



Where **high performance**
is the **standard**[®]



M.A. FORD MAX
RANGE

Indexable Milling



Where **high performance** is the **standard***



Innovation is what drives us. Actively searching for fresh solutions to new technical and manufacturing challenges that enable our customers to improve productivity, accuracy and performance by relying on M.A. Ford® to deliver.

Our extensive range of tooling and 'Integrated Manufacturing Solutions' has developed and evolved to become a virtual byword for precision and performance. The principles of high precision and high quality extend beyond our tooling and are present in every aspect of M.A. Ford® Europe to ensure customer demands are consistently met at all levels.



Indexable Milling

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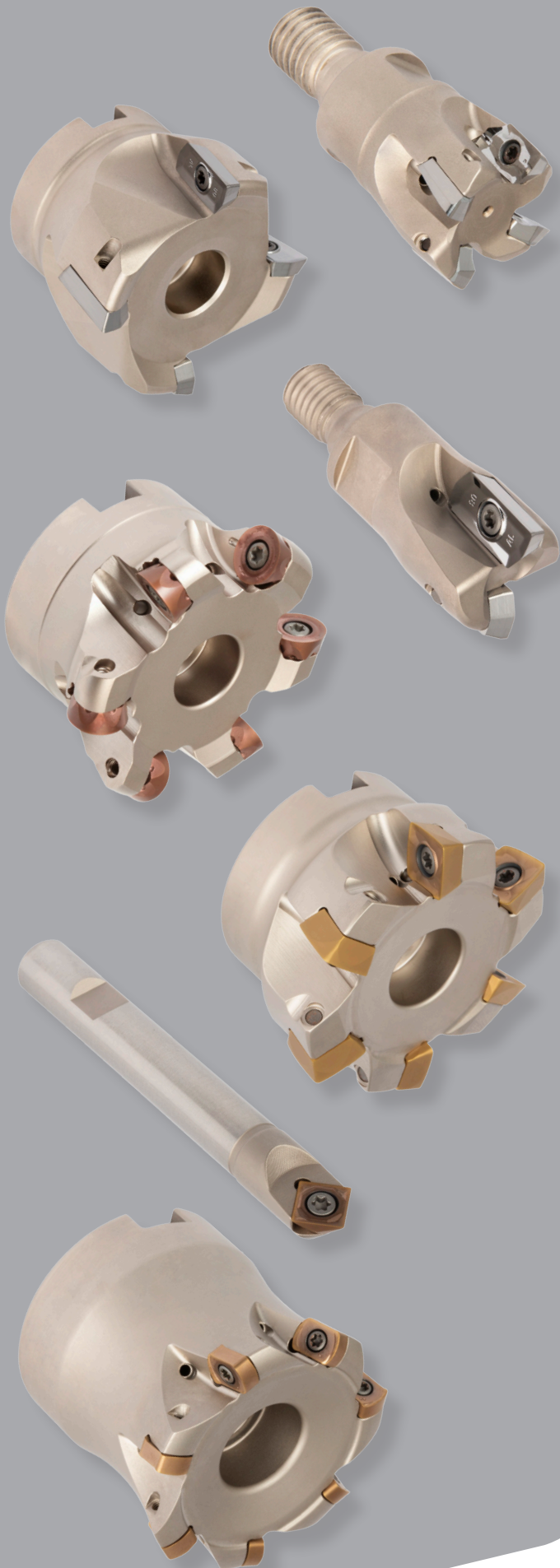
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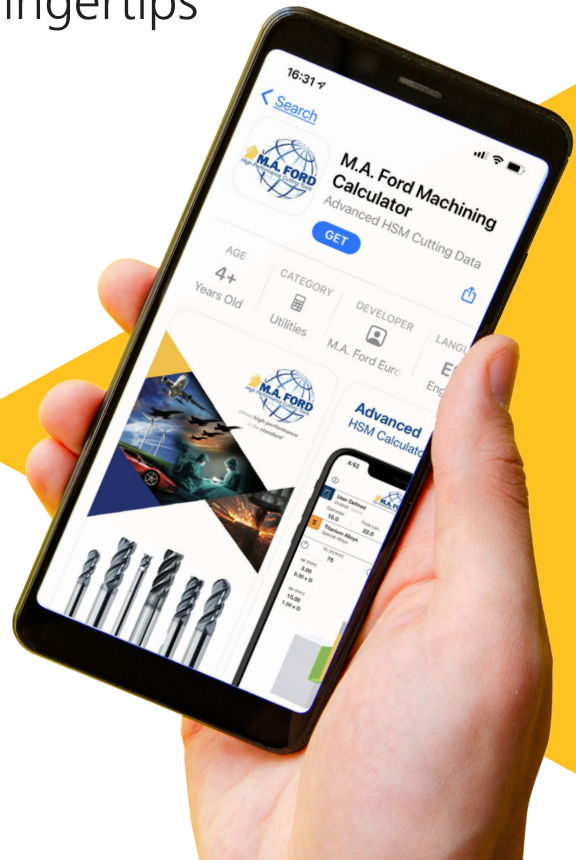
The M.A. Ford interactive cutting data app

- Everything you need at your fingertips

Our interactive app for iOS and Android devices makes tool cutting data calculations simpler and faster by minimising text input and using 3D graphics that respond instantly to changing cutting parameters, using smart-phone or tablet touch screens.

Developed around our proven cutting data, the app supports a wide range of ISO materials including steel, aluminium alloys, stainless steel and titanium, as well as cast iron, hardened steels and exotic alloys.

Once basic information has been selected from 'drop down' menus, such as tool type, diameter and material, the app allows you to 'drag' the tool graphic display to change the radial engagement and depth of cut, which instantly calculates speeds and feeds.



Radial chip thinning data is also calculated for use with high-speed machining (HSM) strategies, which can significantly reduce cycle times and improve tool life.

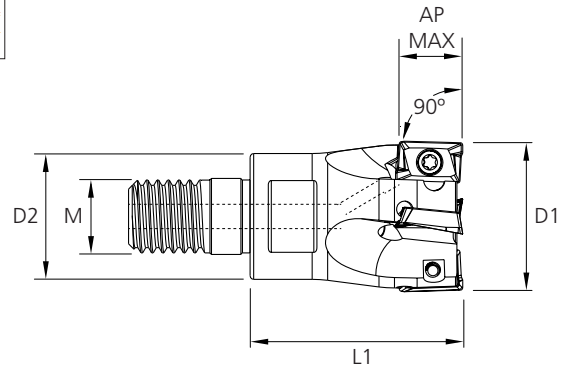
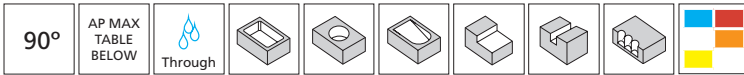
Colour coded feedback guides you toward the recommended cutting conditions based on the chosen input parameters. User over-ride controls allow cutting data to be fine-tuned for individual applications, as well as enabling calculations to be made that compare multiple scenarios instantly.

Proven cutting data can be stored via the 'Save' feature for future reference or shared with other app users. A hyperlink to M.A. Ford Europe's website also allows immediate access to online information and downloads.



For further information please contact our support team on: 01332 267960

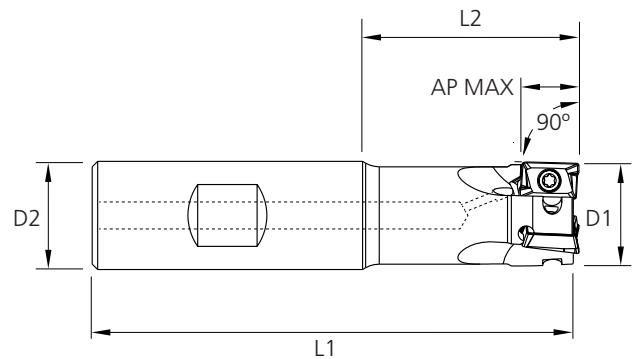
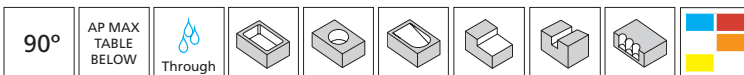
MSM-AP11 & 16 Screw-On Shank End Mills



EDP	Tool Number	Dimensions (mm)						Coolant	AP MAX (mm)	Insert
		D1	D2	L1	M	Flutes	Wrench			
FH1118	MSMM-1602-AP11-M8	16	16	26	M8	2	12	N	9	APKT1135
FH1119	MSMM-2003-AP11-M10	20	18	31	M10	3	13.4	Y	9	APKT1135
FH1120	MSMM-2504-AP11-M12	25	21	35	M12	4	17	Y	9	APKT1135
FH1121	MSMM-3205-AP11-M16	32	29	43	M16	5	22	Y	9	APKT1135
FH1123	MSMM-2502-AP16-M12	25	21	35	M12	2	17	Y	14	APKT1604
FH1124	MSMM-3203-AP16-M16	32	29	43	M16	3	22	Y	14	APKT1604



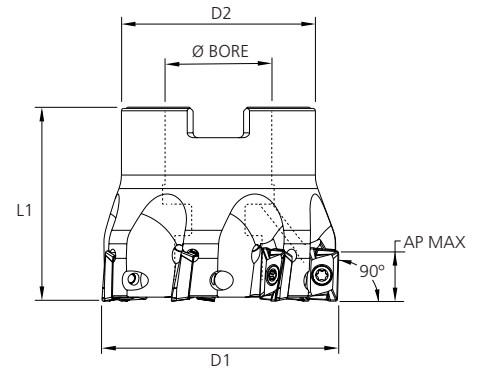
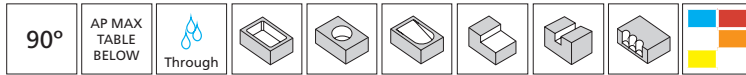
MSM-AP11 & 16 Weldon Shank End Mills



EDP	Tool Number	Dimensions (mm)					Coolant	AP MAX (mm)	Insert
		D1	D2	L1	L2	Flutes			
FH1115	MSMW-1602-AP11-16	16	16	130	25	2	N	9	APKT1135
FH1116	MSMW-2003-AP11-20	20	20	130	25	3	Y	9	APKT1135
FH1569	MSMW-2503-AP11-25	25	25	130	30	3	Y	9	APKT1135
FH1117	MSMW-2504-AP11-25	25	25	130	30	4	Y	9	APKT1135



MSM-AP11 & 16 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)					Coolant	AP MAX (mm)	Insert
		D1	D2	L1	Bore	Flutes			
FH1526	MSMB-4005-AP11-16	40	34	40	16	5	Y	9	APKT1135
FH1122	MSMB-5007-AP11-22	50	48	40	22	7	Y	9	APKT1135
FH1542	MSMB-6307-AP11-22	63	48	40	22	7	N	9	APKT1135
FH1125	MSMB-5004-AP16-22	50	48	40	22	4	Y	14	APKT1604
FH1126	MSMB-6305-AP16-22	63	48	40	22	5	Y	14	APKT1604
FH1127	MSMB-8007-AP16-27	80	50	50	27	7	Y	14	APKT1604



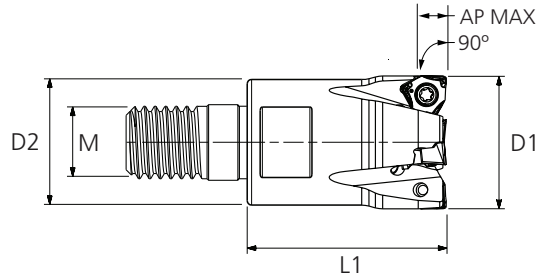
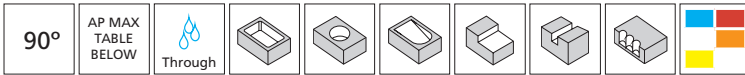
Inserts

