



M-Four

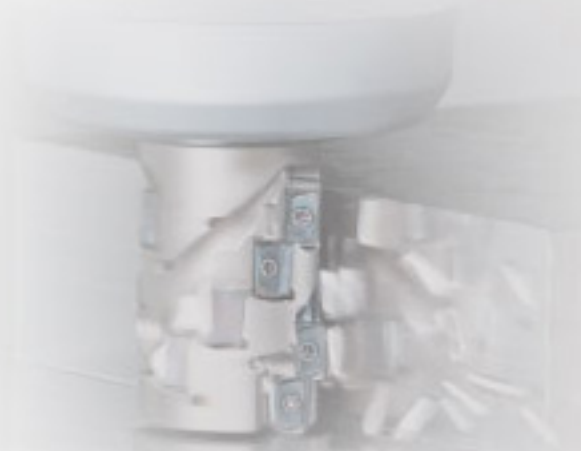
MEW Milling Cutter

■ **Form Improves Function**

Kyocera's unique insert-forming technology reduces cutting forces equivalent to positive inserts

■ **MEGACOAT NANO**

Coating technology extends tool life and reduces cutting costs



Lineup Expansion!

Helical Endmill & Shell Mill

MEWH

For Heat Resistant Alloy

CA6535/PR1535

Insert Corner R (rε)

0.4mm~2.0mm

(GM Chipbreaker)

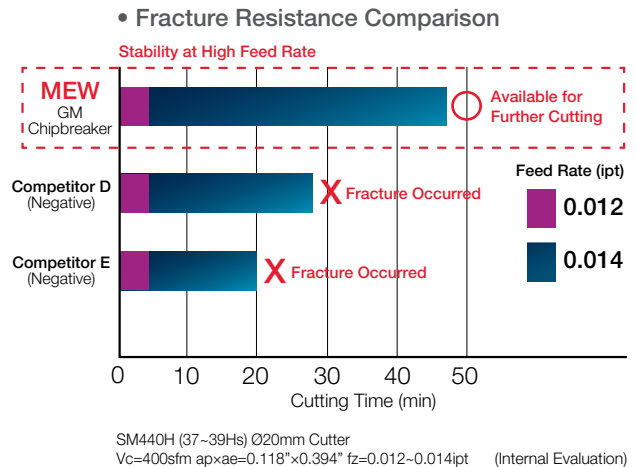
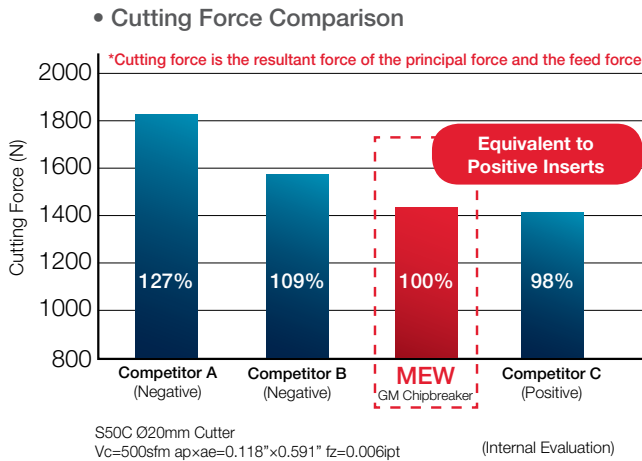
M-Four

MEW Milling Cutter

The M-Four double-sided, 4-edge insert with Kyocera's unique mold technology reduces cutting forces for reduced vibrations



Low Cutting Forces Equivalent to Positive Inserts



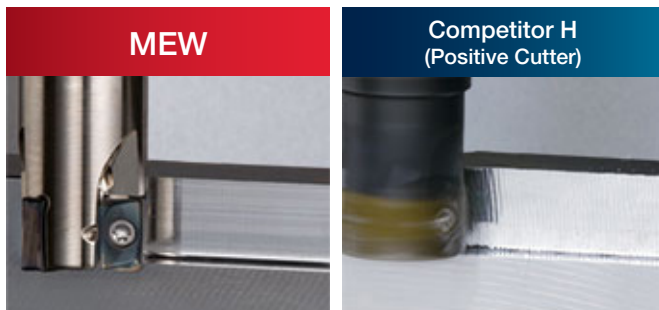
Improved Surface Finish & Minimized Vibration

