.05-0.10			2.5-7.5	•	•				•					
090508R-ML	0.05-0.10			2.5-7.5	•	•	•		•	•					
090516R-ML	0.05-0.10			2.5-7.5	•	•				•					
	6NGU			060404R-AL	0.10-0.40	1.5-5.0								•	
				060408R-AL	0.10-0.40	1.5-5.0								•	
		090504R-AL	0.10-0.40	2.5-7.5								•			
		090508R-AL	0.10-0.40	2.5-7.5								•			

• Standard item



6RBE 50-M

Insert



Size	Dimension (mm)					
	d	t	l			
6RBE 50-M	13	8	16			



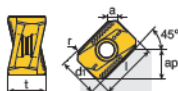
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	6RBE 50-M	0.10-0.80	1.0-5.0	•	•	•	•	•	•	•	•		



• Standard item

ANHX 1607 ANR-M

Insert



Size	Dimension (mm)					
	l	d ₁	t	ap	a	r
16	16	11	10.4	8.2	1.6	1.0



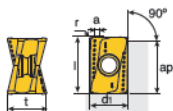
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated	
				TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080	K10
	ANHX 1607 ANR-M	0.15-0.3	2.5-7.0			•		•	•	•		



• Only for 45° cutter

• Standard item

Insert



Size	Dimension (mm)					
	l	d1	t	ap	a	r
11	12	9.2	8.5	11	0.7-1.5	0.4-1.6
16	16	11.0	10.4-10.9	15	0.6-1.7	0.4-2.4

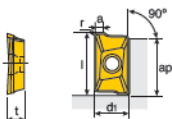


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT9030	TT6080	TT6020	TT7800	TT77080	TT6800	TT6080	TT2510	K10
	ANMX 110608R-M	0.10-0.20	3.0-9.0	●	●								
	160708R-M	0.10-0.20	4.5-12.0	●	●								
	ANHX 110604R-M	110604R-M	0.08-0.15	3.0-9.0	●	●				●	●		
		110608R-M	0.08-0.15	3.0-9.0	●	●	●	●	●	●	●		
	110616R-M	0.08-0.15	3.0-9.0	●	●					●			
	160704R-M	0.10-0.20	4.5-12.0	●	●	●		●	●	●	●		
	160708R-M	0.10-0.20	4.5-12.0	●	●	●	●	●	●	●	●		
	160716R-M	0.10-0.20	4.5-12.0	●	●			●	●	●	●		
160724R-M	0.10-0.20	4.5-12.0	●	●	●	●	●	●	●	●			
	ANHX 160708R-ML	0.06-0.12	4.5-12.0			●	●	●					
	ANHX 160708R-MR	0.13-0.25	4.5-12.0			●		●		●			
	ANHX 110604R-AL	0.10-0.40	3.0-9.0									●	
	110608R-AL	0.10-0.40	3.0-9.0									●	
	160704R-AL	0.10-0.40	4.5-12.0									●	
	160708R-AL	0.10-0.40	4.5-12.0									●	
	ANHX 160708R-SM	0.10-0.20	4.5-12.0	●	●	●		●					

●: Standard item



Insert



Size	Dimension (mm)					
	l	d1	t	ap	a	r
09	10.5	6.20	3.8	8.8	0.5-1.79	0.4-3.2
09 T3 PER	10.5	6.20	3.8	8.8	0.5-1.79	0.4

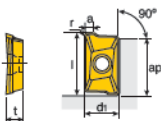


Insert	Designation	Feed (mm/tooth)	ap (mm)	Material										
				Cermet	Coated								Uncoated	
				CT7000	TT9080	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	APKT 09T3 PER-EM	0.05-0.10	2.5-7.5	•	•	•	•	•	•	•	•	•	•	•
	09T305R-EM	0.05-0.10	2.5-7.5					•						
	09T308R-EM	0.05-0.10	2.5-7.5		•	•	•	•	•	•	•	•	•	
	09T316R-EM	0.05-0.10	2.5-7.5		•	•	•	•	•	•	•	•	•	
	09T320R-EM	0.05-0.10	2.5-7.5		•	•								•
	09T332R-EM	0.05-0.10	2.5-7.5		•	•								•
	APCT 09T3 PER-ML	0.05-0.10	3.0-7.5		•	•	•	•	•	•	•	•		
	APCT 09T3 PER-AL	0.05-0.35	2.5-7.5											•

•: Standard item



Insert



Size	Dimension (mm)					
	l	d1	t	ap	a	r
12	12.7-14.6	8.3	4.5-4.9	11.8-12.5	0.9-2.1	0.4-4.0
1204 PER	12.7-14.6	8.3	4.5-4.9	11.8-12.5	0.9-2.1	0.8

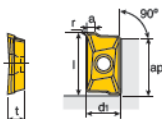


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated								Uncoated		
				TT9090	TT9030	TT6080	TT9020	TT7800	TT7080	TT6800	TT6080	TT2510	K10	
	APKT 1204 PER-EM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120404R-EM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120416R-EM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120424R-EM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120430R-EM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120432R-EM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120440R-EM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	APKT 1204 PER-SM	0.07-0.14	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	APKT 1204 PER-EML	0.04-0.08	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	APKT 1204 PER-EL	0.03-0.05	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120430R-EL	0.03-0.06	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	APCT 120430R-ML	0.04-0.08	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120432R-ML	0.04-0.08	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120440R-ML	0.04-0.08	3.5-9.5	•	•	•	•	•	•	•	•	•	•	•
	APCT 1204 PER-AL	0.10-0.50	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120404R-AL	0.10-0.50	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•
	120416R-AL	0.10-0.50	3.5-10.0	•	•	•	•	•	•	•	•	•	•	•

• Standard item



Insert



Size	Dimension (mm)					
	l	d1	t	ap	a	r
17	18.5	10.7	5.56	16.1	0.9-3.17	0.4-6.4
17(AL)	17.6	10.7	5.27	16.1	3.15	0.8
1705 PER	18.5	10.7	5.56	16.1	0.9-3.17	0.8

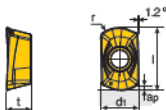


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated								Uncoated		
				TT9090	TT9030	TT8080	TT9020	TT7800	TT7080	TT6800	TT6080	TT2510	K10	
	APKT 1705 PER-EM	0.09-0.18	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170504R-EM	0.09-0.18	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170510R-EM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170516R-EM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170524R-EM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170530R-EM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170532R-EM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170535R-EM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170540R-EM	0.10-0.20	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170548R-EM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170550R-EM	0.10-0.20	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
170564R-EM	0.09-0.18	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•	
	APKT 1705 PER-M	0.09-0.18	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170516R-M	0.15-0.30	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170532R-M	0.10-0.20	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	170548R-M	0.10-0.20	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	APKT 1705 PER-SM	0.09-0.17	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	APKT 1705 PER-EML	0.07-0.14	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	APKT 1705 PER-EL	0.05-0.10	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•
	APKT 1705 PER-AL	0.10-0.50	4.5-13.0	•	•	•	•	•	•	•	•	•	•	•

• Standard item



Insert



Size	Dimension (mm)					
	l	d ₁	t	ap	r	
06	6.7	4.04	2.6	0.5	3.0	
09	10.7	5.94	3.9	1.0	5.25	
12	14.2	8.0	5.0	1.2	8.35	

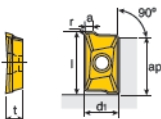
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	AXMT 0602R-HF	0.30-0.70	0.2-0.5	•	•								
	APKT 09T3R-HF	0.30-0.80	0.1-1.0	•	•						•		
	1204R-HF	0.10-0.80	0.2-1.0	•							•		



• Standard item

AXMT 06/AXCT 06

Insert



Size	Dimension (mm)						
	l	d ₁	t	ap	a	r	
06	6.7	4.15	2.6	5.5	0.83-1.0	0.2-2.0	
06 PER	6.7	4.15	2.6	5.5	0.83-1.0	0.2	