Insert Number	R	Grades									
		FA6225	FA6230	FP6115	FP6125	FM6140	FM6235	FS6030	FK6015	FK6125	
		EDP									
APKT113504-MS	0.4	FW1310	FW1311	FW4054	FW1419	FW1314	-	FW1315	FW1312	FW1313	
APKT113508-MS	0.8	FW1322	FW1323	FW4055	FW1425	FW4053	-	FW1326	FW1324	FW1325	
APKT113504-MM	0.4	FW1316	FW1317	FW4056	FW1418	FW1320	-	FW1321	FW1318	FW1319	
APKT113508-MM	0.8	FW1327	FW1328	FW4057	FW1420	FW1331	FW4051	FW1332	FW1329	FW1330	
APKT113532-MM	3.2	FW1339	FW1340	FW4058	FW1422	FW1343	-	FW1344	FW1341	FW1342	
APKT160408-MM	0.8	FW1345	FW1346	FW4059	FW1423	FW1349	-	FW1350	FW1347	FW1348	
APKT160412-MM	1.2	FW1351	FW1356	FW4060	FW4036	FW1355	-	-	FW1353	FW1354	
APKT160416-MM	1.6	FW1357	FW1358	FW4061	FW4037	FW1361	-	FW1362	FW1359	FW1360	
APKT160432-MM	3.2	FW1363	FW1364	FW4062	FW4038	FW1367	-	FW1368	FW1365	FW1366	
APKT113516-MH	1.6	FW1333	FW1334	-	FW1421	FW1336	-	FW1337	-	FW1335	
APKT160416-MH	1.6	-	-	FW4063	-	-	-	-	-	-	

Spare Parts

Insert	Nm	Insert Screw		Torx Driver		Torx T-Handle		Torque Driver		Torque Blade	
		EDP	Part No.	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
APKT1135	T9	1.4	FS1186 MS30072ATX	FS1075	SD110-T9	-	-	FS1105	TD140-1.4NM	FS1117	TB160-T9
APKT1604	T15	3.0	FS1187 MS35080ATX	FS1077	SD110-T15	FS1088	TH120-T15	FS1108	TD140-3.0NM	FS1119	TB160-T15

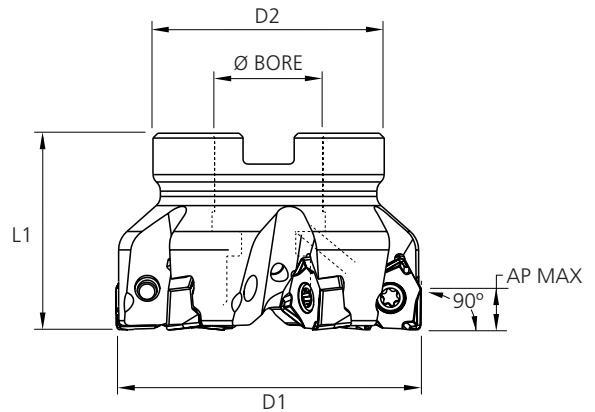
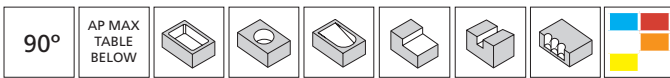
MSM-WN04 & 08 Screw-On Shank End Mills



EDP	Tool Number	Dimensions (mm)						Coolant	AP MAX (mm)	Insert
		D1	D2	L1	M	Flutes	Wrench			
FH1128	MSMM-2003-WN04-M10	20	18	31	M10	3	14	Y	4	WNGU04
FH1129	MSMM-2504-WN04-M12	25	21	35	M12	4	17	Y	4	WNGU04
FH2248	MSMM-3205-WN04-M16	32	26	40	M16	5	24	Y	4	WNGU04



MSM-WN04 & 08 Bore Type Face Mills




EDP	Tool Number	Dimensions (mm)					Coolant	AP MAX (mm)	Insert
		D1	D2	L1	Bore	Flutes			
FH2249	MSMB-4006-WN04-16	40	30	40	16	6	Y	4	WNGU04
FH1130	MSMB-5007-WN04-22	50	48	40	22	7	Y	4	WNGU04
FH2250	MSMB-6309-WN04-22	63	48	40	22	9	Y	4	WNGU04
FH1131	MSMB-5005-WN08-22	50	48	40	22	5	Y	7.5	WNGU08
FH1132	MSMB-6306-WN08-22	63	48	40	22	6	N	7.5	WNGU08
FH1133	MSMB-8007-WN08-27	80	58	50	27	7	N	7.5	WNGU08

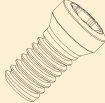
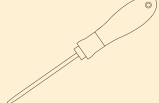

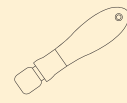
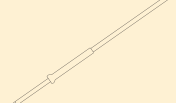



MSM-WN04 & 08 Inserts & Spare parts

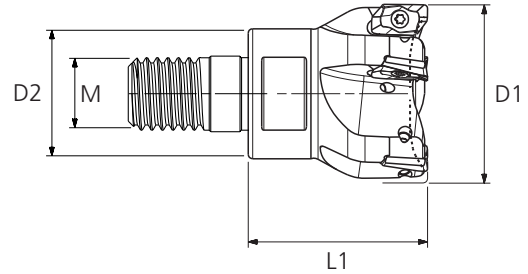
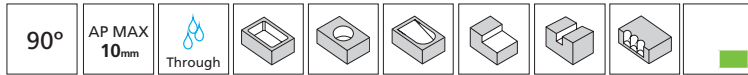
Inserts

Insert Number 	R	Grades							
		FA6225	FA6230	FP6115	FP6125	FM6140	FS6030	FK6015	FK6125
		EDP							
WNGU040304-MM	0.4	-	FW1370	FW4064	FW1369	-	FW4065	-	FW4066
WNGU040308-MM	0.8	-	FW1372	FW4067	FW1371	FW4069	FW4068	FW4070	FW4071
WNGU080608-MM	0.8	-	FW1374	FW4072	FW1373	FW4073	FW1376	FW4074	FW1375
WNGU080608-MH	0.8	FW4076	FW4075	FW4077	-	-	FW4078	FW4079	FW4080

Spare Parts

			Insert Screw 		Torx Driver 		Torx T-Handle 		Torque Driver 		Torque Blade 	
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
WNGU0403	7IP	1.2	FS1212	MS25063AIP	FS1081	SD110-7IP	-	-	FS1104	TD140-1.2NM	FS1123	TB160-7IP
WNGU0806	15IP	4.0	FS1131	MS40118AIP	FS1085	SD110-15IP	FS1094	TH120-15IP	FS1110	TD140-4.0NM	FS1127	TB160-15IP

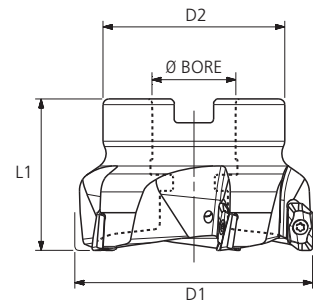
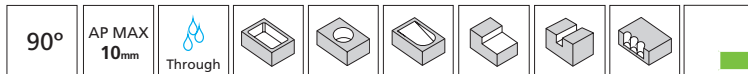
MSM-XD11 Screw-On Shank End Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	L1	M	Flutes	Wrench		
FH1582	MSMM-1602-XD11-M8	16	14.5	25	8	2	11	Y	XDGT1135
FH1583	MSMM-2003-XD11-M10	20	18	30	10	3	15	Y	XDGT1135
FH1584	MSMM-2504-XD11-M12	25	21	35	12	4	17	Y	XDGT1135
FH1585	MSMM-3205-XD11-M16	32	29	40	16	5	24	Y	XDGT1135
FH1586	MSMM-4005-XD11-M16	40	29	40	16	5	24	Y	XDGT1135



MSM-XD11 Bore Type Face Mills




EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1587	MSMB-5005-XD11-22	50	48	40	22	5	Y	XDGT1135
FH1588	MSMB-6305-XD11-22	63	48	40	22	5	Y	XDGT1135
FH1589	MSMB-8005-XD11-27	80	58	40	27	5	Y	XDGT1135



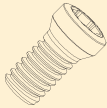
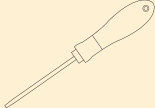

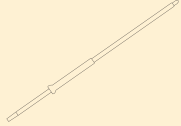

MSM-XD11 Inserts & Spare parts

Inserts

Insert Number		R	Grades
			FN6125
			EDP

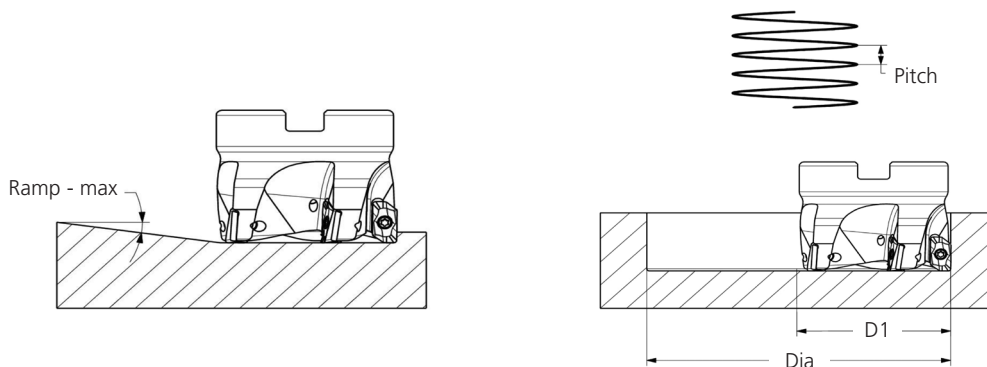
XDGT113508-AL	0.8	FW4365
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Spare Parts

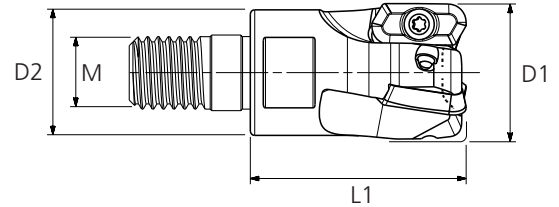
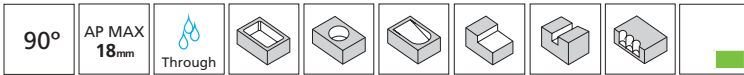
			Insert Screw		Torx Plus Driver		Torque Driver		Torque Blade	
										
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
XDGT1135	7IP	0.9	FS1134	MS25055DIP	FS1081	SD110-7IP	FS1102	TD140-0.9NM	FS1123	TB160-7IP

Ramping Data

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
16	20.5°	20.0	29.0	10.0
20	12.7°	28.0	37.0	8.2
25	9.3°	38.0	47.0	6.5
32	6.3°	52.0	61.0	4.7
40	4.7°	68.0	77.0	3.3
50	3.5°	88.0	97.0	2.4
63	2.5°	114.0	123.0	1.7
80	1.8°	148.0	157.0	1.1



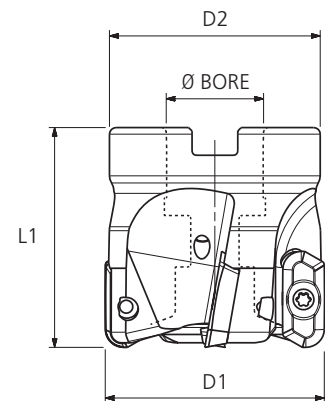
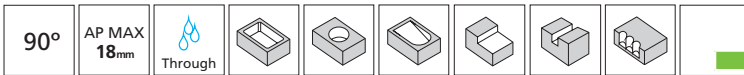
MSM-XD19 Screw-On Shank End Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	L1	M	Flutes	Wrench		
FH1134	MSMM-2502-XD19-M12	25	21	45	M12	2	17	Y	XDHT19
FH1135	MSMM-3203-XD19-M16	32	29	52	M16	3	24	Y	XDHT19
FH1136	MSMM-4003-XD19-M16	40	29	52	M16	3	24	Y	XDHT19