Sharp cutting and superior resistance to vibration and burrs due to helical cutting edge and optimum axial rake design

Large Rake Angle Reduces Cutting Forces

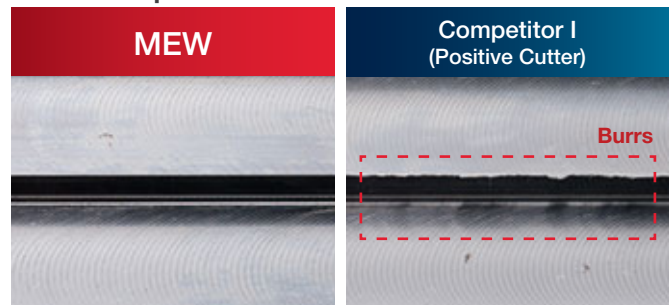
MEW GM Chipbreaker	Competitor F (Negative)	Competitor G (Positive)
+20°	+17°	+17°

Surface of Shoulder Wall



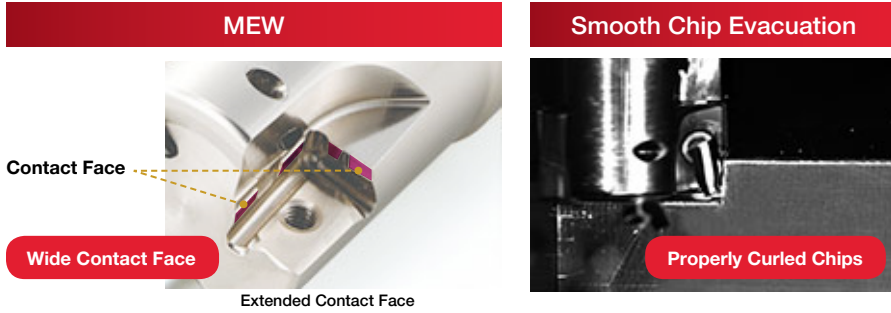
Smooth surface of MEW without chattering

Burr Comparison with Positive Cutters



Fewer burrs than positive cutters due to sharp cutting

Improved Toolholder *Durability* & *Precision*



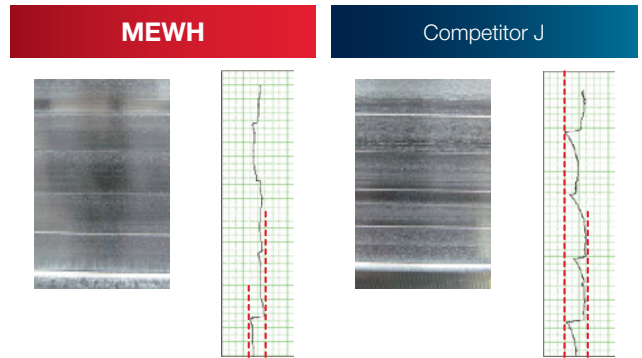
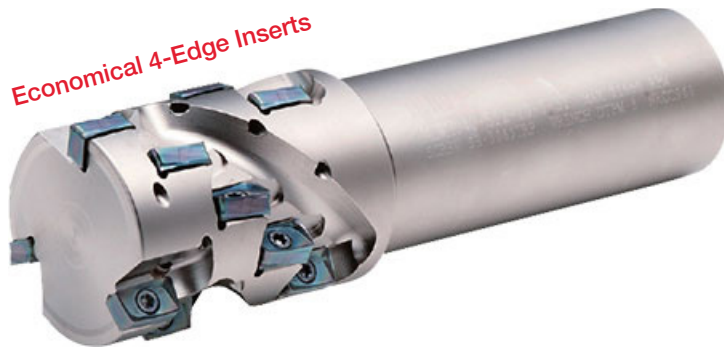
MEWH

Helical Endmill

Excellent surface finish and stable machining due to the innovative toolholder design

