HFB06 & HFS12

Indexable High Feed Tooling

Screw-On Tool Holders

M.A. FORD
High Performance Cutting Tools
20th ANNIVERSARY
1998 - 2018
M.A. FORD EUROPE

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

High Feed Series

M.A. FORDMAX RANGE

Performance, Precision, Economy

mafordeurope.com

M.A. FORD
High Performance Cutting Tools

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

For almost 100 years, M.A.FORD has been at the cutting edge of tooling design and manufacture, and has developed an enviable global reputation for performance and precision in solid carbide tooling serving over 60 countries worldwide.

To expand our range of integrated manufacturing solutions to our customers, we are now launching our brand new range of high feed milling tools in both modular moving cylindrical shank and bore type variants.

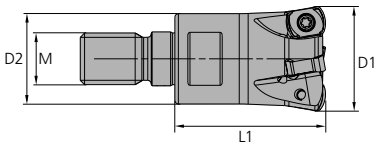
This new programme will provide a cost effective solution to companies that are looking to increase metal removal rates and reduce cycle times when roughing medium to large work-pieces or extreme depth applications.

Contents

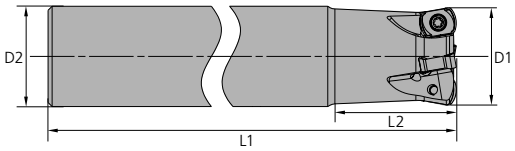
HFB06 Indexable High Feed Milling

Cutter Bodies

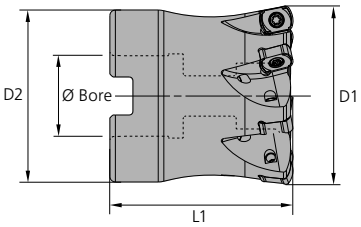
Cam Radius	R2.0
Diameter tolerance	+ 0.0 / - 0.2
Torque setting	1.2Nm
Ap max	1.0mm



Screw-On Shank End Mills		Tool Dimensions					Insert
Order Code	Description Code	D1	D2	Flutes	L1	M	
FH1001	MHFBM-1602-06-M08	16	14	2	25	M8	BNMT06
FH1002	MHFBM-2003-06-M10	20	18	3	30	M10	
FH1003	MHFBM-2504-06-M12	25	21	4	35	M12	
FH1004	MHFBM-3205-06-M16	32	29	5	43	M16	
FH1005	MHFBM-3505-06-M16	35	29	5	43	M16	
FH1006	MHFBM-4006-06-M16	40	29	6	43	M16	



Cylindrical Shank End Mills		Tool Dimensions					Insert
Order Code	Description Code	D1	D2	Flutes	L1	L2	
FH1007	MHFBC-1602-06-16	16	16	2	130	30	BNMT06
FH1008	MHFBC-2003-06-20	20	20	3	140	32	
FH1009	MHFBC-2504-06-25	25	25	4	150	32	



Bore Type Mills		Tool Dimensions					Insert
Order Code	Description Code	D1	D2	Flutes	L1	Ø Bore	
FH1010	MHFBB-5007-06-22	50	47	7	50	22	BNMT06
FH1011	MHFBB-5207-06-22	52	47	7	50	22	

Spare Parts		
Order Code	Description Code	Description
FS1001	MS2506E	Spare Screw
FS1003	ETD-08	TX8 Torx Driver
FS1005	ETFTD-08	TX8 Torx Fixed Torque Driver
FS1006	STXB-08	TX8 Short Torx Bit
FS1007	LTXB-08	TX8 Long Torx Bit

www.mafordeurope.com email: sales@mafordeurope.com Tel: +44(0) 1332 267960 Fax: +44(0) 1332 267969

HFB06 Indexable High Feed Milling

Inserts

MS Geometry

MM Geometry

MR Geometry

Indexable Inserts	Grades							
Insert Reference	FS5020	FS5030	FS5040	FA1025	FA5030	FA5040	FZ5030	Tool Holder
	Order Code							
BNMT0603-MS	FW1001	FW1002	FW1003	–	FW1117	FW1120	FW1123	MHFB/M/C/B
BNMT0603-MM	FW1004	FW1005	FW1006	–	FW1118	FW1121	FW1124	
BNMT0603-MR	FW1007	FW1008	FW1009	FW1116	FW1119	FW1122	–	

Geometries

MS	Sharp geometry for low force cutting and extreme long overhangs to reduce vibration. Performs well in high temperature alloys and sticky materials and on low powered machines.
MM	First choice for cutting stainless steels and high temperature alloys when a stronger edge is required.
MR	First choice for rough milling of alloy steels and tool steels. Also first choice for interrupted cutting.