MSM-XD19 Bore Type Face Mills




EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1525	MSMB-4003-XD19-16	40	38	50	16	3	Y	XDHT19
FH1137	MSMB-5004-XD19-22	50	43	50	22	4	Y	XDHT19
FH1146	MSMB-6304-XD19-22	63	48	50	22	4	Y	XDHT19
FH1575	MSMB-8005-XD19-27	80	58	50	27	5	Y	XDHT19

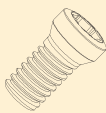
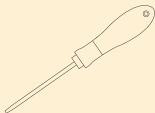
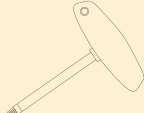
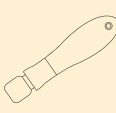
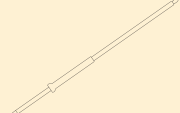



MSM-XD19 Inserts & Spare parts

Inserts

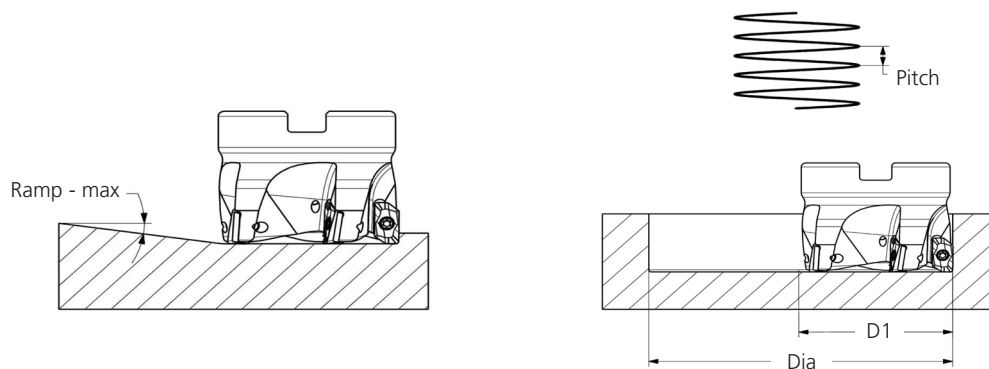
Insert Number		R	Grades
			FN6125
			EDP
XDHT190402-AL		0.2	FW1110
XDHT190408-AL		0.8	FW1111
XDHT190420-AL		2.0	FW1112
XDHT190432-AL		3.2	FW1113
XDHT190440-AL		4.0	FW1114
XDHT190450-AL		5.0	FW1115

Spare Parts

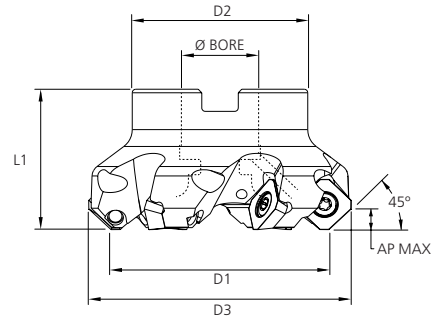
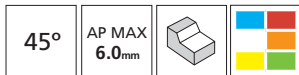
			Insert Screw		Torx Plus Driver		Torx Plus T-Handle		Torque Driver		Torque Blade	
												
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
XDHT1904	15IP	3.0	FS1136	MS40095AIP	FS1085	SD110-15IP	FS1094	TH120-15IP	FS1108	TD140-3.0NM	FS1127	TB160-15IP

Ramping Data

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
25	6.8°	32.0	47.0	6.8
32	3.9°	46.0	61.0	3.9
40	3.3°	62.0	77.0	3.3
50	2.2°	81.0	97.0	2.2
63	1.8°	107.0	123.0	1.8
80	1.1°	135.0	157.0	1.0



MFM-SE13 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1138	MFMB-5004-SE13-22	50	63	40	22	4	N	SE*T13
FH1139	MFMB-6305-SE13-22	63	76	40	22	5	N	SE*T13
FH1140	MFMB-8006-SE13-27	80	93	50	27	6	N	SE*T13
FH1141	MFMB-10007-SE13-32	100	113	50	32	7	N	SE*T13



Inserts

Insert Number	Grades								
	FA6225	FA6230	FP6115	FP6125	FM6140	FS6030	FK6015	FK6125	FN6125
	EDP								
SEET13T3AG-MS	-	-	-	FW1424	-	FW1378	-	-	-
SEET13T3AG-MM	FW1379	FW1380	FW4085	FW4039	FW1381	FW1382	-	FW4086	-
SEMT13T3AG-MM	FW4106	FW1383	FW4105	-	FW4104	FW4107	-	FW4103	-
SEET13T3AG-MH	FW4091	FW4090	FW4092	-	FW4093	FW4094	-	FW4087	-
SEMT13T3AG-MH	FW4112	FW1384	FW4111	-	FW4110	FW4113	-	FW4109	-
SEET13T3AG-AL	-	-	-	-	-	-	-	-	FW1377
SEET13T3AG-WB	FW4097	FW1385	FW4096	-	FW4101	FW4098	FW4099	FW4100	-

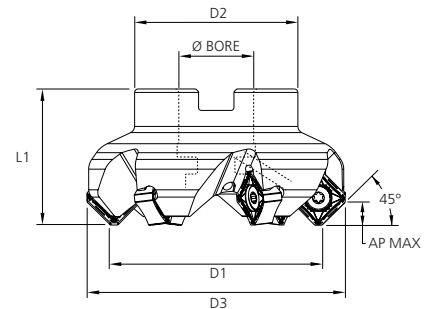
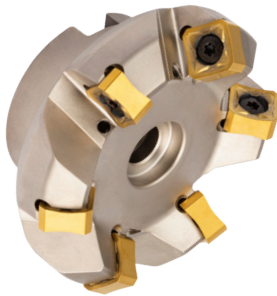
MFM-SE13 - Spare Parts

		Insert Screw		Torx (Plus) Driver		Torx (Plus) T-Handle		Torque Driver		Torque Blade	
Insert	Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
SE*T13 Ø50 & Ø63	T15 3.0	FS1190	MS035080ATX	FS1077	SD110-T15	FS1088	TH120-T15	FS1108	TD140-3.0NM	FS1119	TB160-T15
SE*T13 Ø80 & Ø100	15IP 3.0	FS1191	MS35116AIP	FS1085	SD110-15IP	FS1094	TH120-15IP	-	-	FS1127	TB160-15IP

MFM-SE13 - Ø80 & Ø100 Spare Parts

		Carbide Shim		Shim Screw		Shim Screw Wrench	
Insert	Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number
SE*T13T3		FS1166	MSH1300SE	FS1167	MS5070HHX	FS1168	LW180-3.5

MFM-SN12 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1142	MFMB-5005-SN12-22	50	66	40	22	5	Y	SN*U12
FH1143	MFMB-6306-SN12-22	63	79	40	22	6	Y	SN*U12
FH1144	MFMB-8008-SN12-27	80	96	50	27	8	Y	SN*U12
FH1145	MFMB-10010-SN12-32	100	116	50	32	10	N	SN*U12



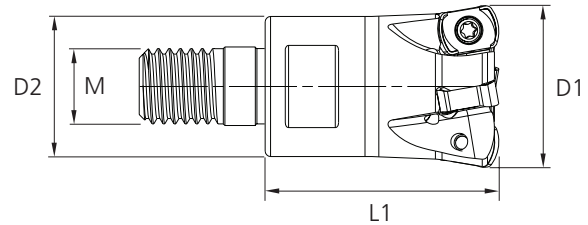
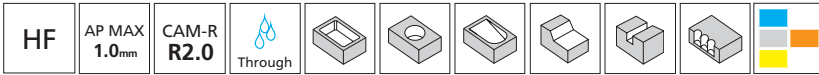
Inserts

Insert Number	Image	Grades								
		FA6225	FA6230	FP6115	FP6125	FM6140	FS6030	FK6015	FK6125	FN6125
EDP										
SNEU1206AN-MS		FW1386	FW1387	FW4114	FW4040	FW4117	FW1388	FW4115	FW4116	-
SNEU1206AN-MM		FW1392	FW1393	FW4118	FW4041	FW1391	FW4052	FW1389	FW1390	-
SNMU1206AN-MM		FW4130	FW1396	FW4129	-	FW1397	FW4131	FW4127	FW4128	-
SNEU1206AN-MH		FW4123	FW1394	FW4122	-	FW4121	FW4124	FW4120	FW1395	-
SNMU1206AN-MH		FW4136	FW1398	FW4135	-	FW1399	FW4137	FW4133	FW4134	-
SNEU1206AN-AL		-	-	-	-	-	-	-	-	FW4125
SNEU1206AN-MW		FW4144	FW4139	FW4143	-	FW4142	FW4145	FW4140	FW4141	-

Spare Parts

			Insert Screw		Torx Plus Driver		Torx Plus T-Handle		Torque Driver		Torque Blade	
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
SN*U1206	15IP	4.0	FS1137	MS40100CIP	FS1085	SD110-15IP	FS1094	TH120-15IP	FS1110	TD140-4.0NM	FS1127	TB160-15IP

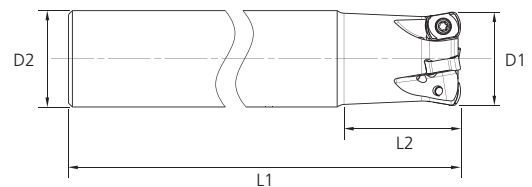
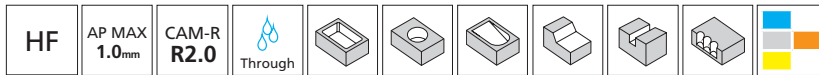
MHF-BN06 Screw-On Shank End Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	L1	M	Flutes	Wrench		
FH1001	MHFBM-1602-06-M08	16	14	25	M8	2	10	Y	BNMT06
FH1002	MHFBM-2003-06-M10	20	18	30	M10	3	15	Y	BNMT06
FH1003	MHFBM-2504-06-M12	25	21	35	M12	4	17	Y	BNMT06
FH1004	MHFBM-3205-06-M16	32	29	43	M16	5	24	Y	BNMT06
FH1005	MHFBM-3505-06-M16	35	29	43	M16	5	24	Y	BNMT06
FH1006	MHFBM-4006-06-M16	40	29	43	M16	6	24	Y	BNMT06



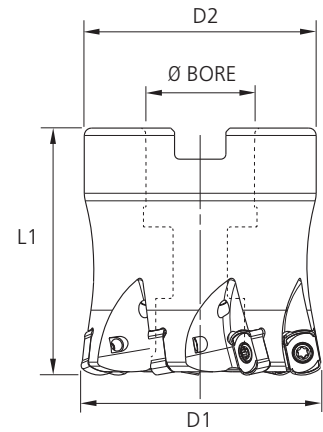
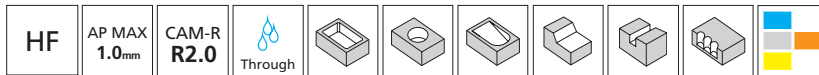
MHF-BN06 Cylindrical Shank End Mills



EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	L2	Flutes		
FH1007	MHFBC-1602-06-16	16	16	130	30	2	Y	BNMT06
FH1008	MHFBC-2003-06-20	20	20	140	30	3	Y	BNMT06
FH1009	MHFBC-2504-06-25	25	25	150	32	4	Y	BNMT06