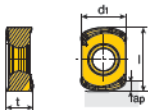


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	AXMT 0602 PER-EM	0.04-0.08	1.5-5.0	•	•	•	•						
	060204R-EM	0.07-0.13	1.5-5.0	•	•	•	•			•	•		
	060208R-EM	0.07-0.13	1.5-5.0	•	•	•	•			•	•		
	060216R-EM	0.07-0.13	1.5-5.0	•	•	•	•				•		
	060220R-EM	0.07-0.13	1.5-5.0	•	•								
	AXCT 060202R-AL	0.10-0.20	1.5-5.0									•	
	060204R-AL	0.10-0.20	1.5-5.0									•	
	060208R-AL	0.10-0.20	1.5-5.0									•	



• Standard item

Insert



Size	Dimension (mm)					
	l	d1	t	ap		
06	9.0	6.39	3.73	1.0		
09	11.9	9.18	4.80	1.5		



Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated								Uncoated	
				TT9090	TT9030	TT6080	TT9020	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	BLMP 0603R-M	0.30-2.50	0.1-1.0	•	•	•	•	•	•	•	•	•	
	0904R-M	0.30-3.50	0.1-1.5	•	•	•	•				•		
	BLMP 0603R-MM	0.20-2.00	0.1-1.0	•	•	•					•		
	0904R-MM	0.20-3.00	0.1-1.5	•	•	•					•		
	BLMP 0603R-ML	0.10-0.80	0.1-1.0	•	•	•							
	0904R-ML	0.30-0.80	0.1-1.5	•	•	•							



• Standard item

Insert



Size	Dimension (mm)					
	d	t	ap	r		
12	12	5.5	2	15		



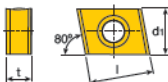
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated	
				TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080	TT2510
	BLMP 1205R-M	0.40-4.50	0.5-2.0	●	●	●	●	●	●	●		



●: Standard item

CNHX

Insert



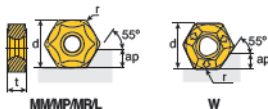
Size	Dimension (mm)				
	l	d1	t		
131108T	12.7	11	5.4		
160608T	16.0	12	6.4		

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated	
				TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080	K10
	CNHX 131108T	0.17 - 0.55	1.2 - 5.5					●				
	160608T	0.20 - 0.60	1.2 - 5.5					●				



●: Standard item

Insert



Size	Dimension (mm)			
	d	t	ap	r
05	12.7	5.0	5.0	1.0
05-W	12.7	5.56	5.0	250

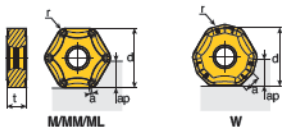


Insert	Designation	Feed (mm/tooth)	ap (mm)	Material									
				Ceramic	Coated							Uncoated	
				AS10	TT9080	TT9030	TT6080	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	HNCX 050410-L	0.05-0.20	1.5-4.0		•	•					•		
	HNCX 050410R-MP	0.05-0.20	1.5-4.0			•			•		•		
	HNCX 050410-MM	0.05-0.20	1.5-4.0		•	•			•	•	•		
	HNMX 050410-MM	0.07-0.20	1.5-4.0		•	•	•			•	•	•	
	HNCX 050610-MR	0.13-0.25	1.5-4.0	•									
	HNCX 05R-W	0.05-0.15	0.1-1.0		•	•					•		
	HNCX 05L-W	0.05-0.15	0.1-1.0		•	•					•		

• Standard item



Insert



Size	Dimension (mm)				
	d	t	ap	a	r
HNHX10	19.05	6.35	6.1	1.0	1.0
HNHX10-W	19.05	6.35	6.1	4.85	250



Insert	Designation	Feed (mm/tooth)	ap (mm)	Ceramic		Coated					Uncoated
				AS10	CT7000	TT9080	TT9080	TT7800	TT7080	TT6800	TT6080
	HNHX 1006 ANT-N-M	0.10-0.20	1.5-5.0			•	•	•	•	•	
	HNHX 1006 ANT-N-MM	0.125-0.25	1.5-5.0			•		•	•	•	
	HNHX 1006 ANT-N-ML	0.10-0.20	1.5-5.0				•		•	•	
	HNHX 1006 ANT-N-W	0.10-0.20	0.1-1.0		•	•				•	
	HNHX 1006 ANT-N-CE	0.125-0.25	1.5-5.0	•							

• Standard item



Insert



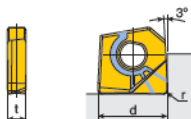
Size	Dimension (mm)					
	d	t	r			
080	8	2.2	4.0			
100	10	2.7	5.0			
120	12	3.2	6.0			
160	16	4.2	8.0			
200	20	5.2	10.0			
250	25	6.2	12.5			
300	30	7.2	15.0			
320	32	7.2	16.0			

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT6080	TT7800	TT7080	TT6800	TT6080	TT5525	TT5515	TT2510	K10
 Straight cutting edge	NFB 080-FM	0.05-0.20	0.05-0.3										
	100-FM	0.05-0.20	0.05-0.3						•	•			
	120-FM	0.08-0.30	0.05-0.5						•	•			
	160-FM	0.08-0.30	0.05-0.5						•	•			
	200-FM	0.08-0.30	0.10-1.0						•	•			
	250-FM	0.08-0.40	0.15-1.0						•	•			
	300-FM	0.08-0.40	0.15-1.0						•	•			
 Helical cutting edge	320-FM	0.08-0.40	0.15-1.0						•	•			
	NFB 080-SM	0.05-0.25	1.20-3.2						•	•	•		
	100-SM	0.05-0.25	1.50-4.0						•	•	•		
	120-SM	0.08-0.35	1.80-4.8						•	•	•		
	160-SM	0.08-0.35	2.40-8.4						•	•	•		
	200-SM	0.08-0.35	3.00-8.0						•	•	•		
	250-SM	0.08-0.45	3.75-10.0						•	•	•		
	300-SM	0.08-0.45	4.50-12.0						•	•	•		
	320-SM	0.08-0.45	4.80-12.8						•	•	•		


• Standard item



Insert



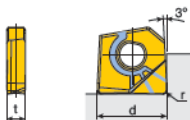
Size	Dimension (mm)			
	d	t	r	
080	8	2.2	0.3-1.0	
100	10	2.7	0.3-2.0	
110	11	2.7	0.3-2.0	
120	12	3.2	0.3-2.0	
130	13	3.2	0.3-2.0	
160	16	4.2	0.3-3.0	
170	17	4.2	1.0-2.0	

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated	
				TT9090	TT8090	TT7800	TT7090	TT6900	TT6090	TT5525	TT5515	TT2510
	NFR 080A-R03	0.05-0.12	0.05-0.2					●	●	●		
	080A-R05	0.05-0.12	0.05-0.2						●	●	●	
	080A-R06	0.05-0.12	0.05-0.2						●	●	●	
	080A-R10	0.05-0.12	0.05-0.2						●	●	●	
	100A-R03	0.05-0.12	0.05-0.3						●	●	●	
	100A-R05	0.05-0.12	0.05-0.3						●	●	●	
	100A-R08	0.05-0.12	0.05-0.3						●	●	●	
	100A-R10	0.05-0.12	0.05-0.3						●	●	●	
	100A-R15	0.05-0.12	0.05-0.3						●	●	●	
	100A-R20	0.05-0.12	0.05-0.3						●	●	●	
	110A-R10	0.05-0.12	0.05-0.3						●	●	●	
	110A-R20	0.05-0.12	0.05-0.3						●	●	●	
	120A-R03	0.08-0.15	0.07-0.3						●	●	●	
	120A-R05	0.08-0.15	0.07-0.3						●	●	●	
	120A-R10	0.08-0.15	0.07-0.3						●	●	●	
	120A-R15	0.08-0.15	0.07-0.3						●	●	●	
	120A-R20	0.08-0.15	0.07-0.3						●	●	●	
	130A-R10	0.08-0.15	0.07-0.3						●	●	●	
	130A-R20	0.08-0.15	0.07-0.3						●	●	●	
	160A-R03	0.08-0.15	0.08-0.5						●	●	●	
160A-R05	0.08-0.15	0.08-0.5						●	●	●		
160A-R10	0.08-0.15	0.08-0.5						●	●	●		
160A-R13	0.08-0.15	0.08-0.5						●	●	●		
160A-R15	0.08-0.15	0.08-0.5						●	●	●		
160A-R20	0.08-0.15	0.08-0.5						●	●	●		
160A-R30	0.08-0.15	0.08-0.5						●	●	●		
170A-R10	0.08-0.15	0.08-0.5						●	●	●		
170A-R20	0.08-0.15	0.08-0.5						●	●	●		