Grades

FS5020	Developed for working with high to medium cutting speeds. First choice for hardened steels above HRC50, and also high temperature alloys in stable conditions. TiSiN coated.
FS5030	Wide range of applications and materials with excellent properties in wear and impact resistance. Suited for multiple applications in steels, stainless steels and cast irons. First choice for tool-steels applications HRC40-48. TiSiN coated.
FS5040	Tougher grade for interrupted cutting or unstable work-pieces. Suitable for steels, stainless steels and cast irons. TiSiN coated.
FA1025	Supplementary grade for steels and tool-steels HRC30-48. TiAlN coated.
FA5030	Wide range of applications and materials with excellent properties in wear and impact resistance. First choice for multiple applications in steels, stainless steels and cast irons. TiAlN coated.
FA5040	Tougher grade for interrupted cutting or unstable work-pieces. Suitable for steels, stainless steels and cast irons. TiAlN coated.
FZ5030	This coating has been developed for sticky materials and to prevent chip adhesion. Materials include titanium, stainless steels and nickel alloys. ZrN coated.

HFB06 Indexable High Feed Milling

Technical Data

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	GG GGG		•	180	140	100	80
Hardened Steels	H	Hardened Steels 45-50HRC	•		120	90	70	60
		Hardened Steels 50-55HRC	•		80	70	60	50

Workpiece Material Group		Material Type			3D	3D-5D	5D-7D	> 7D
							Carbide Shank	
			Fz-mm	Ae-mm	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	GG GGG	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

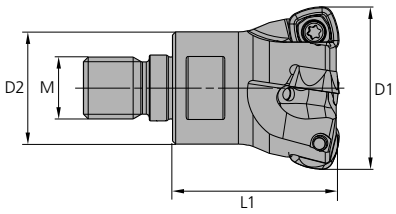
Tool Diameter Ø (mm)	16.0	20.0	25.0	32.0	35.0	40.0	50.0	52.0
Max Staight Ramp Angle (A^0)	3.0	1.5	1.4	1.0	1.0	0.9	0.6	0.6
Helical Milling / Hole Ø (mm)	23-32	31-40	41-50	55-64	60-70	71-80	91-100	95-104
Heical Milling / Max pitch/rev (mm)	0.7	0.8	1.0	1.0	1.0	1.0	1.0	1.0

www.mafordeurope.com email: sales@mafordeurope.com Tel: +44(0) 1332 267960 Fax: +44(0) 1332 267969

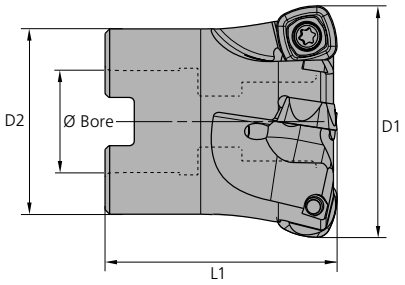
HFS12 Indexable High Feed Milling

Cutter Bodies

Cam Radius	R4.5
Diameter tolerance	+ 0.0 / - 0.2
Torque setting	3.0Nm
Ap max	2.0mm



Screw-On Shank End Mills		Tool Dimensions					Insert
Order Code	Description Code	D1	D2	Flutes	L1	M	
FH1100	MHFSM-3503-12-M16	35	29	3	43	M16	SDMT12
FH1101	MHFSM-4204-12-M16	42	29	4	43	M16	



Bore Type Mills		Tool Dimensions					Insert
Order Code	Description Code	D1	D2	Flutes	L1	Ø Bore	
FH1105	MHFSB-5004-12-22	50	40	4	50	22	SDMT12
FH1102	MHFSB-5205-12-22	52	40	5	50	22	
FH1103	MHFSB-6606-12-27	66	60	6	50	27	
FH1104	MHFSB-8006-12-27	80	60	6	50	27	

Spare Parts		
Order Code	Description Code	Description
FS1002	MS4011G	Spare Screw
FS1004	ETD-15	TX15 Torx Driver
FS1010	ETFTD-15	TX15 Torx Fixed Torque Driver
FS1011	STXB-15	TX15 Short Torx Bits
FS1012	LTXB-15	TX15 Long Torx Bits

HFS12 Indexable High Feed Milling

Inserts

MM Geometry

MR Geometry

MR Flat (SDNW)