MHF-BN06 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1010	MHFBB-5007-06-22	50	47	50	22	7	Y	BNMT06
FH1011	MHFBB-5207-06-22	52	47	50	22	7	Y	BNMT06



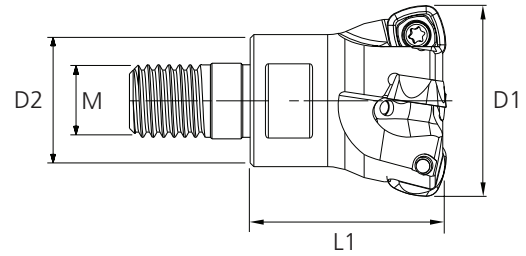
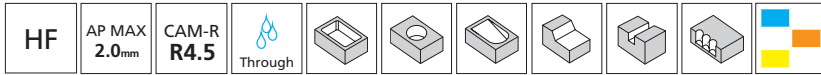
Inserts

Insert Number	Grades				
	FS5130	FX6030	FA5040	FX6040	FS5120
	EDP				
BNMT0603-MS	FW4292	FW4372	-	FW4373	FW4291
BNMT0603-MM	FW4043	FW4374	FW1121	FW4371	-
BNMT0603-MR	FW4042	FW4369	-	-	FW4290

Spare Parts

			Insert Screw		Torx Plus Driver		Torque Driver		Torque Blade	
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
BNMT06	T8	1.2	FS1001	MS2506E	FS1074	SD110-T8	FS1104	TD140-1.2NM	FS1116	TB160-T8

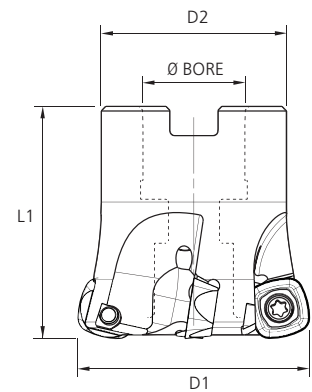
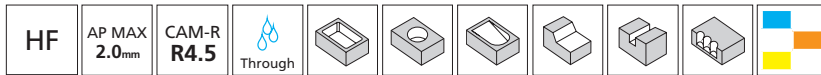
MHF-SD12 Screw-On Shank End Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	L1	M	Flutes	Wrench		
FH1100	MHFSM-3503-12-M16	35	29	43	M16	3	24	Y	SDMT12
FH1101	MHFSM-4204-12-M16	42	29	43	M16	4	24	Y	SDMT12



MHF-SD12 Bore Type Face Mills




EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1105	MHFSB-5004-12-22	50	48	50	22	4	Y	SDMT12
FH1102	MHFSB-5205-12-22	52	48	50	22	5	Y	SDMT12
FH1103	MHFSB-6606-12-27	66	58	50	27	6	Y	SDMT12
FH1104	MHFSB-8006-12-27	80	58	50	27	6	Y	SDMT12

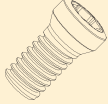
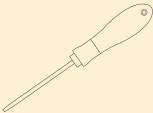
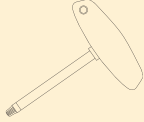

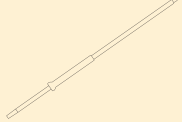



MHF-SD12 Inserts

Inserts

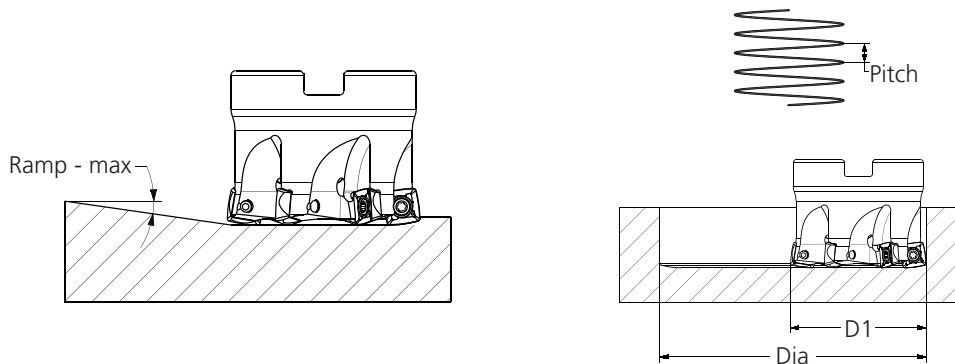
Insert Number 	Grades						
	FS5130	FX6030	FA6225	FA6230	FX6040	FM6140	FS6030
	EDP						
SDMT1205-MM	FW4376	FW4386	-	-	-	-	-
SDMT1205-MS	-	-	-	-	FW4385	-	-
SDMT1205-SM	-	-	FW1105	FW1106	-	FW1107	FW1104
SDNW1205-MM	FW4379	-	-	-	-	-	-

Spare Parts

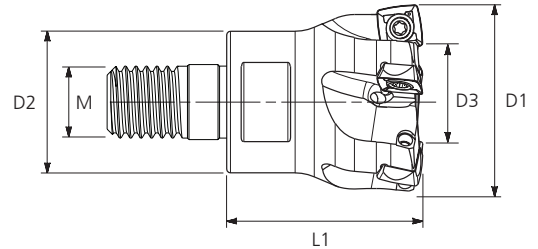
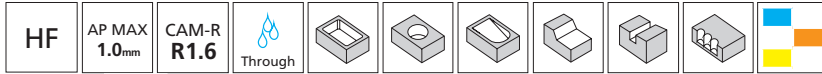
			Insert Screw		Torx Driver		Torx T-Handle		Torque Driver		Torque Blade	
												
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
SDMT12	T15	3.0	FS1002	MS4011G	FS1077	SD110-T15	FS1088	TH120-T15	FS1108	TD140-3.0NM	FS1119	TB160-T15

Ramping Data

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
35	5.5	48.0	66.0	1.2
42	4.0	63.0	80.0	1.2
50	2.5	81.0	98.0	1.2
52	2.5	83.0	100.0	1.1
66	2.5	112.0	128.0	1.0
80	1.0	142.0	156.0	1.0



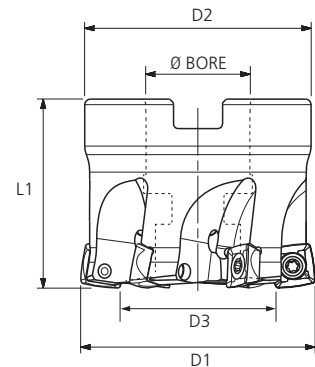
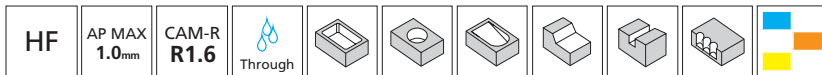
MAHF-XD09 Screw-On Shank End Mills



EDP	Tool Number	Dimensions (mm)							Coolant	Insert
		D1	D2	D3	L1	M	Flutes	Wrench		
FH1538	MAHFM-2503-XD09-M12	25	21	9.5	35	M12	3	17	Y	XDMT09-SM
FH1539	MAHFM-3204-XD09-M16	32	29	16.5	40	M16	4	24	Y	XDMT09-SM
FH1540	MAHFM-3505-XD09-M16	35	29	19.5	40	M16	5	24	Y	XDMT09-SM
FH1541	MAHFM-4005-XD09-M16	40	29	24.4	40	M16	5	24	Y	XDMT09-SM



MAHF-XD09 Bore Type Face Mills




EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	D3	L1	Bore	Flutes		
FH1527	MAHFB-5006-XD09-22	50	48	34.4	40	22	6	Y	XDMT09-SM
FH1573	MAHFB-6308-XD09-22	63	48	47.4	40	22	8	Y	XDMT09-SM

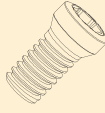
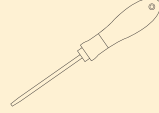

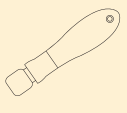
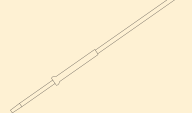



MAHF-XD09 Inserts

Inserts

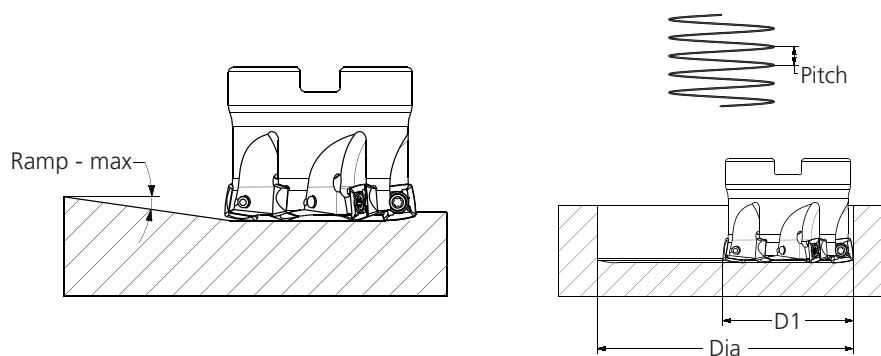
Insert Number 	Grades			
	FA6230	FM6140	FM6235	FS6030
EDP				
XDMT09T307-SM	FW4319	FW1426	FW1427	FW1428

Spare Parts

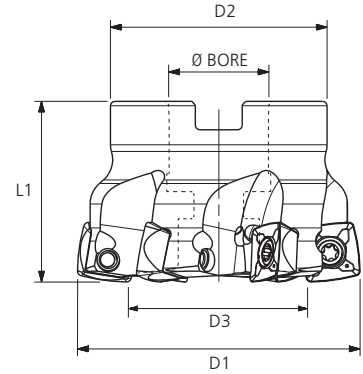
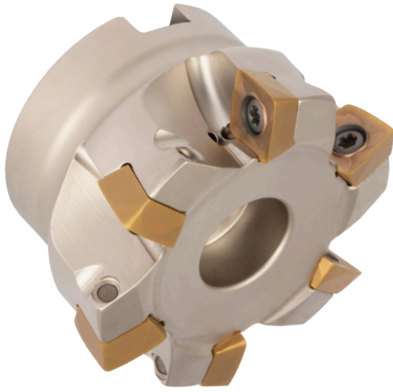
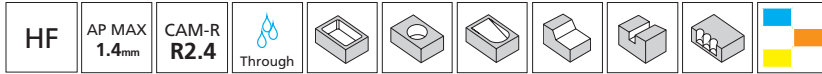
			Insert Screw		Torx Plus Driver		Torx Plus T-Handle		Torque Driver		Torque Blade	
												
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
XDMT09	9IP	1.4	FS1130	MS30072AIP	FS1083	SD110-9IP	FS1132	TH120-9IP	FS1105	TD140-1.4NM	FS1125	TB160-9IP

Ramping Data

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
25	7.1°	34.5	48.9	1.0
32	4.3°	48.5	62.9	1.0
35	3.7°	54.5	68.9	1.0
40	3.0°	64.4	78.9	1.0
50	2.1°	84.4	98.9	1.0
63	1.5°	110.4	124.9	1.0



MAHF-XD12 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	D3	L1	M	Flutes		
FH1529	MAHFB-5005-XD12-22	50	48	28.5	40	22	5	Y	XDMT12-SM
FH1531	MAHFB-5205-XD12-22	52	48	30.5	40	22	5	Y	XDMT12-SM
FH1533	MAHFB-6306-XD12-22	63	48	41.5	40	22	6	Y	XDMT12-SM
FH1537	MAHFB-8006-XD12-27	80	58	58.5	50	27	6	Y	XDMT12-SM