●: Standard item



Insert



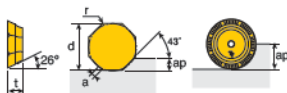
Size	Dimension (mm)			
	d	t	r	
200	20	5.2	0.3-3.0	
210	21	5.2	1.0-2.0	
250	25	6.2	0.3-3.0	
260	26	6.2	1.0-2.0	
300	30	7.1	1.0-2.0	
320	32	7.1	1.0-2.0	

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated			
				TT9080	TT6080	TT7800	TT7080	TT6800	TT6080	TT5525	TT5515	TT2510	K10	
	NFR 200A-R03	0.08-0.15	0.1-0.7							●	●	●		
	200A-R05	0.08-0.15	0.1-0.7							●	●	●		
	200A-R10	0.08-0.15	0.1-0.7							●	●	●		
	200A-R15	0.08-0.15	0.1-0.7							●	●	●		
	200A-R16	0.08-0.15	0.1-0.7							●	●	●		
	200A-R20	0.08-0.15	0.1-0.7							●	●	●		
	200A-R30	0.08-0.15	0.1-0.7							●	●	●		
	210A-R10	0.08-0.15	0.1-0.7							●	●	●		
	210A-R20	0.08-0.15	0.1-0.7							●	●	●		
	250A-R03	0.08-0.15	0.1-1.0							●	●	●		
	250A-R05	0.08-0.15	0.1-1.0							●	●	●		
	250A-R10	0.08-0.15	0.1-1.0							●	●	●		
	250A-R15	0.08-0.15	0.1-1.0							●	●	●		
	250A-R20	0.08-0.15	0.1-1.0							●	●	●		
	250A-R30	0.08-0.15	0.1-1.0							●	●	●		
	260A-R10	0.08-0.15	0.1-1.0							●	●	●		
	260A-R20	0.08-0.15	0.1-1.0							●	●	●		
	300A-R05	0.08-0.20	0.1-1.0							●	●	●		
	300A-R10	0.08-0.20	0.1-1.0							●	●	●		
	300A-R20	0.08-0.20	0.1-1.0							●	●	●		
320A-R10	0.08-0.20	0.1-1.0							●	●	●			
320A-R20	0.08-0.20	0.1-1.0							●	●	●			

●: Standard item



Insert



RFMR

Size	Dimension (mm)				
	d	t	ap	a	r
OF_07	17.94	5.0-5.1	5.0	1.3-2.2	0.8
RFMR 19	19.00	5.3	9.5	-	-

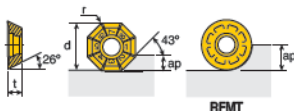


Insert	Designation	Feed (mm/tooth)	ap (mm)	Material									
				Cermet	Coated						Uncoated		
				CT7000	TT9080	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	K10
	OFCN 0704 TN-MR	0.80-0.20	1.5-4.0	●					●	●	●	●	●
	OFCN 0704 TN-EMR	0.08-0.15	1.5-4.0		●	●	●	●	●	●	●		
	OFMR 0704 AER-M	0.10-0.19	1.5-4.0		●	●	●	●	●	●	●	●	●
	OFCR 0704 TN-ML	0.05-0.15	1.5-4.0					●		●			●
	OFCR 0704 TN-EML	0.08-0.15	1.5-4.0		●	●	●	●	●	●		●	
	OFMR 0704 TN-AL	0.08-0.15	1.5-4.0										●
	RFMR 1904 M	0.07-0.14	2.5-8.0		●	●		●		●		●	

●: Standard item



Insert



Size	Dimension (mm)				
	d	t	ap	r	
OF_05	12.7	3.76-3.86	3.5	0.5-0.8	
RFMT 14	14.0	4.53	7.0	-	

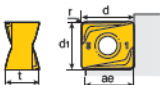


Insert	Designation	Feed (mm/tooth)	ap (mm)	Cement								Uncoated		
				CT7000	TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800		TT6080	K10
	OFCW 05T3 TN-MR	0.04-0.08	1.0-3.0											
	05T3 TN-EMR	0.08-0.15	1.0-3.0	•	•	•	•	•	•	•	•	•	•	•
	OFCT 05T3 TN-M	0.08-0.15	1.0-3.0											
	05T3 TN-EM	0.05-0.10	1.0-3.0		•	•	•	•	•	•	•	•	•	•
	OFCT 05T3 TN-AL	0.10-0.50	1.0-3.0											•
	OFMT 05T3 TN-ML	0.06-0.12	1.0-3.0		•	•	•	•	•	•	•	•	•	•
	RFMT 1404 ML	0.14-0.27	2.0-6.0		•			•		•			•	

• Standard item



Insert



Size	Dimension (mm)				
	d	d _i	t	ae	r
09	10	9	6.47	9	0.8

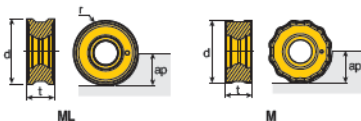


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated	
				TT9090	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	TT2510
	PLNG 090408R-M	0.10-0.80	2.5-7.5	●	●	●	●	●	●	●	●	
	PLNG 090408R-ML	0.10-0.50	2.5-7.5	●		●						

● Standard item



Insert



Size	Dimension (mm)				
	r	d	t	ap	
10	5	10	4.5	5	
12	6	12	5.0	6	
16	8	16	6.3	8	



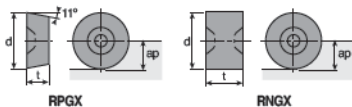
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	RNMU 1004-ML	0.05-0.30	1.5-4.0	•									
	1205-ML	0.05-0.35	1.5-5.0	•	•	•	•				•		
	1606-ML	0.05-0.40	2.0-6.5	•	•	•	•				•		
	RNMU 1004S-M	0.05-0.35	1.5-4.0	•	•	•	•				•		
	1205S-M	0.05-0.40	1.5-5.0	•	•	•	•				•		
	1606S-M	0.05-0.45	2.0-6.5	•	•	•	•				•		

• Standard item



RP(N)GX 12

Insert



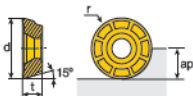
Size	Dimension (mm)		
	d	t	ap
RPGX 12	12.7	4.76	6
RNGX 12	12.7	7.94	6

Insert	Designation	Feed (mm/tooth)	ap (mm)	Ceramic	Coated							Uncoated	
				AS20	TT9080	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	K10
	RPGX 1204-CH	0.10-0.20	1.5-5.0	•									
	RNGX 1207-CH	0.10-0.20	1.5-5.0	•									

• Standard item



Insert



Size	Dimension (mm)			
	r	d	t	ap
05	2.5	5	1.5	2.5
07	3.5	7	2.38	3.5
10	5.0	10	3.18	5.0
12	6.0	12	3.97	6.0
16	8.0	16	4.76	8.0
20	10.0	20	5.85	10.0