SM Geometry

SH Geometry

Indexable Inserts	Grades						
Insert Reference	FS5030	FS5040	FS6030	FA6225	FA6230	FM6140	Tool Holder
	Order Code						
SDMT1205-MM	FW1102	–	–	–	–	–	MHFS/M/B
SDMT1205-MR	FW1103	–	–	–	–	–	
SDNW1205-MR	FW1100	FW1101	–	–	–	–	
SDMT1205-SM	–	–	FW1104	FW1105	FW1106	FW1107	
SDMT1205-SH	–	–	–	FW1108	FW1109	–	

Geometries

MM	First choice for medium cutting in steels, tool-steels and alloy steels.
MR	Rough milling in steels, tool-steels and alloy steels.
SM	Special geometry for low force cutting. Performs well in steels, stainless steels, titanium and sticky materials.
SH	Rough milling in steels, cast irons and interrupted cutting.

Grades

FA6225	Suitable for wet and dry cutting in steels and cast irons. First choice for steels >HRC30
FA6230	High adhesive strength of coating enables wide range of applications materials including steels and cast irons
FS6030	PVD coated grade for titanium, stainless steels and high temperature alloys. Superior toughness and excellent wear resistance. Medium to high cutting speeds.
FM6140	CVD coated micro-grain carbide with high toughness and thermal stability. Suitable for stainless steels and difficult to machine materials. Low to medium cutting speeds.
FS5030	Wide range of cutting applications and materials with excellent properties in wear and impact resistance. Suitable for steels and cast irons.
FS5040	Toughest grade for high impact applications and interrupted machining.

www.mafordeurope.com email: sales@mafordeurope.com Tel: +44(0) 1332 267960 Fax: +44(0) 1332 267969

HFS12 Indexable High Feed Milling

Technical Data

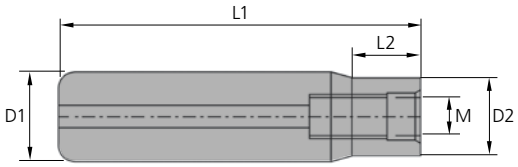
Workpiece Material Group		Material Type	Coolant		3D	3D-5D
			Air	Emulsion		
					Vc-m/min Cutting Speed	
Steels	P	Carbon Steels	•		200	150
		Alloy Steels	•		180	140
		Tool Steels Below 260HB	•		180	140
		Pre-Hardened Tool Steels 30-40HRC	•		150	120
Stainless Steels	M	Stainless Steels 400 Series	•		110	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	GG GGG		•	180	140

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	GG GGG	2.0	70%	0.8	0.6

Tool Diameter Ø (mm)	35.0	42.0	50.0	52.0	66.0	80.0
Max Staight Ramp Angle (A^0)	5.5	4.0	2.5	2.5	1.0	1.0
Helical Milling / Hole Ø (mm)	48-66	63-80	81-98	83-100	112-128	142-156
Heical Milling / Max pitch/rev (mm)	1.2	1.2	1.2	1.1	1.0	1.0

MSS Screw-On Tool Holders

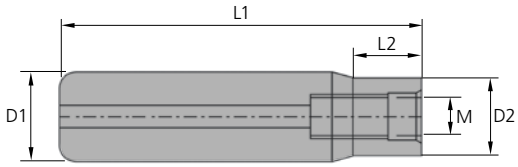
Steel Straight Shanks



Order Code	Description Code	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	270	40	M16

MCS Screw-On Tool Holders

Carbide Straight Shanks

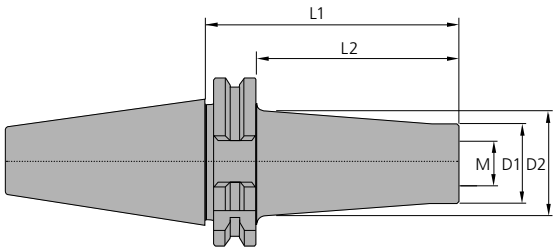


Order Code	Description Code	D1	D2	L1	L2	M
FC1001	MCS-D16-M8-100-30	16	14.5	100	30	M8
FC1002	MCS-D16-M8-150-50	16	14.5	150	50	M8
FC1013	MCS-D16-M8-150-95	16	15.5	150	95	M8
FC1003	MCS-D16-M8-200-100	16	14.5	200	100	M8
FC1004	MCS-D20-M10-200-50	20	18.5	200	50	M10
FC1005	MCS-D20-M10-250-100	20	18.5	250	100	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

www.mafordeurope.com email: sales@mafordeurope.com Tel: +44(0) 1332 267960 Fax: +44(0) 1332 267969