• Surface Finish Comparison

Economical 4-Edge Inserts



Better surface quality than Competitor J
4137 Steel $V_c=400\text{sfm}$ $a_p \times a_e=1.772'' \times 0.197''$ $f_z=0.004\text{ipt}$ Dry

• Chip Evacuation

	Chipbreaker	Workpiece	$f_z=0.006\text{ipt}$	$f_z=0.008\text{ipt}$
	GM	SCM435		
	GM	SS400		
	SM			

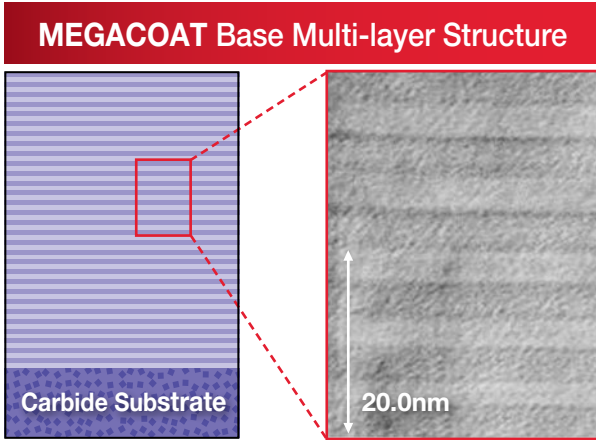
Chips are constantly evacuated in the opposite direction of the cutter feed without clogging
 $V_c=400\text{sfm}$ $a_p \times a_e=0.787 \times 0.591''$ Dry



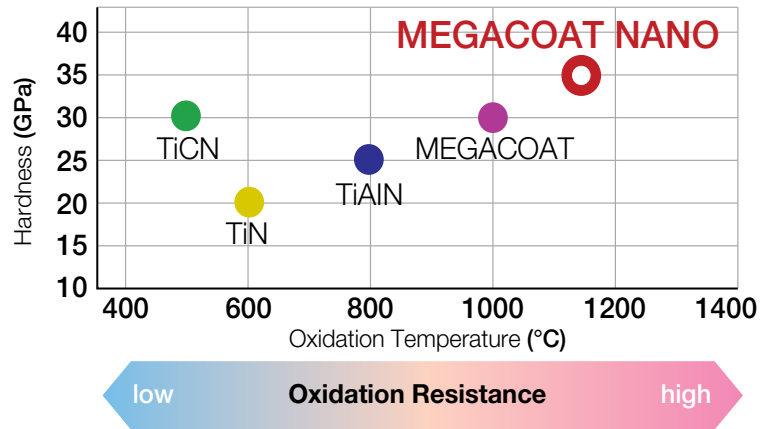
Extended Tool Life with Innovative MEGACOAT NANO Coating Technology

Special multi-layered coating, "MEGACOAT NANO" enables stable milling and extended tool life

- PR1510** for cast iron,
- PR1525** for steel and stainless steel,
- PR1535** titanium alloy and precipitated hardened steel



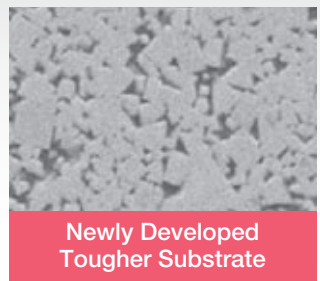
Prevents wear and fracture with high hardness (35GPa) and superior oxidation resistance (oxidation temperature: 1,150°C)



New Grades for Difficult-to-cut Material!

CA6535 & PR1535

Stable cutting by preventing sudden insert fracturing
Good for high efficiency machining



CA6535



- For Ni-base heat resistant alloy and martensitic stainless steel
- High heat resistance and wear resistance with CVD coating
- Improved stability due to thin film coating technology