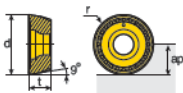


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated
				TT9090	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080
	RDMX 0501-M	0.04-0.25	0.5-2.0	•	•	•	•	•	•	•	
	0702-M	0.05-0.25	1.0-3.0	•	•	•	•	•	•	•	
	RXMX 1003-M	0.10-0.30	1.5-4.0	•	•	•	•	•	•	•	
	12T3-M	0.10-0.50	1.8-5.0	•	•	•	•	•	•	•	
	1604-M	0.10-0.50	2.0-6.5	•	•	•	•	•	•	•	
	2006-M	0.10-0.50	3.0-8.0	•	•	•	•	•	•	•	
	RXMX 1003-ML	0.05-0.30	1.5-4.0	•	•	•	•				
	12T3-ML	0.05-0.45	1.5-5.0	•	•	•	•				
	1604-ML	0.10-0.45	2.0-6.5	•	•	•	•				
	RXMX 1003-MR	0.05-0.30	1.5-4.0	•	•	•		•			
	12T3-MR	0.05-0.35	1.5-5.0	•	•	•		•		•	
	1604-MR	0.10-0.40	2.0-6.5	•	•	•		•			
	2006-MR	0.10-0.40	3.0-8.0	•	•	•	•				
	RXHX 1003-MR	0.05-0.30	1.5-4.0	•		•		•			
	12T3-MR	0.05-0.35	1.5-5.0	•		•		•			
	RXHX 1003-AL	0.10-0.80	1.5-4.0								•
	12T3-AL	0.10-0.80	1.5-5.0								•

• Standard item



Insert



Size	Dimension (mm)			
	r	d	t	ap
08	4	8	3.2	4
10	5	10	4.0	5
12	6	12	4.8	6
16	8	16	6.1	8
20	10	20	7.0	10

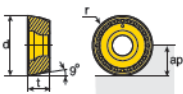


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT9030	TT6080	TT9020	TT7800	TT7080	TT6800	TT6080	TT2510	K10
	RYMX 0803-M	0.05-0.25	1.0-3.5	•	•								
	1004-M	0.10-0.30	1.5-4.0	•		•	•	•	•		•	•	
	1205-M	0.10-0.50	1.5-5.0	•		•	•	•	•		•	•	
	1205-6M	0.10-0.50	1.5-5.0	•								•	
	1606-M	0.10-0.50	2.0-6.5	•		•	•	•	•		•	•	
	1606-7M	0.10-0.50	2.0-6.5	•								•	
	2007-M	0.10-0.50	3.0-8.0	•		•	•	•	•		•	•	
	RYMX 0803-MM	0.07-0.30	1.0-3.5	•		•							
	1004-MM	0.07-0.35	1.5-4.0	•		•							
	1205-MM	0.10-0.40	1.5-5.0	•		•	•	•					
	1205-6MM	0.10-0.40	1.5-5.0	•								•	
	1606-MM	0.10-0.45	2.0-6.5	•		•	•					•	
	1606-7MM	0.10-0.45	2.0-6.5	•								•	
	RYHX 1205-MM	0.10-0.40	3.0-8.0	•			•						
	RYMX 0803-ML	0.05-0.25	1.0-3.5	•		•		•					
	1004-ML	0.05-0.30	1.5-4.0	•		•	•	•					
	1205-ML	0.05-0.35	1.5-5.0	•		•	•	•					
	1205-6ML	0.05-0.35	1.5-5.0	•								•	
	1606-ML	0.05-0.40	2.0-6.5	•		•	•	•				•	
	1606-7ML	0.05-0.40	2.0-6.5	•								•	
	2007-ML	0.10-0.50	3.0-8.0	•		•	•	•				•	
	RYHX 0803-ML	0.05-0.25	1.0-3.5	•		•		•					
	1004-ML	0.05-0.30	1.5-4.0			•	•						
	1205-ML	0.05-0.35	1.5-5.0			•	•						
	1606-ML	0.10-0.40	2.0-6.5			•	•						

•: Standard item



Insert



Size	Dimension (mm)					
	r	d	t	ap		
08	4	8	3.2	4		
10	5	10	4.0	5		
12	6	12	4.8	6		
16	8	16	6.1	8		
20	10	20	7.0	10		

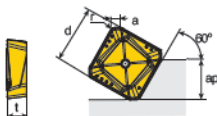


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9090	TT9030	TT8090	TT9020	TT7900	TT7090	TT6900	TT6090	TT2510	K10
	RYMX 0803-MR	0.05-0.30	1.0-3.5	●				●	●	●	●		
	1004-MR	0.05-0.35	1.5-4.0	●	●			●	●	●	●		
	1205-MR	0.05-0.35	1.5-5.0	●	●			●	●	●	●		
	1606-MR	0.05-0.40	2.0-6.5	●	●			●	●	●	●		
	2007-MR	0.10-0.45	1.0-3.5	●				●			●		
RYHX	0803-MR	0.05-0.30	1.5-4.0	●						●	●		
	1004-MR	0.05-0.35	1.5-5.0	●						●	●		
	1205-MR	0.05-0.35	2.0-6.5	●						●	●		
	RYHX 1004-AL	0.10-0.80	1.5-4.0										●
	1205-AL	0.10-0.80	1.5-5.0										●
	1606-AL	0.10-0.80	2.0-6.5										●



●: Standard item

Insert



Size	Dimension (mm)				
	d	t	ap	a	r
21-HE	20.8	7	13	2	1.5
21-HS	21	6.95	13	2	1.5
27-HE	26.8	8.95	18	2	2
27-HS	27	8.9	18	2	2



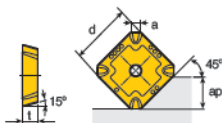
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated		
				TT9080	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	K10
	SCKN 2107 DDTR-HE	0.13-0.25	3.5-10.5					•	•	•		
	2708 DDTR-HE	0.15-0.30	5.0-14.5					•	•			
	SCKN 2107 DDTR-HS	0.13-0.25	3.5-10.5					•				
	2708 DDTR-HS	0.13-0.25	5.0-14.5					•				



• Standard item

SDKN 12/15

Insert



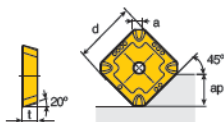
Size	Dimension (mm)				
	d	t	ap	a	
12	12.7	3.18	6.5	2.00	
15	15.875	4.76	8.7	1.89	

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated		
				TT9080	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	K10
	SDKN 1203 MT-HPN	0.10-0.25	1.5-6.0					•				
	1504 MT-HPN	0.10-0.25	1.5-6.0					•				
	SDKN 1203 MT-GPN	0.10-0.25	1.5-6.0					•				
	1504 MT-GPN	0.10-0.25	1.5-6.0					•				





• Standard item

Insert



Size	Dimension (mm)				
	d	t	ap	a	
12	12.7	3.18	6.5	2.08	
15	15.875	4.76	8.7	2.06	

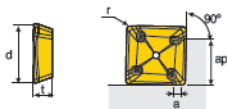
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated	
				TT9090	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080
	SEKN 1203 AFTN-HPN	0.10-0.25	1.5-6.0						●		
	1504 AFTN-HPN	0.10-0.25	1.5-8.0						●		
	SEKN 1203 AFTN-GPN	0.10-0.25	1.5-6.0						●		
	1504 AFTN-GPN	0.10-0.25	1.5-8.0						●		




●: Standard item

SEKX 21

Insert



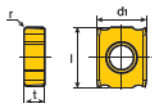
Size	Dimension (mm)					
	d	t	ap	a	r	
21 PETR-M	21.85	7	17	2	1.2	

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated	
				TT9090	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080
	SEKX 2107 PETR-M	0.10-0.22	5.5-13.0						●		