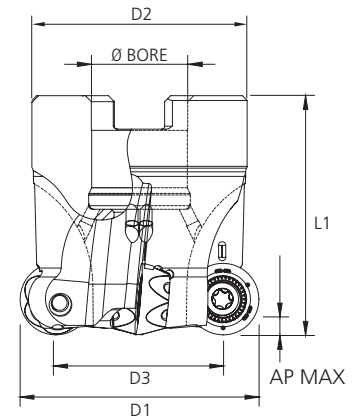
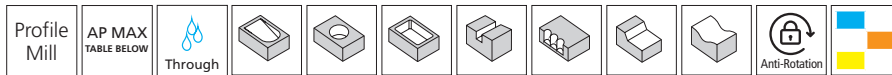
Inserts

Insert Number	Grades			
	FA6230	FM6140	FM6235	FS6030
EDP				
XDMT120512-SM	FW4320	FW1429	FW1430	FW1431

Spare Parts

Insert	Nm	Insert Screw		Torx Plus Driver		Torx Plus T-Handle		Torque Driver		Torque Blade	
		EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
XDMT12-SM	15IP 3.0	FS1131	MS40118AIP	FS1085	SD110-15IP	FS1094	TH120-15IP	FS1108	TD140-3.0NM	FS1127	TB160-15IP

MAPM-RP12 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	D3	L1	Bore	Flutes		
FH1906	MAPMB-4004-RP12-16	40	36	28	40	16	4	Y	RPHT12
FH1907	MAPMB-5205-RP12-22	52	42	40	40	22	5	Y	RPHT12
FH1908	MAPMB-6306-RP12-22	63	48	51	40	22	6	Y	RPHT12
FH1909	MAPMB-8007-RP12-27	80	60	68	50	27	7	Y	RPHT12



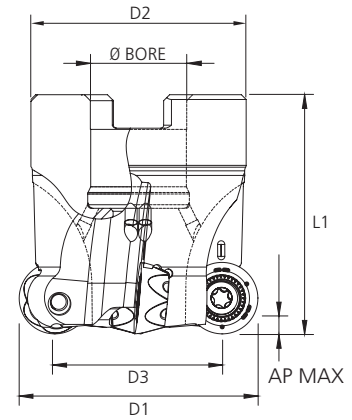
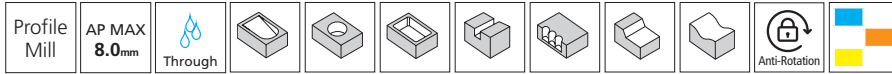
Inserts

Insert Number	AP MAX (mm)	R	Grades			
			FA5130	FA5140	FP8030	FS8030
EDP						
RPHT1204-6MS	2.9	6.0	-	-	FW4890	FW4383
RPHT1204-4MS	5.9	6.0	-	-	FW4892	FW4893

Spare Parts

			Insert Screw		Torx Plus Driver		Torx Plus T-Handle		Torque Driver		Torque Blade	
Insert	T15	Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
RPHT12	T15	3.0	FS1169	MS35080ATX	FS1077	SD110-T15	FS1088	TH120-T15	FS1108	TD140-3.0NM	FS1119	TB160-T15

MAPM-RP16 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	D3	L1	Bore	Flutes		
FH1910	MAPMB-6305-RP16-22	63	47	48	40	22	5	Y	RPHT16
FH1911	MAPMB-8006-RP16-27	80	64	60	52	27	6	Y	RPHT16
FH1912	MAPMB-10007-RP16-32	100	84	80	52	32	7	Y	RPHT16
FH1913	MAPMB-12508-RP16-40	125	109	90	52	40	8	Y	RPHT16



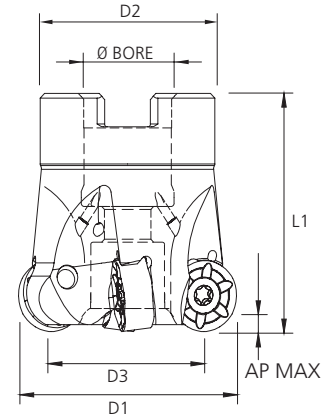
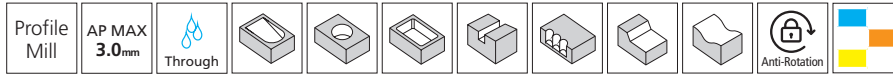
Inserts

Insert Number	R	Grades			
		FA5130	FS5140	FP8030	FS8030
EDP					
RPHT1605-6MM	8.0	FW4894	FW4895	-	-
RPHT1605-6MS	8.0	-	-	-	FW4890

Spare Parts

			Insert Screw		Torx Plus Driver		Torx Plus T-Handle		Torque Driver		Torque Blade	
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
RPHT16	T20	5.0	F51170	MS45110ATX	F51078	SD110-T20	F51089	TH120-T20	F51112	TD140-5.0NM	F51120	TB160-T20

MAPM-RN12 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)						Coolant	Insert
		D1	D2	D3	L1	Bore	Flutes		
FH1914	MAPMB-5005-RN12-22	50	42	38	40	22	5	Y	RNHT12
FH1915	MAPMB-6306-RN12-22	63	49	51	50	22	6	Y	RNHT12
FH1916	MAPMB-8007-RN12-27	80	60	68	50	27	7	Y	RNHT12



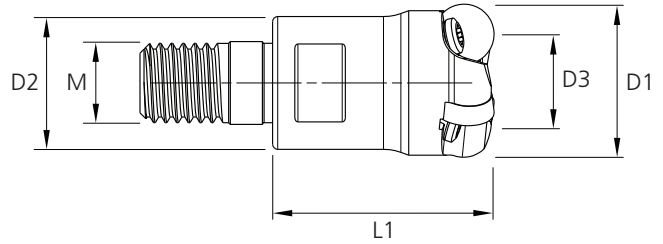
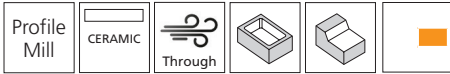
Inserts

Insert Number	R	Grades			
		FA5130	FA5140	FP8030	FS8030
		EDP			
RNHT1204-12MM	6.0	FW4898	FW4899	-	-
RNHT1204-12MS	6.0	FW4897	-	FW5716	FW4896

Spare Parts

			Insert Screw		Torx Driver		Torx T-Handle		Torque Driver		Torque Blade	
Insert	T15	Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
RNHT12	T15	3.0	FS1171	MS40106ATX	FS1077	SD110-T15	FS1088	TH120-T15	FS1108	TD140-3.0NM	FS1119	TB160-T15

MPM-RP06 & RP09 Screw-On Shank End-Mills



EDP	Tool Number	Dimensions (mm)							Coolant	AP MAX (mm)	Insert
		D1	D2	D3	L1	M	Flutes	Wrench			
FH2022	MPMM-1602-RP06-M8	16	14.5	10	25	M8	2	11	Y	3	RPGN06
FH2023	MPMM-2003-RP06-M10	20	18	14	30	M10	3	15	Y	3	RPGN06
FH2024	MPMM-2503-RP09-M12	25	21	16	35	M12	3	17	Y	4.5	RPGN09
FH2025	MPMM-3204-RP09-M16	32	29	23	43	M16	4	24	Y	4.5	RPGN09



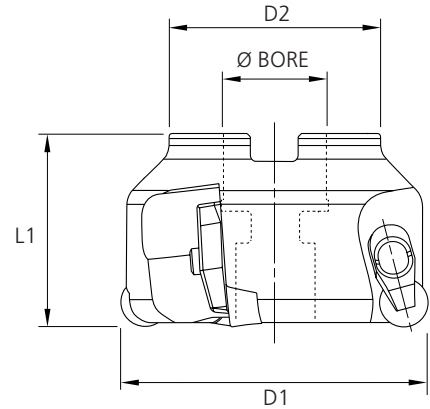
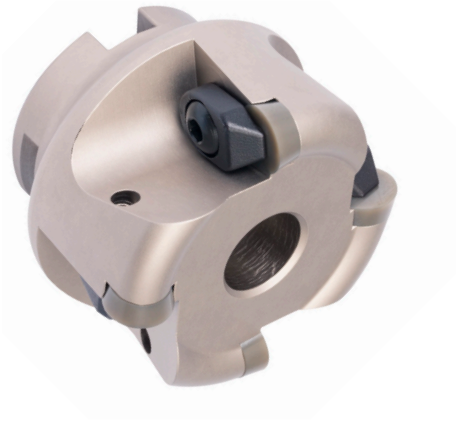
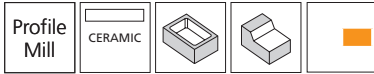
Inserts

Insert Number	R	Grades	
		SX9	WA1
		EDP	
RPGN060200E004	3.0	NC0002	-
RPGN090300E002	4.5	-	-
RPGN090300T00520	4.5	NC0005	NC0006

Spare Parts

			Insert Screw		Torx Driver		Torx T-Handle		Torque Driver		Torque Blade	
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
RPGN0602	15IP	3.0	FS1192	MS35095AIP	FS1085	SD110-15IP	FS1094	TH120-15IP	FS1108	TD140-3.0NM	FS1127	TB160-15IP
RPGN0903	15IP	3.0	FS1193	MS40125AIP	FS1085	SD110-15IP	FS1094	TH120-15IP	FS1108	TD140-3.0NM	FS1127	TB160-15IP

MPM-RP12 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1577	MPMB-5004-RP12-22	50	38	50	22	4	N	RPGN1204
FH1579	MPMB-6304-RP12-22	63	51	50	22	4	N	RPGN1204
FH1581	MPMB-8005-RP12-27	80	68	50	27	5	N	RPGN1204



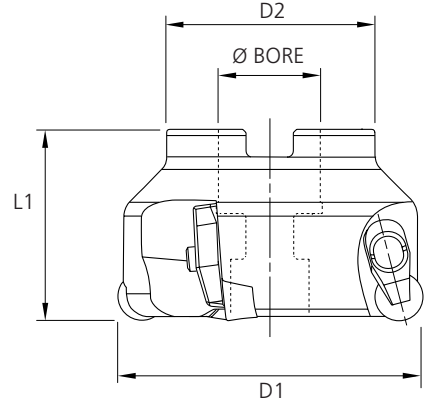
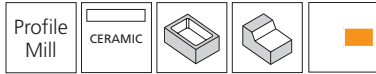
Inserts

Insert Number	R	Grades	
		SX9	WA1
		EDP	
RPGN120400T00520	6.35	-	-
RPGN120400T01020	6.35	NC0008	-

Spare Parts

			Insert Clamp		Clamp Spring		Clamp Screw		Hex T-Handle	
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
RPGN1204	3.0	3.0	FS1069	MCL0600S	FS1070	MSP0500S	FS1071	MSR0600S	FS1164	TH120-3.0

MPM-RN12 Bore Type Face Mills



EDP	Tool Number	Dimensions (mm)					Coolant	Insert
		D1	D2	L1	Bore	Flutes		
FH1576	MPMB-5004-RN12-22	50	38	50	22	4	N	RNGN1207
FH1580	MPMB-6304-RN12-22	63	51	50	22	4	N	RNGN1207
FH1581	MPMB-8005-RN12-27	80	68	50	27	5	N	RNGN1207



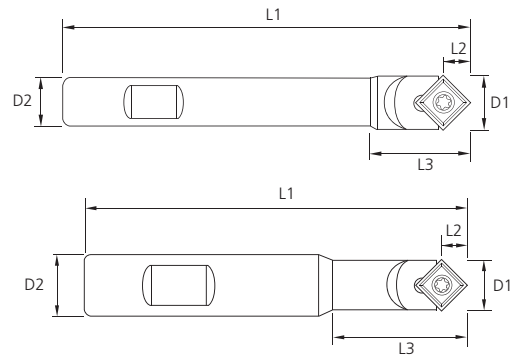
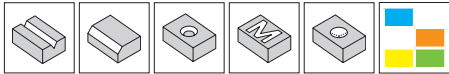
Inserts

