

HF4 ENMX HIGH FEED MILL



Revolutionary new high feed milling system for steel, hardened steel, stainless steel, HRSA & cast iron.

Ø16-52mm.

Ultra-thick reinforced insert design and close pitch insert spacing enables the highest feed rates with exceptional tool life.

Features





- ▶ ENMX inserts with 4 cutting edges.
- ▶ Dedicated chipbreakers for steel, stainless steel & cast iron.
- ▶ Suitable for high feed milling, profiling, face milling, ramping and helical interpolation.
- ▶ Holder diameters range 16-50mm.

Benefits




- ▶ High feed mill which will improve productivity, slash cycle with increased depth of cut.
- ▶ High cost efficiency with 4 cutting edges.
- ▶ High versatility in machining.
- ▶ Wide flank face for rigid insert clamping.
- ▶ High feed rates with low cutting forces.
- ▶ ENMX inserts have advanced corner protection to protect against any breakages.



HOLDER OPTIONS

Description		Application	Series	Sizes ØD	Page
HF4 MILL FACE MILL			FHF-ENMX	40-50	546
HF4 MILL MODULAR END MILL			MHF-ENMX	16-42	546
HF4 MILL END MILL			EHF-ENMX	16-32	547
SCREWED SHANK ADAPTORS			MAT-S MAT-C	M6-M16	548

CHIPBREAKER GUIDE

CHIPBREAKER		APPLICATIONS	BENEFITS
GENERAL		Low carbon steels, low alloy steels	Positive rake angle with wide flank face give low cutting resistance and smooth chip flow.
TR		High alloy steels, hardened steels, cast iron	Reinforced cutting edge for higher strength in machining harder materials.
ST		Stainless steel, mild steel & HRSA	Sharp cutting edge with small land width, ideal for stainless steel, sticky steels and HRSA machining

GRADE OPTIONS

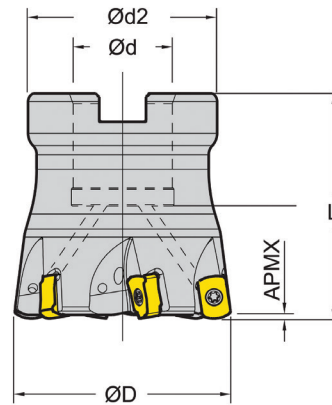
INSERT GRADE	APPLICATION
YG602	First choice for carbon steel, alloy steel, hardened steel and cast iron.
YG613	Ultra-high toughness and heat resistance for stainless steel and HRSA machining.

HF4 ENMX HIGH FEED FACE MILL

High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

FHF-ENMX

- ▶ Face mill style high feed milling body from 40mm diameter
- ▶ Double sided inserts with 4 corners



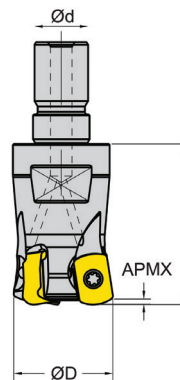
ØD	Teeth	Ød	Ød1	L	APMX	ORDER CODE	PRICE	INSERTS	Spares	
									Screw	Wrench
40	6	16	37	40	1	FHF-ENMX06-D40Z6S16	£145.23	ENMX06	TP082507	TPWFTP08
50	6	22	42	50	1	FHF-ENMX06-D50Z6S22	£153.74			

HF4 ENMX HIGH FEED MODULAR END MILL

High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

MHF-ENMX

- ▶ Modular (screwed shank) end mill style high feed milling body from 16mm diameter
- ▶ Double sided inserts with 4 corners



ØD	Teeth	Ød	L	APMX	ORDER CODE	PRICE	INSERTS	Spares	
								Screw	Wrench
16	2	M08	23	0.9	MHF-ENMX06-D16Z2M08	£56.14	ENMX06	TP082507	TPWFTP08
18	2	M08	23	0.9	MHF-ENMX06-D18Z2M08	£59.50			
20	3	M10	30	1	MHF-ENMX06-D20Z3M10	£63.74			
25	4	M12	35	1	MHF-ENMX06-D25Z4M12	£74.36			
32	5	M16	42	1	MHF-ENMX06-D32Z5M16	£83.45			
35	5	M16	42	1	MHF-ENMX06-D35Z5M16	£84.97			
40	6	M16	42	1	MHF-ENMX06-D40Z6M16	£90.00			
42	6	M16	42	1	MHF-ENMX06-D42Z6M16	£96.37			

Contact our expert technical team today for advice on your milling applications.