●: Standard item

Insert



Size	Dimension (mm)					
	i	d1	t	r		
018	8	6.5	1.8	0.4		
023	8	6.5	2.3	0.4		
028	8	6.5	2.8	0.4		
033	8	6.5	3.3	0.4		

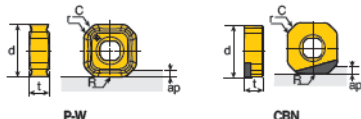
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated		
				TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080	K10	
	SLOT 018-04	0.05-0.08	-	●		●						●	
	SLOT 023-04	0.05-0.08	-	●		●						●	
	SLOT 028-04	0.05-0.08	-	●		●						●	
	SLOT 033-04	0.06-0.10	-	●		●						●	

●: Standard item



E155-E156

Insert



Size	Dimension (mm)					
	d	t	ap	r	R	C
1204 P-W	12.7	4.76	1.0	2.0	450	2.5
1204-W	12.7	4.76	1.0	2.0	800	-
1205-W	12.7	5.56	1.0	2.0	450	2.5
1204R-CBN	12.7	4.76	1.0	0.8	250	1.5



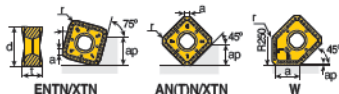
Insert	Designation	Feed (mm/tooth)	ap (mm)	Cermets		Ceramics		CBN		Coated				Uncoated
				CT3000	AS10	KB90	TT9080	TT9030	TT6800	TT6080	K10			
	SNEX 1204 P-W	0.07-0.15	0.3-0.8										•	•
	SNEX 1204-W	0.07-0.15	0.3-0.8										•	
	SNEX 1205-W	0.07-0.15	0.3-0.8									•		
	SNEX 1204R-CBN	0.08-0.12	0.3-0.8					•						

• Standard item



SNG(M)X 13

Insert



Size	Dimension (mm)				
	d	t	ap	a	r
13 ENTN-M	13.5	7.0	9.5	2.2	0.4
13 ANTN-M/ML/AL	13.5	6.8	7.0	2.2	0.4
13 ANTR-MP	13.5	6.8	6.0	2.2	0.4
13 ANTN-W	13.5	6.8	7.0	7.5	1.2
13 XTN(75°)	13.5	6.8	9.6	1.4	0.4
13 XTN(45°)	13.5	6.8	6.35	1.4	0.4

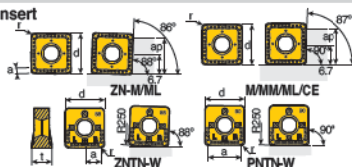


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated								Uncoated		
				TT9080	TT9090	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080	TT2510	K10	
	SNGX 1306 ENTN-M	0.10-0.20	2.5-8.0	•										
	SNMX 1306 ENTN-M	0.10-0.20	2.5-8.0	•	•				•	•	•			
	SNGX 1306 ANTN-M	0.10-0.20	2.0-6.0	•					•	•	•			
	1306 ANTN-ML	0.13-0.25	2.0-6.0			•					•			
	SNMX 1306 ANTN-M	0.10-0.20	2.0-6.0	•	•				•	•	•	•		
	SNGX 1306 ANN-AL	0.10-0.35	2.0-6.0										•	
	SNMX 1306 ANTR-MP	0.10-0.20	2.0-6.0	•	•			•			•			
	SNMX 1306 XTN	0.10-0.20	2.5-6.5	•	•						•	•	•	
	SNGX 1306 ANTN-W	0.10-0.20	0.2-1.0	•							•			

• Standard item



Insert



Size	Dimension (mm)				
	d	t	ap	a	r
13	13.5	6.8-7.0	10-12	1.2-5.3	0.4-1.6
13-W	13.5	6.8	10-12	11.5	1.0

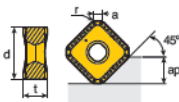


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated
				Ceramic	TT9080	TT9030	TT8080	TT7080	TT6800	TT6080
	SNGX 1306 ZN-M	0.10-0.20	3.5-10.0	•	•	•	•	•		
	SNGX 1306 ZN-ML	0.13-0.25	3.5-10.0					•		
	1306C08 ZN-M	0.10-0.20	3.5-10.0		•			•	•	
	130608-MM	0.08-0.15	3.5-10.0			•				
	130612-MM	0.08-0.15	3.5-10.0					•		
	130616-MM	0.08-0.15	3.5-10.0				•			
	130608-ML	0.13-0.25	3.5-10.0					•		
	SNGX 130608-M	0.10-0.20	3.5-10.0		•				•	•
	130612-M	0.10-0.20	3.5-10.0		•			•	•	
	130616-M	0.10-0.20	3.5-10.0		•	•	•	•	•	
	130620-M	0.10-0.20	3.5-10.0		•			•	•	
	SNGX 130608-CE	0.13-0.25	3.5-10.0	•						
	SNGX 1306 ZNTN-W	0.10-0.20	0.2-1.0		•					•
	1306 PNTN-W	0.10-0.20	0.2-1.0		•					•





• Standard item

Insert



Size	Dimension (mm)				
	d	t	ap	a	r
SNMX 16	16.7	7.8	8.8	2.4	0.8
SNHX 16	16.7	6.4	8.8	2.4	0.8



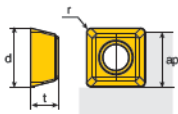
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated
				TT9090	TT9030	TT9090	TT9020	TT7800	TT7090	TT6900	TT6090
	SNMX 1607 ANTN-M	0.13-0.25	2.5-7.5	•	•	•	•	•			
	SNHX 1606 ANN-MM	0.10-0.20	2.5-7.5					•	•	•	

• Standard item



E69-E72

Insert



Size	Dimension (mm)					
	d	t	ap	r		
06	6.16	2.56	5.6	0.4		
09	9.8	4.3	9.0	0.8		
11	11.5	4.8	10.7	0.8		
14	14.2	5.2	13.4	0.8		

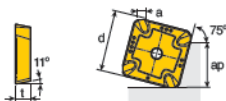


Insert	Designation	Feed (mm/tooth)	ap (mm)	Material									
				Cermet	Coated				Uncoated				
				CT7700	TT9080	TT9030	TT6080	TT9020	TT7800	TT7080	TT6800	TT6080	K10
	SPMG 090404-EM	0.08-0.15	2.5-7.5					•					
	090408-EM	0.08-0.15	2.5-7.5		•			•		•		•	
	110408-EM	0.08-0.15	3.0-8.5		•	•		•		•		•	
	140508-EM	0.10-0.18	4.0-11.0		•			•		•		•	
	SPMT 090408-EM	0.08-0.17	2.5-7.5		•	•		•		•		•	
	110408-EM	0.08-0.15	3.0-8.5		•	•		•		•		•	
	140508-EM	0.07-0.14	4.0-11.0				•	•	•	•		•	
	XOMT 060204	0.03-0.06	1.5-4.5			•		•					

• Standard item



Insert



Size	Dimension (mm)			
	d	t	ap	a
12	12.7	3.18	9.5	1.2-1.6
15	15.875	4.76	12.5	1.4-1.6

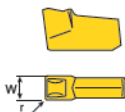
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated			
				TT9090	TT9030	TT9080	TT9020	TT7800	TT7080	TT6800	TT6080	K10	
	SPKN 1203 EDTR-HPN	0.10-0.25	1.5-7.0										
	1504 EDTR-HPN	0.10-0.25	1.5-10.0										
	SPKN 1203 EDR-HPN	0.10-0.25	1.5-7.0				●						
	1504 EDR-HPN	0.10-0.25	1.5-10.0				●						
	SPKN 1203 EDTR-GPN	0.10-0.25	1.5-7.0						●				
	1504 EDTR-GPN	0.10-0.25	1.5-10.0						●				