Insert Number	R	Grades	
		SX9	WA1
		EDP	
RNGN120700T00520	6.35	NC0009	NC0012
RNGN120700T01020	6.35	NC0010	-

Spare Parts

			Insert Clamp		Clamp Screw		Clamp Spring		Hex T-Handle	
Insert		Nm	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
RNGN1207	3.0	3.0	FS1069	MCL0600S	FS1070	MSP0500S	FS1071	MSR0600S	FS1164	TH120-3.0

MSD-SC09 Indexable 90° Spotting and Chamfer Tool



EDP	Tool Number	Dimensions (mm)						Insert
		D1	D2	L1	L2	L3	Degree	
FH1521	MSD-10-100-90D-SC09	2 - 11	10	100	5.2	29	90°	SCMX09T3
FH1522	MSD-12-100-90D-SC09	2 - 11	12	100	5.2	29	90°	SCMX09T3
FH1523	MSD-16-100-90D-SC09	2 - 11	16	100	5.2	29	90°	SCMX09T3
FH1524	MSD-16-130-90D-SC09	2 - 11	16	130	5.2	29	90°	SCMX09T3



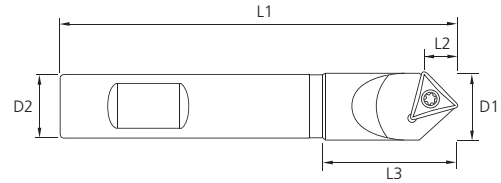
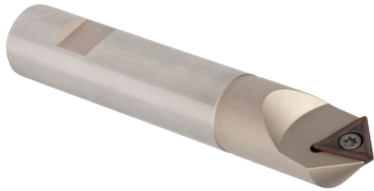
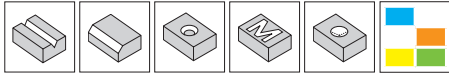
Inserts

Insert Number	R	Grades		
		FS5130	FN1010	FS5110
EDP				
SCGX09T304-AL	0.4	-	FW5705	-
SCGX09T304-MS	0.4	-	-	FW5706
SCMX09T304-MM	0.4	FW5707	-	-

Spare Parts

			Insert Screw		Torx Driver		Torx T-Handle		Torque Driver		Torque Blade	
Insert	⚙️	Nm	EDP	Part No.	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
SCGX/SCMX09	T15	3.0	FS1135	MS35074ATX	FS1077	SD110-T15	FS1088	TH120-T15	FS1108	TD140-3.0NM	FS1119	TB160-T15

MSD-TC16 Indexable 90° Spotting and Chamfer Tool



EDP	Tool Number	Dimensions (mm)						Insert
		D1	D2	L1	L2	L3	Degree	
FH1570	MSD-20-120-90D-TC16	3-20	20	120	9.6	42	90°	TCMX16T3



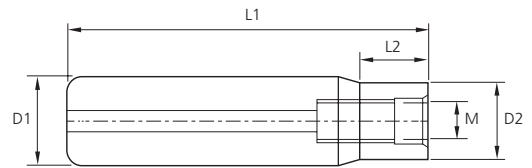
Inserts

Insert Number	R	Grades		
		FS5130	FN1010	FS5110
EDP				
TCGX16T308-AL	0.8	-	FW5708	-
TCGX16T308-MS	0.8	-	-	FW5709
TCMX16T308-MM	0.8	FW5710	-	-

Spare Parts

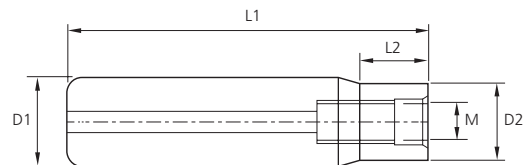
			Insert Screw		Torx Driver		Torx T-Handle		Torque Driver		Torque Blade	
Insert		Nm	EDP	Part No.	EDP	Part Number	EDP	Part Number	EDP	Part Number	EDP	Part Number
TCX16	T15	3.0	FS1135	MS35074ATX	FS1077	SD110-T15	FS1088	TH120-T15	FS1108	TD140-3.0NM	FS1119	TB160-T15

MSS Screw-On Tool Holders Steel Straight Shanks



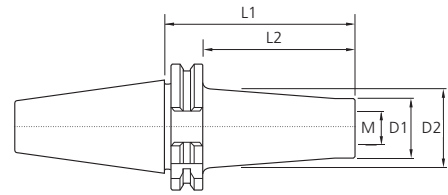
EDP	Part Number	D1	D2	L1	L2	M
FC1217	MSS-D16-M8-90-20T	16	14.5	90	20	M8
FC1218	MSS-D16-M8-150-30T	16	14.5	150	30	M8
FC1210	MSS-D20-M10-150-40T	20	17.7	150	40	M10
FC1212	MSS-D25-M12-150-40T	25	20.7	150	40	M12
FC1213	MSS-D32-M16-170-40T	32	28.7	170	40	M16

MCS Screw-On Tool Holders Carbide Straight Shanks



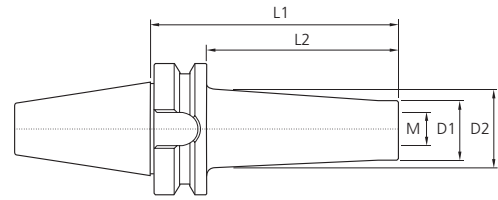
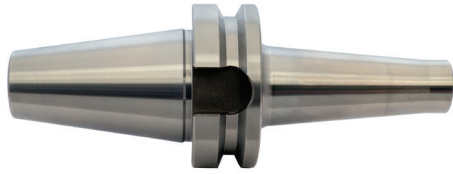
EDP	Part Number	D1	D2	L1	L2	M
FC1001	MCS-D16-M8-100-30	16	15.5	100	30	M8
FC1002	MCS-D16-M8-150-50	16	15.5	150	50	M8
FC1013	MCS-D16-M8-150-95	16	15.5	150	95	M8
FC1003	MCS-D16-M8-200-100	16	15.5	200	100	M8
FC1305	MCS-D20-M10-100-50	20	19	100	50	M10
FC1306	MCS-D20-M10-150-100	20	19	100	100	M10
FC1004	MCS-D20-M10-200-50	20	18.5	200	50	M10
FC1005	MCS-D20-M10-250-100	20	18.5	250	100	M10
FC1006	MCS-D20-M10-300-150	20	18.5	300	150	M10
FC1007	MCS-D25-M12-200-50	25	23	200	50	M12
FC1008	MCS-D25-M12-250-100	25	23	250	100	M12
FC1009	MCS-D25-M12-300-150	25	23	300	150	M12
FC1010	MCS-D32-M16-250-100	32	28	250	100	M16
FC1011	MCS-D32-M16-300-150	32	28	300	150	M16
FC1012	MCS-D32-M16-350-200	32	28	350	200	M16

SOM Screw-On Tool Holders SK (DIN 69871) Taper Adapters



EDP	Part Number	SK	D1	D2	L1	L2	M
FA11642	SK40-MCA08-050ADB	40	14.5	23	69.1	50	M8
FA11643	SK40-MCA08-075ADB	40	14.5	23	94.1	75	M8
FA11644	SK40-MCA08-100ADB	40	14.5	25	119.1	100	M8
FA11646	SK40-MCA10-050ADB	40	18	23	69.1	50	M10
FA11647	SK40-MCA10-075ADB	40	18	28	94.1	75	M10
FA11648	SK40-MCA10-100ADB	40	18	32	119.1	100	M10
FA11650	SK40-MCA12-050ADB	40	21	24	69.1	50	M12
FA11651	SK40-MCA12-075ADB	40	21	31	94.1	75	M12
FA11652	SK40-MCA12-100ADB	40	21	33	119.1	100	M12
FA11653	SK40-MCA12-125ADB	40	21	36	144.1	125	M12
FA11655	SK40-MCA16-050ADB	40	29	34	69.1	50	M16
FA11656	SK40-MCA16-075ADB	40	29	34	94.1	75	M16
FA11657	SK40-MCA16-100ADB	40	29	36	119.1	100	M16
FA11658	SK40-MCA16-125ADB	40	29	40	144.1	125	M16
FA11659	SK40-MCA16-150ADB	40	29	42.5	169.1	150	M16
FA11666	SK50-MCA12-050ADB	50	21	24	69.1	50	M12
FA11667	SK50-MCA12-100ADB	50	21	33	119.1	100	M12
FA11668	SK50-MCA12-150ADB	50	21	40	169.1	150	M12
FA11669	SK50-MCA16-050ADB	50	29	34	69.1	50	M16
FA11670	SK50-MCA16-100ADB	50	29	36	119.1	100	M16
FA11671	SK50-MCA16-150ADB	50	29	42.5	169.1	150	M16

SOM Screw-On Tool Holders BT (MAS 403) Taper Adapters



EDP	Part Number	ISO	D1	D2	L1	L2	M
FA10374	BT40-MCA08-050ADB	40	14.5	23	77	50	M8
FA10375	BT40-MCA08-075ADB	40	14.5	23	102	75	M8
FA10376	BT40-MCA08-100ADB	40	14.5	25	127	100	M8
FA10378	BT40-MCA10-050ADB	40	18	23	77	50	M10
FA10379	BT40-MCA10-075ADB	40	18	28	102	75	M10
FA10380	BT40-MCA10-100ADB	40	18	32	127	100	M10
FA10382	BT40-MCA12-050ADB	40	21	24	77	50	M12
FA10383	BT40-MCA12-075ADB	40	21	31	102	75	M12
FA10384	BT40-MCA12-100ADB	40	21	33	127	100	M12
FA10385	BT40-MCA12-125ADB	40	21	36	154	125	M12
FA10387	BT40-MCA16-050ADB	40	29	34	77	50	M16
FA10388	BT40-MCA16-075ADB	40	29	34	102	75	M16
FA10389	BT40-MCA16-100ADB	40	29	36	127	100	M16
FA10390	BT40-MCA16-125ADB	40	29	40	154	125	M16
FA10391	BT40-MCA16-150ADB	40	29	42.5	177	150	M16
FA10398	BT50-MCA12-050ADB	50	21	24	88	50	M12
FA10399	BT50-MCA12-100ADB	50	21	33	138	100	M12
FA10400	BT50-MCA12-150ADB	50	21	40	188	150	M12
FA10401	BT50-MCA16-050ADB	50	29	34	88	50	M16
FA10402	BT50-MCA16-100ADB	50	29	36	138	100	M16
FA10403	BT50-MCA16-150ADB	50	29	42.5	188	150	M16

Grade & Applications

Grade	Type	Application
FA6225	PVD	General machining of steel, tool-steel and cast iron
FA6230	PVD	Multi application grade that can work in wide range of materials
FP6115	PVD	Semi-finishing, finishing and light cutting of steel
FP6125	PVD	Semi-finishing to roughing of steel
FP8030	PVD	Machining of high alloyed steels. Increased heat resistant grade
FS5130	PVD	Rough machining of steels and pre-hardened tool steels
FX6030	PVD	Rough machining of steels and pre-hardened tool steels. Improved surface quality for increased tool-life
FM6140	CVD	Stainless steel and interrupted applications
FM6235	PVD	Stainless steels and titanium
FX6040	PVD	Rough machining of stainless steels. Improved surface quality for increased tool-life
FS5110	PVD	Chamfer tool insert grade for steel and stainless steels
FS6030	PVD	Titanium and high temperature alloys
FS8030	PVD	Titanium and high temperature alloys. Increased heat resistance grade
FK6015	PVD	Wet and dry machining of cast iron
FK6125	CVD	High toughness grade for rough and interrupted machining of cast iron and ductile iron
FS5120	PVD	High hard grade for hardened steel
FN1010	Uncoated	Chamfer tool inserts grade for aluminium
FN6125	Uncoated	Ultra fine grain carbide with high wear resistance and toughness for machining aluminium and copper
SX9	Ceramic	SiAlON ceramic grade for high speed machining of heat resistant alloys
WA1	Ceramic	Whisker ceramic grade for heat resistant alloys. High toughness and wear resistance