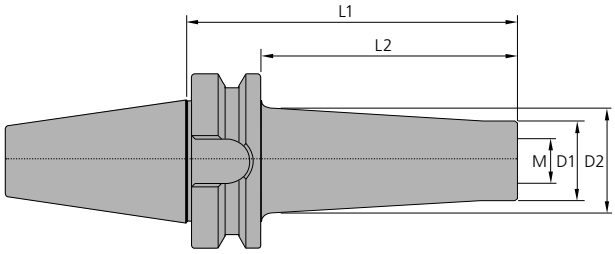
SOM Screw-On Tool Holders

SK (DIN 69871) Taper Adapters



Order Code	Description Code	D1	D2	L1	L2	M
FC1119	SK40-SOM8-69 L=50	13	23	69	50	M8
FC1120	SK40-SOM8-94 L=75	13	23	94	75	M8
FC1121	SK40-SOM8-119 L=100	13	25	119	100	M8
FC1123	SK40-SOM10-69 L=50	18	23	69	50	M10
FC1124	SK40-SOM10-94 L=75	18	28	94	75	M10
FC1125	SK40-SOM10-119 L=100	18	32	119	100	M10
FC1127	SK40-SOM12-69 L=50	21	31	69	50	M12
FC1128	SK40-SOM12-94 L=75	21	33	94	75	M12
FC1129	SK40-SOM12-119 L=100	21	36	119	100	M12
FC1131	SK40-SOM16-69 L=50	29	34	69	50	M16
FC1132	SK40-SOM16-94 L=75	29	34	94	75	M16
FC1133	SK40-SOM16-119 L=100	29	36	119	100	M16

BT (MAS 403) Taper Adapters



Order Code	Description Code	D1	D2	L1	L2	M
FC1135	BT40-SOM8-77 L=50	13	23	77	50	M8
FC1136	BT40-SOM8-102 L=75	13	23	102	75	M8
FC1137	BT40-SOM8-127 L=100	13	25	127	100	M8
FC1139	BT40-SOM10-77 L=50	18	23	77	50	M10
FC1140	BT40-SOM10-102 L=75	18	28	102	75	M10
FC1141	BT40-SOM10-127 L=100	18	32	127	100	M10
FC1143	BT40-SOM12-77 L=50	21	31	77	50	M12
FC1144	BT40-SOM12-102 L=75	21	33	102	75	M12
FC1145	BT40-SOM12-127 L=100	21	36	127	100	M12
FC1147	BT40-SOM16-77 L=50	29	34	77	50	M16
FC1148	BT40-SOM16-102 L=75	29	34	102	75	M16
FC1149	BT40-SOM16-127 L=100	29	36	127	100	M16
FC1303	BT50-SOM12-138 L=100	21	33	138	100	M12
FC1304	BT50-SOM12-188 L=150	21	40	188	150	M12
FC1300	BT50-SOM16-88 L=50	29	34	88	50	M16
FC1301	BT50-SOM16-138 L=100	29	36	138	100	M16
FC1302	BT50-SOM16-188 L=150	29	42.5	188	150	M16

M.A. FORD
High Performance Cutting Tools

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

M.A. Ford Europe Ltd.
Unit 38, Royal Scot Road
Pride Park, Derby
DE24 8AJ United Kingdom

Phone: +44(0) 1332 267960
Fax: +44(0) 1332 267969
Email: sales@mafordeurope.com

mafordeurope.com

Дистрибьютор:

ООО "ВЕЛЛКАМ"

127247 Москва,
Дмитровское ш. 100 стр.2

Тел. +7 (499) 685 00 69
email: info@wellcam-ps.ru
www.wellcam-ps.ru

Also available:

M.A. Ford® Mfg. Co., Inc.
7737 Northwest Blvd.

Davenport, IA 52806
USA

Tel: 563-391-6220 or 800-553-8024
Fax: 563-386-7660 or 800-892-9522
Email: sales@maford.com

www.maford.com

M.A. Ford®
Asia-Pacific, Limited

Room 1709, Level 17
Millennium City 2
378 Kwun Tong Rd, Kowloon
Hong Kong

Tel: +852-2167-7150
Fax: +852-2167-8150
Email: sales@mafordap.com

CAT-HIF-EN-02