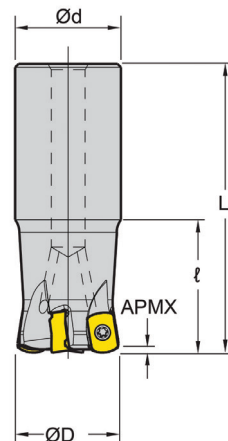
Please call 01924 869 615

HF4 ENMX HIGH FEED END MILL

High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

EHF-ENMX

- ▶ End mill style high feed milling body from 16mm diameter
- ▶ Double sided inserts with 4 corners



ØD	Teeth	Ød	ℓ	L	apmx	ORDER CODE	PRICE	INSERTS	Spares	
									Screw	Wrench
16	2	16	30	100	0.9	EHF-ENMX06-D16Z2C16-L100	£68.58	ENMX06	TP082507	TPWFTP08
16	2	16	50	150	0.9	EHF-ENMX06-D16Z2C16-L150	£72.53			
17	2	16	20	100	0.9	EHF-ENMX06-D17Z2C16-L100	£68.58			
17	2	16	20	150	0.9	EHF-ENMX06-D17Z2C16-L150	£72.53			
20	3	20	50	130	1	EHF-ENMX06-D20Z3C20-L130	£88.02			
20	3	20	80	160	1	EHF-ENMX06-D20Z3C20-L160	£99.40			
21	3	20	20	150	1	EHF-ENMX06-D21Z3C20-L150	£94.84			
21	3	20	20	200	1	EHF-ENMX06-D21Z3C20-L200	£100.16			
25	4	25	60	140	1	EHF-ENMX06-D25Z4C25-L140	£109.25			
25	4	25	80	180	1	EHF-ENMX06-D25Z4C25-L180	£115.62			
25	4	25	120	250	1	EHF-ENMX06-D25Z4C25-L250	£129.90			
26	4	25	30	150	1	EHF-ENMX06-D26Z4C25-L150	£110.77			
26	4	25	30	200	1	EHF-ENMX06-D26Z4C25-L200	£118.06			
32	5	32	70	150	1	EHF-ENMX06-D32Z5C32-L150	£135.07			
32	5	32	100	200	1	EHF-ENMX06-D32Z5C32-L200	£152.20			

HF4 MILL • ENMX INSERTS

Diagram	Dimensions		APPLICATIONS							Chip Breaker	ORDER CODE	PRICE
	IC	S	Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel	Stainless Steel	HRSA	Cast Iron			
	6.4	4.2	●	●						General	ENMX0604-YG602	£6.99
	6.4	4.2			●	●			●	TR	ENMX0604-TR-YG602	
	6.4	4.2	●				●	●		ST	ENMX0604-ST-YG613	