●: Standard item




TIMC

Slotting insert



Size	Dimension (mm)			
	Seat size	W±0.1	r	
TIMC 1.6	1	1.6	0.16	
TIMC 2	2	2.2	0.20	
TIMC 2.4	2	2.4	0.20	
TIMC 3	4	3.1	0.20	
TIMC 4	4	4.1	0.25	
TIMC 4.8	4	4.8	0.28	

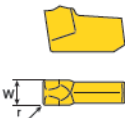
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated					Uncoated		
				TT9080	TT9030	TT8080	TT9020	TT7080	TT6030	TT5100	K10
	TIMC 1.6	0.04-0.12	-				●				●
	2	0.05-0.13	-				● ●				●
	2.4	0.06-0.15	-					●			●
	3	0.06-0.18	-				● ●				●
	4	0.08-0.20	-				● ●	● ●			●
	4.8	0.08-0.20	-				●		●		

●: Standard item




TIMJ

Slotting insert



Size	Dimension (mm)			
	Seat size	W±0.1	r	
TIMJ 2	2	2.2	0.20	
TIMJ 2.4	2	2.4	0.20	
TIMJ 3	4	3.1	0.20	
TIMJ 4	4	4.1	0.25	
TIMJ 4.8	4	4.8	0.28	

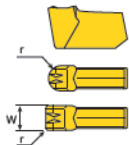
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated					Uncoated		
				TT9080	TT9030	TT8080	TT8020	TT7220	TT7080	TT6030	TT5100
	TIMJ 2	0.04-0.12	-				●		● ●		●
	2.4	0.05-0.13	-				●		●		●
	3	0.05-0.15	-				●		● ●		●
	4	0.05-0.18	-				●		● ●		●
	4.8	0.05-0.18	-				●		●		●

●: Standard item




TIPV

Slotting insert



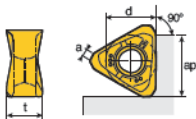
Size	Dimension (mm)		
	Seat size	W±0.1	r
TIPV_E ...	4	3.0-4.5	0.4-2.0
TIPV 1.85-2.15	2	1.85-2.15	0.1-0.2
TIPV 2.65-4.15	4	2.65-4.15	0.15-0.20

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated	
				TT9080	TT9030	TT8080	TT8020	TT7220	TT7080	TT6030	TT5100	K10
	TIPV 3.00E 0.40	0.06-0.18	-							●	●	●
	4.00E 0.40	0.08-0.20	-							●	●	●
	4.50E 0.40	0.08-0.20	-							●	●	●
	3.00E 1.50	0.06-0.18	-							●	●	●
	4.00E 2.00	0.08-0.20	-							●	●	●
	1.85 0.10	0.05-0.13	-							●	●	●
	2.00 0.20	0.05-0.13	-							●	●	●
	2.15 0.15	0.05-0.13	-							●	●	●
	2.65 0.15	0.06-0.18	-							●	●	●
	3.00 0.20	0.06-0.18	-							●	●	●
	3.18 0.20	0.06-0.18	-							●	●	●
	4.00 0.20	0.08-0.20	-							●	●	●
	4.15 0.15	0.08-0.20	-							●	●	●

●: Standard item



Insert



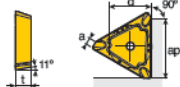
Size	Dimension (mm)				
	d	t	ap	a	
18	11.65	8	13	1.4	
22	12.7	8	15	2.2	

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated
				TT9090	TT9030	TT6080	TT6020	TT7800	TT7080	TT6800	TT6080
	TNGX 1806 PNTR-M	0.07-0.15	1.0-11.0	•	•	•	•	•	•	•	
	TNGX 2207 PNTN	0.10-0.20	1.0-13.0	•	•			•	•		
	TNGX 2207 PNTN	0.10-0.20	1.0-13.0	•	•			•	•		

• Standard item



Insert



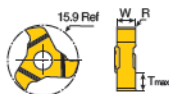
Size	Dimension (mm)			
	d	t	ap	a
22	12.7	4.76	16	1.41-1.7

Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated							Uncoated			
				TT9080	TT9030	TT8080	TT8020	TT7800	TT7080	TT6800	TT6080	K10		
	TPKN 2204 PDTR-HPN	0.10-0.25	1.5-13.0						●					
	TPKN 2204 PDR-HPN	0.10-0.25	1.5-13.0			●					●			
	TPKN 2204 PDTR-GPN	0.10-0.25	1.5-13.0						●					

●: Standard item



Insert



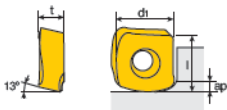
Size	Dimension (mm)			Size	Dimension (mm)		
	W	R	T _{max}		W	R	T _{max}
1.2	1.2	0.05	4.6	3.0	3.0	0.20	4.8
1.4	1.4	0.10	4.8	3.25	3.25	0.15	4.8
1.5	1.5	0.10	4.8	4.0	4.0	0.20	4.8
1.7	1.7	0.10	4.8	4.25	4.25	0.15	4.8
1.95	1.95	0.15	4.8	5.0	5.0	0.20	4.8
2.0	2.0	0.20	4.8	5.25	5.25	0.15	4.8
2.25	2.25	0.15	4.8	6.0	6.0	0.20	4.8
2.75	2.75	0.15	4.8				

Insert	Designation	Feed (mm/tooth)	ap (mm)	f (mm)	Coated							Uncoated				
					TT9090	TT9030	TT6080	TT8020	TT7800	TT7080	TT6800	TT6080	K10			
	TS16- 1.2-R0.05	0.02-0.08	1.20	0.5	•											
	1.4-R0.1	0.02-0.10	1.40	0.5	•											
	1.5-R0.1	0.03-0.12	1.50	0.5	•											
	1.7-R0.1	0.03-0.12	1.70	0.5	•											
	1.95-R0.15	0.04-0.15	1.95	0.5	•											
	2.0-R0.2	0.04-0.15	2.00	0.5	•											
	2.25-R0.15	0.04-0.15	2.25	0.75	•											
	2.75-R0.15	0.04-0.20	2.75	1.39	•											
	3.0-R0.2	0.04-0.20	3.00	1.39	•											
	3.25-R0.15	0.04-0.20	3.25	1.39	•											
	4.0-R0.2	0.05-0.25	4.00	2.43	•											
	4.25-R0.15	0.05-0.25	4.25	0.95	•											
	5.0-R0.2	0.05-0.30	5.00	2.15	•											
	5.25-R0.15	0.05-0.30	5.25	2.15	•											
	6.0-R0.2	0.05-0.30	6.00	3.15	•											

• Standard item



Insert



Size	Dimension (mm)					
	d _t	l	t	ap		
08	8.1	8.1	3.97	1		
13	12.9	12.9	5.56	2		

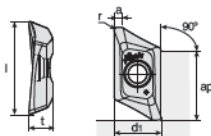


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated						Uncoated	
				TT9090	TT9030	TT6080	TT8020	TT7800	TT7080	TT6800	TT6080
	XDMX 08T310R-M	0.10-0.80	0.2-1.0	•	•	•	•	•	•	•	
	XDMX 08T310R-MR	0.10-0.80	0.2-1.0	•	•	•		•			
	XDMX 130615R-MM	0.10-1.50	0.3-2.0	•	•	•	•				
	XDMX 130615R-MR	0.10-1.50	0.3-2.0	•	•			•			

• Standard item



Insert



Size	Dimension (mm)					
	l	d ₁	t	ap	a	r
16	18.4-22.24	11.23	5.4-5.9	13-16	0.3-1.3	0.4-5.0