PR1535






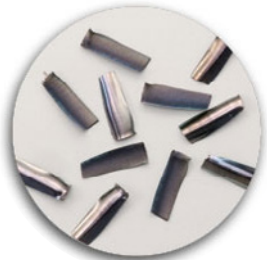
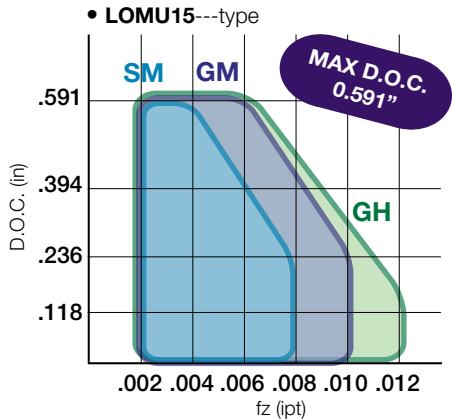
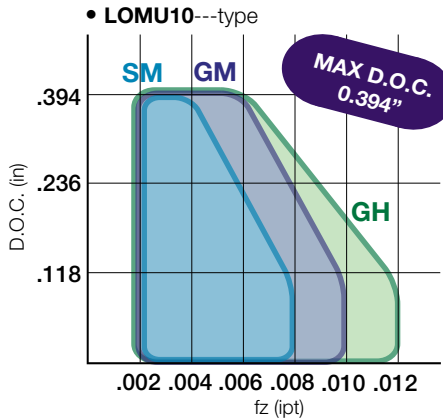
- For titanium alloy and precipitation hardened stainless steel
- Stabilized milling operation and long tool life with Kyocera's MEGACOAT NANO coating technology
- Improved stability due to thin film coating technology



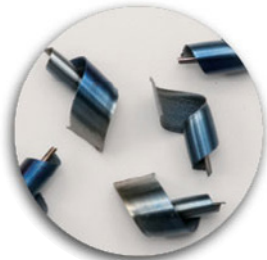
Chipbreaker Lineup

Three innovative chipbreaker designs to cover a wide range of applications

Chipbreaker	Application	Shape
GM	General Purpose	
SM	Low Cutting Force	
GH	Heavy Milling	



Chips (shouldering)



Chips (slotting)

Insert corner R (rε) Lineup Expansion!

Corner R **0.4, 1.0, 1.2, 1.6** and **2.0** added to GM chipbreaker lineup



LOMU100404ER-GM
LOMU150504ER-GM



LOMU100408ER-GM
LOMU150508ER-GM



LOMU150510ER-GM



LOMU100412ER-GM
LOMU150512ER-GM

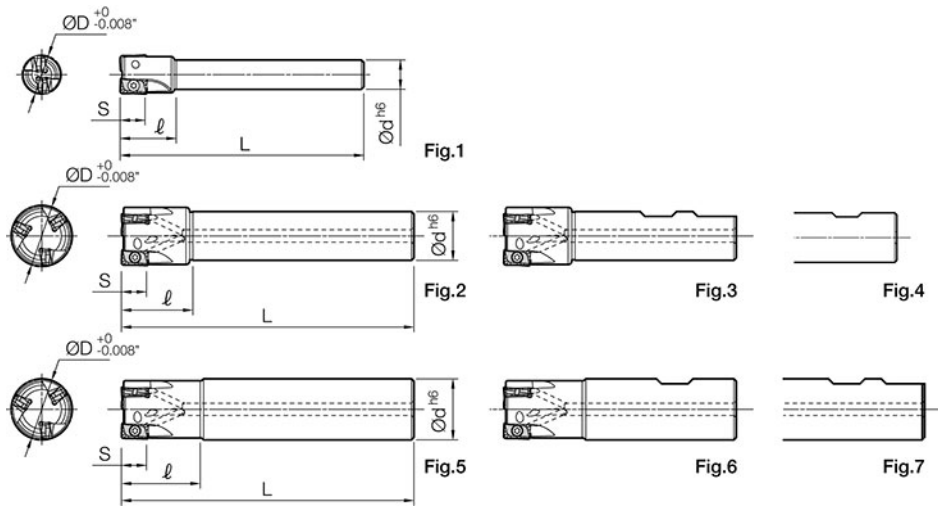


LOMU100416ER-GM
LOMU150516ER-GM



LOMU100420ER-GM
LOMU150520ER-GM





MEW Endmills (inch)