SCREWED SHANK ADAPTORS HSS SHANK & CARBIDE SHANK

Ideal for Holding and Extending the Reach of Screwed Shank End Mills

MAT-C
MAT-S



Fig. 1

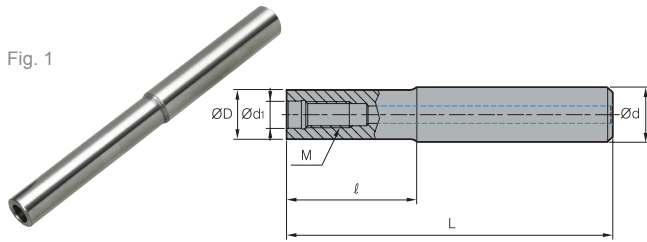


Fig. 2

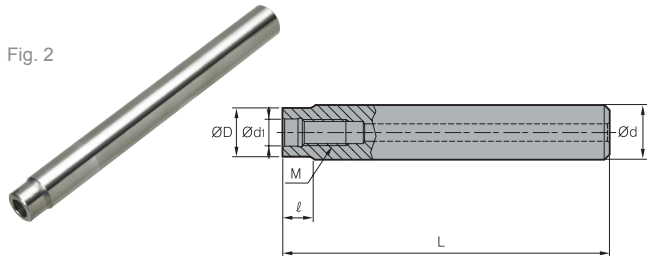


Fig. 1

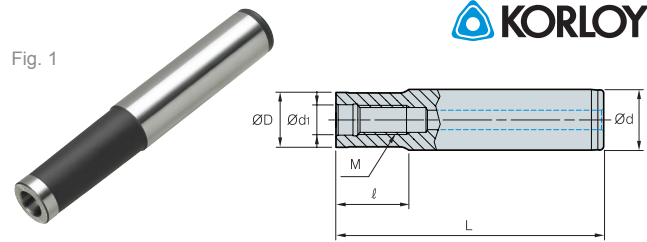
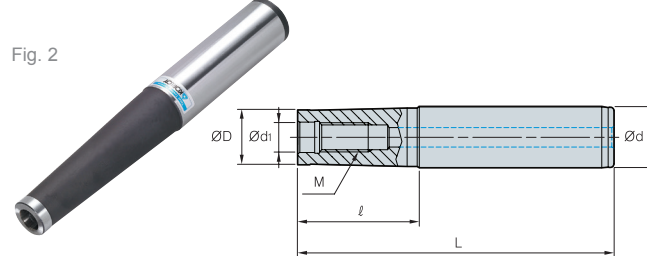


Fig. 2



CARBIDE SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	ORDER CODE	PRICE
16	M08	150	80	14.5	8.5	1	MAT-M08-080-S16S-C	£231.23
16	M08	180	110	14.5	8.5	1	MAT-M08-110-S16S-C	£300.60
16	M08	250	150	14.5	8.5	1	MAT-M08-150-S16S-C	£404.65
16	M08	150	10	14.5	8.5	2	MAT-M08-010-S16S-C-150	£231.23
16	M08	180	10	14.5	8.5	2	MAT-M08-010-S16S-C-180	£300.60
16	M08	250	10	14.5	8.5	2	MAT-M08-010-S16S-C-250	£404.65
20	M10	170	90	18	10.5	1	MAT-M10-090-S20S-C	£358.40
20	M10	200	110	18	10.5	1	MAT-M10-110-S20S-C	£480.95
20	M10	300	175	18	10.5	1	MAT-M10-175-S20S-C	£647.43
20	M10	170	10	18	10.5	2	MAT-M10-010-S20S-C-170	£358.40
20	M10	200	10	18	10.5	2	MAT-M10-010-S20S-C-200	£480.95
20	M10	300	10	18	10.5	2	MAT-M10-010-S20S-C-300	£647.43
25	M12	170	90	22.5	12.5	1	MAT-M12-090-S25S-C	£439.34
25	M12	200	110	22.5	12.5	1	MAT-M12-110-S25S-C	£647.43
25	M12	300	175	22.5	12.5	1	MAT-M12-175-S25S-C	£786.17
25	M12	170	15	22.5	12.5	2	MAT-M12-015-S25S-C-170	£439.34
25	M12	200	15	22.5	12.5	2	MAT-M12-015-S25S-C-200	£647.43
25	M12	300	15	22.5	12.5	2	MAT-M12-015-S25S-C-300	£786.17
32	M16	180	90	28.5	17	1	MAT-M16-090-S32S-C	£758.42
32	M16	210	120	28.5	17	1	MAT-M16-120-S32S-C	£924.89
32	M16	300	175	28.5	17	1	MAT-M16-175-S32S-C	£1,179.24
32	M16	180	20	28.5	17	2	MAT-M16-020-S32S-C-180	£758.42
32	M16	210	20	28.5	17	2	MAT-M16-020-S32S-C-210	£924.89
32	M16	300	20	28.5	17	2	MAT-M16-020-S32S-C-300	£1,179.24