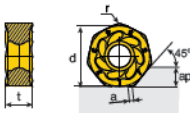
Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated								Uncoated	
				TT9090	TT9030	TT8080	TT9020	TT7800	TT7080	TT6800	TT6080	K10	
	XECT 160504R-AL	0.10-0.40	3.5-12.0										•
	160508R-AL	0.10-0.40	3.5-12.0										•
	160512R-AL	0.10-0.40	3.5-12.0										•
	160516R-AL	0.10-0.40	3.5-12.0										•
	160520R-AL	0.10-0.40	3.5-12.0										•
	160524R-AL	0.10-0.40	3.5-12.0										•
	160530R-AL	0.10-0.40	3.5-12.0										•
	160532R-AL	0.10-0.40	3.5-12.0										•
	160540R-AL	0.10-0.40	3.5-12.0										•
	160560R-AL	0.10-0.40	3.5-12.0										•

• Standard item



E TaeguTec

Insert



Size	Dimension (mm)				
	d	t	a	r	ap
09	18.5	6.35-7.4	1.0	1.0	5.0

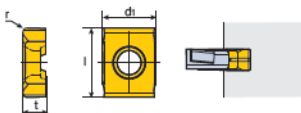


Insert	Designation	Feed (mm/tooth)	ap (mm)	Coating									
				Ceramic	Coated						Uncoated		
				AS10	TT9080	TT9030	TT9080	TT9020	TT77800	TT77080	TT6800	TT6080	K10
	XNMU 0906 ANTR-M	0.10-0.20	1.5-4.0		•								
	XNMU 0906 ANTN-ML	0.13-0.25	1.5-4.0		•	•	•	•					
	XNHU 0906 ANTN-ML	0.13-0.25	1.5-4.0		•						•	•	
	XNHU 0906 ANTN-MM	0.13-0.25	1.5-4.0		•				•	•	•		
	XNHU 0906 ANTN-CE	0.135-0.25	1.5-4.0	•									
	XNHU 0906 ANTN-W	0.10-0.20	0.1-1.0										•

• Standard item



Insert



Size	Dimension (mm)					
	l	d ₁	t	r		
018	10	7.5	1.8	0.2-0.8		
023	10	7.5	2.3	0.2-0.8		
028	10	7.5	2.8	0.2-0.8		
033	10	7.5	3.3	0.2-0.8		
038	13	10	3.8	0.4-0.8		
043	13	10	4.3	0.4-0.8		
048	13	10	4.8	0.4-0.8		
053	13	10	5.3	0.4-0.8		



Insert	Designation	Feed (mm/tooth)	ap (mm)	Coated								Uncoated	
				TT9080	TT9030	TT9080	TT9020	TT7800	TT7080	TT6800	TT6080	K10	
	ZNHT 018-04	0.05-0.08	-	•	•	•	•	•	•	•			
	018-08	0.05-0.08	-	•	•								
	023-04	0.05-0.08	-	•	•	•	•	•					
	023-08	0.05-0.08	-	•	•								
	028-04	0.05-0.10	-	•	•	•	•	•					
	028-08	0.05-0.10	-	•	•								
	033-04	0.05-0.12	-	•	•	•	•	•					
	033-08	0.05-0.12	-	•	•	•							
	038-04	0.05-0.12	-	•	•	•	•	•					
	038-08	0.05-0.12	-	•	•	•	•	•					
	043-04	0.05-0.15	-	•	•	•	•	•					
	043-08	0.05-0.15	-	•	•	•	•	•					
	048-04	0.05-0.15	-	•	•	•	•	•					
	048-08	0.05-0.15	-	•	•	•	•	•					
053-04	0.05-0.15	-	•	•	•	•	•						
053-08	0.05-0.15	-	•	•	•	•	•						
	ZNHT 018-04-ML	0.05-0.08	-			•				•			
	023-04-ML	0.05-0.08	-			•				•			
	028-04-ML	0.05-0.08	-			•				•			
	033-04-ML	0.05-0.12	-			•				•			
	038-04-ML	0.05-0.12	-			•				•			
	043-04-ML	0.05-0.12	-			•				•			
	048-04-ML	0.05-0.12	-			•				•			
053-04-ML	0.05-0.12	-			•				•				
	ZNHT 018-02-AL	0.10-0.35	-										•
	023-02-AL	0.10-0.35	-										•
	028-02-AL	0.10-0.35	-										•
	033-02-AL	0.10-0.35	-										•
	038-04-AL	0.10-0.35	-										•
	043-04-AL	0.10-0.35	-										•
	048-04-AL	0.10-0.35	-										•
	053-04-AL	0.10-0.35	-										•
053-08-AL	0.10-0.35	-										•	



E157-E158,
E164

• Standard item

Recommended Cutting Conditions

Machining data for PCBN grade

ISO	D.O.C. (mm)	Material	Grade		
			KB90		
			Cutting speed V _c (m/min)	Feed (mm/tooth)	Cutting edge
P	< 2	Bearing steel	180 - 220	0.05 - 0.25	Chamfer
	< 2	Ferrous powder metal	150 - 300	0.1 - 0.15	Chamfer
K	< 0.5	Grey cast iron HB 200 - 280	500 - 1500	0.1 - 0.3	Chamfer hone
	0.5 - 2.0		500 - 1100	0.1 - 0.25	Chamfer
	< 0.5	Compared graphite iron (CGI)	400 - 600	0.1 - 0.2	Hone
S	0.5 - 2.0	Co based > 35 HRC	150 - 200	0.05 - 0.15	Chamfer
		Ni based > 35 HRC	120 - 150	0.05 - 0.15	Chamfer
		Fe based > 35 HRC	60 - 120	0.05 - 0.15	Chamfer
		Cr based > 35 HRC	50 - 75	0.05 - 0.15	Chamfer
H	< 0.5	Hardened steels > 45 HRC	80 - 180	0.1 - 0.25	Chamfer
	< 2	Hardened cast iron	80 - 200	0.1 - 0.15	Chamfer

• 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

Cutting Speed : Vc(m/min)

ISO	Material	Condition	Tensile strength (N/mm ²)	Hardness HB	Material No.	Uncoated		
						K10	P30	
P	Non-alloy steel, cast steel, free cutting steel	< 0.25%C	Annealed	420	125	1	60-170	
		≥ 0.25%C	Annealed	650	190	2	60-130	
		< 0.55%C	Quenched and tempered	850	250	3	60-100	
		≥ 0.55%C	Annealed	750	220	4	60-120	
			Quenched and tempered	1000	300	5	50-100	
	Low alloy steel and cast steel (less than 5% of alloying elements)	Annealed		600	200	6	60-130	
				930	275	7	60-100	
			Quenched and tempered	1000	300	8	50-100	
		Quenched and tempered		1200	350	9	40-90	
								60-130
High alloy steel, cast steel and tool steel	Annealed		680	200	10	60-130		
	Quenched and tempered		1100	325	11	50-100		
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	70-130		
		Pearlitic		250	16	50-110		
	Cast iron nodular (GGG)	Ferritic		180	17	45-90		
		Pearlitic		260	18	40-85		
	Malleable cast iron	Ferritic		130	19	70-140		
Pearlitic			230	20	55-115			
N	Aluminum - wrought alloy	Not cureable		60	21	550-700		
		Cured		100	22	600-750		
	Aluminum-cast, alloyed	<=12% Si	Not cureable		75	23	800-900	
			Cured		90	24	650-800	
		>12% Si	High temp.		130	25	250-320	
	Copper alloys	>1% Pb	Free cutting		110	26	300-400	
			Brass		90	27	300-400	
	Non-metallic		Duroplastics, fiber plastics			29		
		Hard rubber			30			
S	High temp. alloys	Fe based	Annealed		200	31	50-70	
			Cured		280	32	40-50	
		Ni or Co based	Annealed		250	33	50-70	
			Cured		350	34	35-40	
			Cast		320	35	45-50	
	Titanium, Ti alloys		Rm 400		36	120-145		
	Alpha+beta alloys cured	Rm 1050		37	35-45			
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