Geometries & Applications

Geometry	Application
AL	High positive geometry for general cutting of aluminium and non ferrous materials
MS	Sharp geometry for stainless steel, low force and extreme long overhangs to reduce vibration. Also for small depths of cut when shoulder milling.
MM	First choice for general milling and roughing when continuous cutting in wide range of materials
MR	Roughing geometry for strong and hardened steels. Additional edge strength.
MH	Improved edge strength for heavy roughing or interrupted cutting
MW	Wiper geometry insert for improving surface finish.
SM	High feed geometry for reduced cutting force when machining steels and stainless steels
WB	Wiper geometry for improving surface finish

Series MSM-AP, MSM-WN, MSM-XD11 & MSM-XD19

Recommended Speeds by Material Group

Workpiece Material Group		Material Type	Coolant			Vc-m/min		
			Max	Air	MMS	Low	Mid	High
Steels	P	Low Carbon Steels \leq 180HB	○	●	●	150	180	220
		Med Carbon / Alloy Steels 180-350HB	○	●	●	120	150	200
		Pre-Hardened Steels 35-45HRC	○	●	●	120	150	200
Stainless Steels	M	Free Machining Stainless	●	X	○	120	160	180
		Austenitic Stainless	●	X	○	100	140	160
		Difficult Stainless	●	X	○	80	120	140
Special Alloys	S	High Temp Alloys	●	X	X	20	25	30
		Titanium Alloys	●	X	X	70	90	100
Cast Irons	K	Grey Cast Iron	●	○	○	150	180	220
		Ductile Cast Iron	●	○	○	100	120	180
Hardened Steels	H	Hardened Steels 45 - 50HRC	X	●	●	60	80	100
Non Ferrous	N	Aluminium Alloys	●	○	○	300	600	900
		Brass / Bronze / Copper	●	○	○	200	400	600

Recommended Feed per Tooth by Material Group

Workpiece Material Group		Material Type	Geometry											
			ML			MM			MH			AL		
			fz-mm/tooth											
			Low	Mid	High	Low	Mid	High	Low	Mid	High	Low	Mid	High
Steels	P	Low Carbon Steels \leq 180HB	0.05	0.10	0.15	0.10	0.15	0.20	0.10	0.20	0.25	-	-	-
		Med Carbon / Alloy Steels 180-350HB	0.05	0.10	0.15	0.10	0.15	0.20	0.10	0.20	0.25	-	-	-
		Pre-Hardened Steels 35-45HRC	0.05	0.10	0.15	0.10	0.15	0.20	0.10	0.20	0.25	-	-	-
Stainless Steels	M	Free Machining Stainless	0.05	0.10	0.15	0.10	0.15	0.20	-	-	-	-	-	-
		Austenitic Stainless	0.05	0.10	0.15	0.10	0.15	0.20	-	-	-	-	-	-
		Difficult Stainless	0.05	0.10	0.15	0.10	0.15	0.20	-	-	-	-	-	-
Special Alloys	S	High Temp Alloys	0.05	0.10	0.15	0.10	0.15	0.20	-	-	-	-	-	-
		Titanium Alloys	0.05	0.10	0.15	0.10	0.15	0.20	-	-	-	-	-	-
Cast Irons	K	Grey Cast Iron	-	-	-	0.10	0.15	0.20	0.10	0.20	0.25	-	-	-
		Ductile Cast Iron	-	-	-	0.10	0.15	0.20	0.10	0.20	0.25	-	-	-
Hardened Steels	H	Hardened Steels 45 - 50HRC	0.05	0.10	0.15	0.10	0.15	0.20	0.10	0.20	0.25	-	-	-
Non Ferrous	N	Aluminium Alloys	-	-	-	-	-	-	-	-	-	0.10	0.15	0.20
		Brass / Bronze / Copper	-	-	-	-	-	-	-	-	-	0.10	0.15	0.20

Series MFM-SE13 & MFM-SN12

Recommended Speeds by Material Group

Workpiece Material Group	Material Type	Coolant			Vc-m/min			
		Max	Air	MMS	Low	Mid	High	
Steels	P	Low Carbon Steels ≤180HB	●	●	●	210	250	350
		Med Carbon / Alloy Steels 180-350HB	●	●	●	170	220	270
		Pre-Hardened Steels 35-45HRC	●	●	●	100	140	180
Stainless Steels	M	Free Machining Stainless	●	X	○	130	180	250
		Austenitic Stainless	●	X	○	120	160	180
		Difficult Stainless	●	X	○	100	140	160
Special Alloys	S	High Temp Alloys	●	X	X	20	30	40
		Titanium Alloys	●	X	X	90	100	120
Cast Irons	K	Grey Cast Iron	●	○	○	150	180	220
		Ductile Cast Iron	●	○	○	100	120	180
Hardened Steels	H	Hardened Steels 45 - 50HRC	X	●	●	80	100	140
Non Ferrous	N	Aluminium Alloys	●	○	○	300	600	900
		Brass / Bronze / Copper	●	○	○	200	400	600

Recommended Feed per Tooth by Material Group

Workpiece Material Group	Material Type	Geometry												
		ML			MM			MH			AL			
		fz-mm/tooth												
		Low	Mid	High	Low	Mid	High	Low	Mid	High	Low	Mid	High	
Steels	P	Low Carbon Steels ≤180HB	0.10	0.15	0.20	0.10	0.15	0.20	0.10	0.20	0.30	-	-	-
		Med Carbon / Alloy Steels 180-350HB	0.10	0.15	0.20	0.10	0.15	0.20	0.10	0.20	0.30	-	-	-
		Pre-Hardened Steels 35-45HRC	0.10	0.15	0.20	0.10	0.15	0.20	0.10	0.20	0.30	-	-	-
Stainless Steels	M	Free Machining Stainless	0.10	0.15	0.20	0.10	0.15	0.20	0.10	0.20	0.30	-	-	-
		Austenitic Stainless	0.10	0.15	0.20	0.10	0.15	0.20	-	-	-	-	-	-
		Difficult Stainless	0.10	0.15	0.20	0.10	0.15	0.20	-	-	-	-	-	-
Special Alloys	S	High Temp Alloys	0.10	0.15	0.20	0.10	0.15	0.20	-	-	-	-	-	-
		Titanium Alloys	0.10	0.15	0.20	0.10	0.15	0.20	-	-	-	-	-	-
Cast Irons	K	Grey Cast Iron	-	-	-	0.10	0.15	0.20	0.10	0.20	0.30	-	-	-
		Ductile Cast Iron	-	-	-	0.10	0.15	0.20	0.10	0.20	0.30	-	-	-
Hardened Steels	H	Hardened Steels 45 - 50HRC	0.10	0.15	0.20	0.10	0.15	0.20	0.10	0.20	0.30	-	-	-
Non Ferrous	N	Aluminium Alloys	-	-	-	-	-	-	-	-	-	0.10	0.15	0.20
		Brass / Bronze / Copper	-	-	-	-	-	-	-	-	-	0.10	0.15	0.20

Series MHF-BN06

Recommended Speeds by Material Group

Workpiece Material Group	Material Type	Coolant		3D	3D-5D	5D-7D	>7D	
		Air	Emulsion	Carbide Shank				
				Vc-m/min Cutting Speed				
Steels	P	Carbon Steels	●	-	200	150	120	100
		Alloy Steels	●	-	180	140	100	80
		Tool Steels Below 260HB	●	-	180	140	100	80
		Pre-Hardened Tool Steels 30-40HRC	●	-	150	120	100	80
Stainless Steels	M	Stainless Steels 400 Series	●	-	110	90	80	70
		Stainless Steels 300 Series	●	●	100	80	70	60
		Stainless Steels PH Series	-	-	110	90	80	70
Special Alloys	S	High Temp Alloys	-	●	25	20	15	12
		Titanium Alloys	-	●	80	70	50	40
Cast Irons	K	Grey Cast Iron	-	●	180	140	100	80
		Ductile Cast Iron	-	●	150	120	80	65
Hardened Steels	H	Hardened Steels 45-50HRC	●	-	120	90	70	60
		Hardened Steels 50-55HRC	●	-	80	70	60	50

Recommended Feed per Tooth by Material Group

Workpiece Material Group	Material Type			3D	3D-5D	5D-7D	>7D	
		fz-mm	Ae-mm	Carbide Shank				
				Ap-mm				
		Feed/tooth	Stepover	Depth of Cut				
Steels	P	Carbon Steels	1.2	70%	0.8	0.6	0.5	0.4
		Alloy Steels	1.2	70%	0.8	0.6	0.5	0.4
		Tool Steels Below 260HB	1.1	70%	0.8	0.6	0.5	0.4
		Pre-Hardened Tool Steels 30-40HRC	1.0	70%	0.7	0.5	0.4	0.3
Stainless Steels	M	Stainless Steels 400 Series	0.8	70%	0.7	0.5	0.4	0.3
		Stainless Steels 300 Series	0.6	60%	0.6	0.4	0.3	0.2
		Stainless Steels PH Series	0.8	60%	0.7	0.5	0.4	0.3
Special Alloys	S	High Temp Alloys	0.5	30%	0.6	0.4	0.3	0.2
		Titanium Alloys	0.5	30%	0.6	0.4	0.3	0.2
Cast Irons	K	Grey Cast Iron	1.2	70%	0.8	0.6	0.5	0.4
		Ductile Cast Iron	1.2	70%	0.8	0.6	0.5	0.4
Hardened Steels	H	Hardened Steels 45-50HRC	0.8	70%	0.6	0.5	0.4	0.3
		Hardened Steels 50-55HRC	0.4	60%	0.6	0.5	0.4	0.3

Ramping Data

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
16	3.0	23.0	32.0	0.7
20	1.5	31.0	40.0	0.8
25	1.4	41.0	50.0	1.0
32	1.0	55.0	64.0	1.0
35	1.0	60.0	70.0	1.0
40	0.9	71.0	80.0	1.0
50	0.6	91.0	100.0	1.0
52	0.6	95.0	104.0	1.0

Series MHF-SD12

Recommended Speeds by Material Group

Workpiece Material Group	Material Type	Coolant		3D	3D-5D	
		Air	Emulsion	Vc-m/min Cutting Speed		
Steels	P	Carbon Steels	●	-	200	150
		Alloy Steels	●	-	180	140
		Tool Steels Below 260HB	●	-	180	140
		Pre-Hardened Tool Steels 30-40HRC	●	-	150	120
Stainless Steels	M	Stainless Steels 400 Series	●	-	110	90
		Stainless Steels 300 Series	●	●	100	80
		Stainless Steels PH Series	-	-	110	90
Special Alloys	S	High Temp Alloys	-	●	25	20
		Titanium Alloys	-	●	70	50
Cast Irons	K	Grey Cast Iron	-	●	180	140
		Ductile Cast Iron	-	●	150	120

Recommended Feed per Tooth by Material Group

Workpiece Material Group	Material Type			3D	3D-5D	
		fz-mm	Ae-mm	Ap-mm		
		Feed/tooth	Stepover	Depth of Cut		
Steels	P	Carbon Steels	2.0	70%	0.8	0.6
		Alloy Steels	1.6	70%	0.8	0.6
		Tool Steels Below 260HB	1.2	70%	0.8	0.6
		Pre-Hardened Tool Steels 30-40HRC	1.1	70%	0.7	0.5
Stainless Steels	M	Stainless Steels 400 Series	0.8	70%	0.7	0.5
		Stainless Steels 300 Series	0.6	60%	0.6	0.4
		Stainless Steels PH Series	0.8	60%	0.7	0.5
Special Alloys	S	High Temp Alloys	0.5	30%	0.6	0.4
		Titanium Alloys	0.5	30%	0.6	0.4
Cast Irons	K	Grey Cast Iron	2.0	70%	0.8	0.6
		Ductile Cast Iron	2.0	70%	0.8	0.6