STEEL SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	ORDER CODE	PRICE
10	M06	70	20	9.5	6.5	1	MAT-M06-020-S10S	£74.01
12	M06	76	20	11	6.5	1	MAT-M6B-020-S12S	£74.26
12	M06	96	40	11	6.5	1	MAT-M6B-040-S12S	£76.90
16	M08	80	20	14.5	8.5	1	MAT-M08-020-S16S	£91.65
20	M10	100	30	18	10.5	1	MAT-M10-030-S20S	£131.82
25	M12	110	29	22.5	12.5	1	MAT-M12-030-S25S	£158.45
32	M16	125	35	28.5	17	1	MAT-M16-035-S32S	£205.38
12	M06	96	40	9.5	6.5	2	MAT-M06-040-S12T	£76.90
16	M06	125	65	9.5	6.5	2	MAT-M06-065-S16T	£89.76
16	M06	125	65	11	6.5	2	MAT-M6B-065-S16T	£89.76
16	M06	140	80	11	6.5	2	MAT-M6B-080-S16T	£103.46
16	M08	100	40	14.5	8.5	2	MAT-M08-040-S16T	£111.63
16	M08	125	65	14.5	8.5	2	MAT-M08-065-S16T	£126.37
20	M08	150	80	14.5	8.5	2	MAT-M08-080-S20T	£152.91
25	M08	190	110	14.5	8.5	2	MAT-M08-110-S25T	£194.11
20	M10	120	50	18	10.5	2	MAT-M10-050-S20T	£142.56
20	M10	140	70	18	10.5	2	MAT-M10-070-S20T	£161.22
25	M10	170	90	18	10.5	2	MAT-M10-090-S25T	£203.07
25	M10	190	110	18	10.5	2	MAT-M10-110-S25T	£229.46
32	M10	220	130	18	10.5	2	MAT-M10-130-S32T	£271.45
25	M12	130	50	22.5	12.5	2	MAT-M12-050-S25T	£174.81
25	M12	150	70	22.5	12.5	2	MAT-M12-070-S25T	£185.86
25	M12	170	90	22.5	12.5	2	MAT-M12-090-S25T	£212.02
32	M12	200	110	22.5	12.5	2	MAT-M12-110-S32T	£249.88
40	M12	300	175	22.5	12.5	2	MAT-M12-175-S40T	£352.17
32	M16	145	55	28.5	17	2	MAT-M16-055-S32T	£220.18
32	M16	170	80	28.5	17	2	MAT-M16-080-S32T	£251.43
32	M16	210	120	28.5	17	2	MAT-M16-120-S32T	£272.20
40	M16	300	175	28.5	17	2	MAT-M16-175-S40T	£351.50



CARBIDE SHANK ADAPTERS

Carbide shank modular adapters can vastly reduce vibration or deflection in long reach milling applications. This can improve surface finish, tool life and precision compared to Steel shank tool holders.

For best results only high accuracy tool holders should be used with carbide shank adapters, ideally with 3 microns run-out or less. When used with standard accuracy ER collet chucks, run-out can be as high as 50 microns at 10xD tool length and tool deflection can easily occur. This can have serious effects on tool life, accuracy and surface finish.

When carbide shank adapters and milling heads are used with a 3 micron run-out tool holder (such as the WTE HPH High Performance chuck), run-out is less than 10 microns at 10xD tool length. Tool life, surface finish and accuracy will be vastly improved whilst deflection will be eliminated.

HF4 HIGH FEED MILL

CUTTING DATA

RECOMMENDED CUTTING CONDITIONS

ISO	Workpiece		Grades	Chip Breaker			Cutting Data				
	Material	Hardness HB (HrC)		GEN	TR	ST	vc (m/min)	fz (mm/t)	ap (mm)	ae (mm)	
P Steel	Mild Steel	120-180	YG602	●	-	●	140-380	0.3-1.2	0.2-1.0	0.7D-0.1D	
			YG613	●	-	●	140-230				
	Carbon Steel	200	YG602	●	○	○	120-300	0.3-1.2	0.2-1.0	0.7D-0.1D	
			YG613	●	○	○	80-200				
	Alloy Steel	270 (28)	YG602	●	○	-	70-150	0.3-1.2	0.2-1.0	0.7D-0.1D	
			YG613	●	○	-	60-110				
	Pre-Hardened Steel		300 (32)	YG602	○	●	-	70-150	0.3-1.0	0.2-0.8	0.7D-0.1D
				YG602	○	●	-	70-150			
				YG602	○	●	-	60-110			
				YG602	○	●	-	40-80			
Alloy Tool Steel	(40-50)	YG602	○	●	-	40-80	0.3-0.65	0.2-0.6	0.7D-0.1D		
M Stainless Steel	Stainless Steel	<270	YG613	-	-	●	80-200	0.3-0.8	0.2-0.8	0.7D-0.1D	
K Cast Iron	Grey & Ductile Cast Iron	Tensile Strength >450Mpa	YG602	○	●	-	120-250	0.3-0.9	0.2-1.0	0.7D-0.1D	
S HRSA	HRSA Fe Series	(25-35)	YG613	-	-	●	25-45	0.3-0.6	0.2-0.6	0.4D-0.7D	
	HRSA Ni or Co Series	(35-45)	YG613	-	-	●	25-45	0.3-0.7	0.2-0.6	0.4D-0.7D	
	Titanium	(40-45)	YG613	-	-	●	25-50	0.3-1.0	0.2-0.6	0.7D-0.1D	

● First Choice ○ Second Choice

INDEXABLE MILLING
HF4 ENMX HIGH FEED MILL