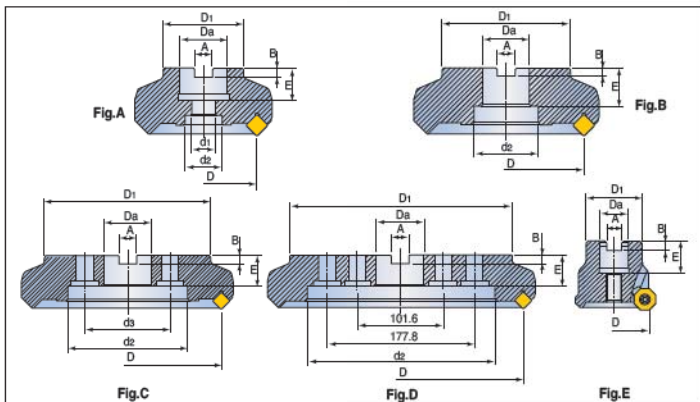
Machining data

Cutting speed :Vc(m/min)

Coated									Ceramic		Cermet
TT9080	TT9030	TT7080	TT7800	TT8080	TT8020	TT6800	TT6080	TT2510	AS10	AS20	CT7000
220-370	190-310	250-410	160-270	170-250	150-210						270-510
180-310	160-260	200-380	140-210	130-220	120-200						230-450
115-195	105-185	140-230	90-160	90-170	70-140						150-370
130-210	120-200	160-250	100-170	100-190	90-150						210-430
115-175	95-160	135-195	80-140	70-160	60-130						150-280
175-265	160-250	190-290	140-200	150-220	130-170						150-285
130-215	120-200	150-240	90-160	110-190	70-150						100-190
105-185	95-175	135-225	70-150	80-160	60-110						90-170
95-160	80-150	120-190	60-110	70-120	50-100						80-130
85-155	75-135	100-150	60-90	70-110	50-80						100-170
75-135	65-120	90-140	50-90	60-100	40-80						80-120
115-270	100-250			90-200	75-170						
100-230	80-200			70-160	60-130						
120-275	110-260			100-210	80-180						
						180-350	200-390		400-900		
						140-280	160-300		250-600		
						115-230	130-250		350-800		
						100-200	110-210		250-600		
						190-310	210-330		360-540		
						120-260	130-280		300-440		
											800-1200
											700-110
											800-1200
											650-850
											250-400
											500-600
											500-600
											350-400
40-80				30-65							500-900
30-60				20-45							500-900
35-70				25-50							500-900
30-60				20-40							500-900
35-65				20-45							500-900
90-130				60-100							500-900
35-70				25-55							500-900
40-75								70-180			
30-55								50-130			

Mounting Reference

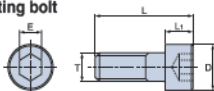
Metric arbor style



D	Da	A	B	E	Dimension (mm)					Fig.	Arbor
					D ₁		d ₁	d ₂	d ₃		
					For mold & die	For general					
32	16	8.4	5.6	20	30	-	-	-	-	E	SEM16
32	16	8.4	5.6	20	30	-	9	13.5	-	A	SEM16
40	16	8.4	5.6	20	38	-	9	13.5	-	A	SEM16
40	22	10.4	6.3	22	38	-	11	17	-	A	SEM22
50	22	10.4	6.3	22	40	45	11	17	-	A	SEM22
63	22	10.4	6.3	22	47	-	11	17	-	A	SEM22
80	27	12.4	7	28	58	70	13	22	-	A	SEM27
100	32	14.4	8	26	66	85	18	26	-	A	SEM32
100	32	14.4	8	26	66	85	-	46	-	B	SEM32
125	40	16.4	9	32	85	-	22	32	-	A	SEM40
125	40	16.4	9	32	85	-	-	56	-	B	SEM40
160	40	16.4	9	32	110	-	-	90	66.7	C	FM40
200	60	25.7	14	40	130	-	-	132	101.6	C	FM60
250	60	25.7	14	40	160	-	-	150	101.6	C	FM60
315	60	25.7	14	40	220	-	-	220	-	D	-

• For Face Mill arbors, please refer to TaeguTec tooling system(part G)

Mounting bolt



SH type

Designation	Dimension (mm)					Cutter size
	D	L	L ₁	T	E	
SH M8x1.25x30(-C)	13	38	8	8	6	40
SH M10x1.5x30(-C)	16	40	10	10	8	50, 63
SH M12x1.75x35(-C)	18	47	12	12	10	80
SH M16x2x35(-C)	24	51	16	16	14	100

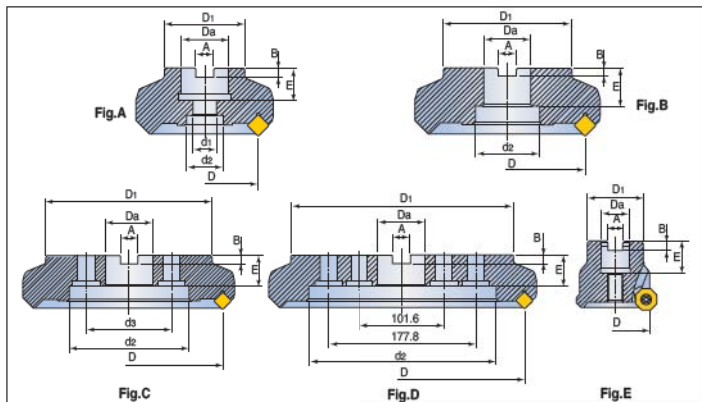
LH type

Designation	Dimension (mm)					Cutter size
	D	L	L ₁	T	E	
LH M10x1.5x25(-C)	16	31.5	6.5	10	8	50, 63
LH M12x1.75x30(-C)	18	36.9	6.9	12	10	80
LH M16x2x35(-C)	24	45	16	16	14	100

• "-C": Bolt with hole for internal coolant

Mounting Reference

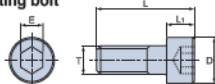
Inch arbor style



Dimension (mm)										Fig.	Arbor
D	Da	A	B	E	D1	d1	d2	ds			
32	16	8.4	5.6	20	30	-	-	-	E	SEM16	
32	16	8.4	5.6	20	30	9	13.5	-	A	SEM16	
40	16	8.4	5.6	20	38	9	13.5	-	A	SEM16	
40	22	10.4	6.3	22	38	11	17	-	A	SEM22	
50	22	10.4	6.3	22	45	11	17	-	A	SEM22	
63	22	10.4	6.3	22	47	11	17	-	A	SEM22	
80	25.4	9.526	6	26	70	13	20	-	A	FMA25.4	
100	31.75	12.7	8	32	80	18	26	-	A	FMA31.75	
100	31.75	12.7	8	32	80	-	46	-	B	FMA31.75	
125	38.1	15.875	10	38	80	-	56	-	B	FMA38.1	
160	50.8	19.05	11	38	100	-	72	-	B	FMA50.8	
200	47.625	25.4	14	38	130	-	132	101.6	C	FMA47.625	
250	47.625	25.4	14	38	160	-	150	101.6	C	FMA47.625	
315	47.625	25.4	14	38	220	-	224	-	D	-	

• For Face Mill arbors, please refer to TaeguTec tooling system(part G)

Mounting bolt



SH type

Designation	Dimension (mm)					Cutter size
	D	L	L1	T	E	
SH M8x1.25x30(-C)	13	38	8	8	6	40
SH M10x1.5x30(-C)	16	40	10	10	8	50, 63
SH M12x1.75x35(-C)	18	47	12	12	10	80
SH M16x2x35(-C)	24	51	16	16	14	100

LH type

Designation	Dimension (mm)					Cutter size
	D	L	L1	T	E	
LH M10x1.5x25(-C)	16	31.5	6.5	10	8	50, 63
LH M12x1.75x30(-C)	18	36.9	6.9	12	10	80
LH M16x2x35(-C)	24	45	16	16	14	100

• "-C": Bolt with hole for internal coolant