Series MAHF-XD09

Recommended Speeds by Material Group

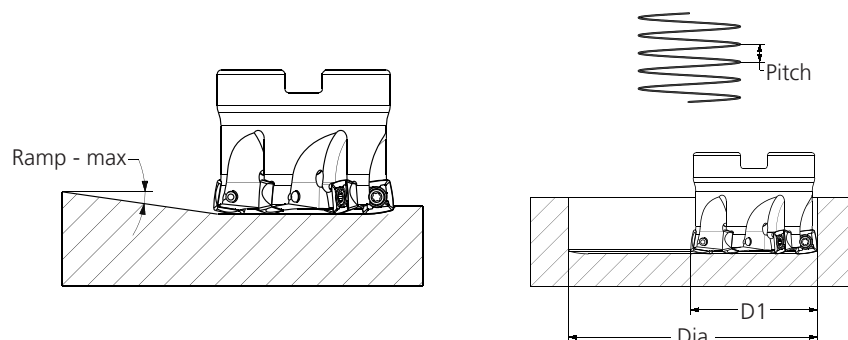
Workpiece Material Group	Material Type	Coolant		Overhang - D x Ø			
		Air	Emulsion	3D	4D	5D	
				Vc-m/min			
Steels	P	Low Carbon Steels ≤180HB	●	○	200	150	120
		Med Carbon / Alloy Steels 180-350HB	●	○	180	140	100
		Pre-Hardened Steels 35-45HRC	●	○	150	120	100
Stainless Steels	M	Free Machining Stainless	●	○	110	90	80
		Austenitic Stainless	●	●	100	80	70
		Difficult Stainless	●	○	110	90	80
Special Alloys	S	High Temp Alloys	X	●	25	20	15
		Titanium Alloys	X	●	80	70	50

Recommended Feed per Tooth by Material Group

Workpiece Material Group	Material Type			Overhang - D x Ø			
		fz-mm	Ae-mm	3D	4D	5D	
				Ap-mm			
Steels	P	Low Carbon Steels ≤180HB	1.2	70-80%	0.8	0.6	0.5
		Med Carbon / Alloy Steels 180-350HB	1.1	70-80%	0.8	0.6	0.5
		Pre-Hardened Steels 35-45HRC	1.0	70-80%	0.7	0.5	0.4
Stainless Steels	M	Free Machining Stainless	0.8	70-80%	0.7	0.5	0.4
		Austenitic Stainless	0.6	60-70%	0.6	0.4	0.3
		Difficult Stainless	0.8	60-70%	0.7	0.5	0.4
Special Alloys	S	High Temp Alloys	0.5	30-50%	0.6	0.4	0.3
		Titanium Alloys	0.5	30-50%	0.6	0.4	0.3

Ramping Data

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
25	7.1°	34.5	48.9	1.0
32	4.3°	48.5	62.9	1.0
35	3.7°	54.5	68.9	1.0
40	3.0°	64.4	78.9	1.0
50	2.1°	84.4	98.9	1.0
63	1.5°	110.4	124.9	1.0



Series MAHF-XD12

Recommended Speeds by Material Group

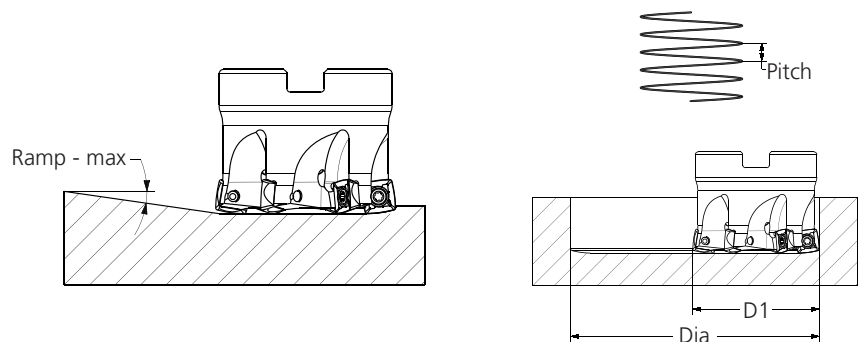
Workpiece Material Group	Material Type	Coolant		Overhang - D x Ø			
		Air	Emulsion	3D	4D	5D	
				Vc-m/min			
Steels	P	Low Carbon Steels ≤180HB	●	○	200	150	120
		Med Carbon / Alloy Steels 180-350HB	●	○	180	140	100
		Pre-Hardened Steels 35-45HRC	●	○	150	120	100
Stainless Steels	M	Free Machining Stainless	●	○	110	90	80
		Austenitic Stainless	●	●	100	80	70
		Difficult Stainless	●	○	110	90	80
Special Alloys	S	High Temp Alloys	X	●	25	20	15
		Titanium Alloys	X	●	80	70	50

Recommended Feed per Tooth by Material Group

Workpiece Material Group	Material Type			Overhang - D x Ø			
		fz-mm	Ae-mm	3D	4D	5D	
				Ap-mm			
Steels	P	Low Carbon Steels ≤180HB	1.6	70-80%	1.4	1.0	0.8
		Med Carbon / Alloy Steels 180-350HB	1.2	70-80%	1.0	0.8	0.7
		Pre-Hardened Steels 35-45HRC	1.1	70-80%	1.0	0.8	0.7
Stainless Steels	M	Free Machining Stainless	1.0	70-80%	1.0	0.8	0.7
		Austenitic Stainless	0.7	60-70%	0.7	0.6	0.4
		Difficult Stainless	0.8	60-70%	0.8	0.7	0.6
Special Alloys	S	High Temp Alloys	0.5	30-50%	0.6	0.4	0.3
		Titanium Alloys	0.5	30-50%	0.6	0.4	0.3

Ramping Data

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
Ø50	3.3°	78.5	98.3	1.4
Ø52	3.1°	82.5	102.3	1.4
Ø63	2.2°	104.5	124.3	1.4
Ø80	1.5°	142.5	157.8	1.4



Series MAPM-RP12, RP16, RN12

Recommended Speeds by Material Group

Workpiece Material Group	Material Type	Coolant			Low	Mid	High	
		Max	Air	MMS	Vc-m/min			
Steels	P	Low Carbon Steels ≤180HB	●	●	●	200	250	300
		Med Carbon / Alloy Steels 180-350HB	●	●	●	170	200	250
		Pre-Hardened Steels 35-45HRC	●	●	●	120	150	180
Stainless Steels	M	Free Machining Stainless	●	X	○	130	180	200
		Austenitic Stainless	●	X	○	120	150	160
		Difficult Stainless	●	X	○	100	120	140
Special Alloys	S	High Temp Alloys	●	X	X	20	30	40
		Titanium Alloys	●	X	X	90	100	120
Cast Irons	K	Grey Cast Iron	●	○	○	150	180	220
		Ductile Cast Iron	●	○	○	100	120	180
Hardened Steels	H	Hardened Steels 45 - 50HRC	X	●	●	80	100	140

Recommended Feed per Tooth by Material Group

Workpiece Material Group	Material Type	Geometry						
		MS			MM			
		fz-mm/tooth						
Steels	P	Low Carbon Steels ≤180HB	0.10	0.25	0.40	0.15	0.30	0.50
		Med Carbon / Alloy Steels 180-350HB	0.10	0.25	0.40	0.15	0.30	0.50
		Pre-Hardened Steels 35-45HRC	0.10	0.15	0.20	0.10	0.20	0.25
Stainless Steels	M	Free Machining Stainless	0.10	0.15	0.20	0.10	0.20	0.25
		Austenitic Stainless	0.10	0.15	0.20	0.10	0.20	0.25
		Difficult Stainless	0.10	0.15	0.20	0.10	0.20	0.25
Special Alloys	S	High Temp Alloys	0.05	0.10	0.15	0.05	0.10	0.15
		Titanium Alloys	0.05	0.10	0.15	0.05	0.10	0.15
Cast Irons	K	Grey Cast Iron	-	-	-	0.15	0.30	0.50
		Ductile Cast Iron	-	-	-	0.10	0.20	0.25
Hardened Steels	H	Hardened Steels 45 - 50HRC	0.05	0.10	0.15	0.10	0.15	0.20

Ramping Data

MAPM-RP12

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
40	8.0	68.0	80.0	12.0
52	3.0	92.0	100.0	6.0
63	2.5	114.0	126.0	6.0
80	2.0	148.0	160.0	7.0

MAPM-RP16

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
63	7.0	110.0	126.0	18.0
80	3.0	144.0	160.0	10.0
100	3.0	184.0	200.0	13.0
125	2.5	234.0	250.0	14.0

MAPM-RN12

Tool D1	Ramp - max	Dia-min	Dia-max	Pitch max (mm)
50	0.8	88.0	100.0	1.0
63	0.6	114.0	126.0	1.0
80	0.5	148.0	160.0	1.0

Series MPM-RP06, RP09, RP12, RN12

Recommended Speeds by Material Group

Workpiece Material Group		Material Type	Coolant			Low	Mid	High
			Max	Air	MMS	Vc-m/min		
Special Alloys	S	High Temp Alloys	X	●	X	500	800	1000

Recommended Feed per Tooth by Material Group

Workpiece Material Group		Material Type	fz-mm/toot		
Special Alloys	S	High Temp Alloys	0.07	0.10	0.12

Series MSD-SC09 & TC16

Recommended Speeds by Material Group

Workpiece Material Group		Material Type	Spotting	Chamfer	Grooving
			Vc-m/min		
Steels	P	Low Carbon Steels ≤180HB	60 - 200	70 - 250	40 - 140
		Med Carbon / Alloy Steels 180-350HB	50 - 100	60 - 220	35 - 120
Stainless Steels	M	Austenitic Stainless	30 - 100	40 - 120	25 - 70
Cast Irons	K	Grey Cast Iron	40 - 120	60 - 200	30 - 100
Hardened Steels	H	Hardened Steels 45 - 50HRC	20 - 60	20 - 60	20 - 50
Non Ferrous	N	Aluminium Alloys	200 - 300	300 - 600	300 - 400
		Brass / Bronze / Copper	150 - 200	200 - 400	150 - 300

Recommended Feed per Tooth by Material Group

Workpiece Material Group		Material Type	Spotting	Chamfer	Grooving
			Fr-mm/min		
Steels	P	Low Carbon Steels ≤180HB	0.04 - 0.10	0.1 - 0.2	0.1 - 0.15
		Med Carbon / Alloy Steels 180-350HB	0.03 - 0.08	0.1 - 0.2	0.08 - 0.15
Stainless Steels	M	Austenitic Stainless	0.02 - 0.06	0.1 - 0.2	0.08 - 0.15
Cast Irons	K	Grey Cast Iron	0.04 - 0.10	0.1 - 0.2	0.1 - 0.15
Hardened Steels	H	Hardened Steels 45 - 50HRC	0.02 - 0.06	0.03 - 0.08	0.02 - 0.04
Non Ferrous	N	Aluminium Alloys	0.05 - 0.10	0.15 - 0.25	0.1 - 0.15
		Brass / Bronze / Copper	0.04 - 0.10	0.1 - 0.2	0.08 - 0.15



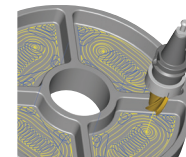
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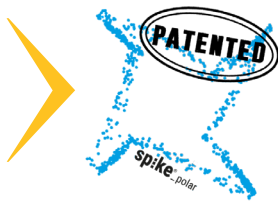
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