Shank	Part Number	Stock	No. of Inserts	Dimensions (inch)					Rake Angle		Coolant Hole	Drawing	Max. Revolution* (min ⁻¹)
				ØD	Ød	L	l	S	A.R. (MAX)	R.R.			
Weldon Standard Shank	MEW 0625-W500-10-2T	●	2	0.625	0.500	2.75	0.969	0.393	+7°	-22°	×	Fig.4	43,900
	0625-W625-10-2T	●	2	0.625	0.625	3.00	1.046	0.393	+7°	-22°	✓	Fig.6	43,900
	0750-W625-10-2T	●	2	0.750	0.625	3.25	1.145	0.393	+7°	-20°	✓	Fig.3	42,000
	0750-W750-10-2T	●	2	0.750	0.750	3.25	1.170	0.393	+7°	-20°	✓	Fig.6	42,000
	0750-W750-10-3T	●	3	0.750	0.750	3.25	1.170	0.393	+7°	-20°	✓	Fig.6	42,000
	1000-W750-10-3T	●	3	1.000	0.750	3.25	1.219	0.393	+7°	-20°	✓	Fig.3	37,200
	1000-W100-10-2T	●	2	1.000	1.000	3.75	1.413	0.393	+7°	-20°	✓	Fig.7	37,200
	1000-W100-10-3T	●	3	1.000	1.000	3.75	1.413	0.393	+7°	-20°	✓	Fig.7	37,200
	1250-W100-10-4T	●	4	1.250	1.000	3.75	1.469	0.393	+7°	-20°	✓	Fig.3	34,000
	1250-W125-10-3T	●	3	1.250	1.250	4.00	1.663	0.393	+7°	-20°	✓	Fig.7	34,000
	1250-W125-10-4T	●	4	1.250	1.250	4.00	1.663	0.393	+7°	-20°	✓	Fig.7	34,000
	1500-W125-10-5T	●	5	1.500	1.250	4.125	2.070	0.393	+7°	-19°	✓	Fig.3	30,700
Cylindrical Long	NEW 0750-W750-4-10-3T	●	3	0.750	0.750	4.00	1.921	0.393	+7°	-20°	✓	Fig.6	42,000
	NEW 1000-W100-45-10-3T	●	3	1.000	1.000	4.50	2.163	0.393	+7°	-20°	✓	Fig.7	37,200
	MEW 0625-S625-6-10-2T	●	2	0.625	0.625	6.00	1.500	0.393	+7°	-22°	✓	Fig.5	43,900
	0750-S750-7-10-2T	●	2	0.750	0.750	7.00	1.586	0.393	+7°	-20°	✓	Fig.5	42,000
	1000-S100-8-10-2T	●	2	1.000	1.000	8.00	1.980	0.393	+7°	-20°	✓	Fig.5	37,200
	NEW 1000-S100-8-10-3T	●	3	1.000	1.000	8.00	1.980	0.393	+7°	-20°	✓	Fig.5	37,200
Weldon Standard Shank	NEW 1250-S125-8-15-3T	●	3	1.250	1.250	8.00	1.980	0.590	+10°	-22°	✓	Fig.5	30,100
	NEW 1500-S125-8-15-4T	●	4	1.500	1.250	8.00	2.069	0.590	+10°	-21°	✓	Fig.2	25,600
	MEW 1000-W750-15-2T	●	2	1.000	0.750	3.25	1.219	0.590	+10°	-22°	✓	Fig.3	34,700
	1000-W100-15-2T	●	2	1.000	1.000	3.75	1.413	0.590	+10°	-22°	✓	Fig.7	34,700
	1250-W100-15-2T	●	2	1.250	1.000	3.75	1.469	0.590	+10°	-22°	✓	Fig.3	30,100
	1250-W125-15-2T	●	2	1.250	1.250	4.00	1.663	0.590	+10°	-22°	✓	Fig.7	30,100
	1500-W125-15-3T	●	3	1.250	1.250	4.00	1.663	0.590	+10°	-22°	✓	Fig.7	30,100
	1500-W125-15-3T	●	3	1.500	1.250	4.125	2.069	0.590	+10°	-21°	✓	Fig.3	25,600
1500-W125-15-4T	●	4	1.500	1.250	4.125	2.069	0.590	+10°	-21°	✓	Fig.3	25,600	

Max. Revolution*

When running the endmill and cutter at the maximum revolution, the insert or toolholder may be damaged by centrifugal force.

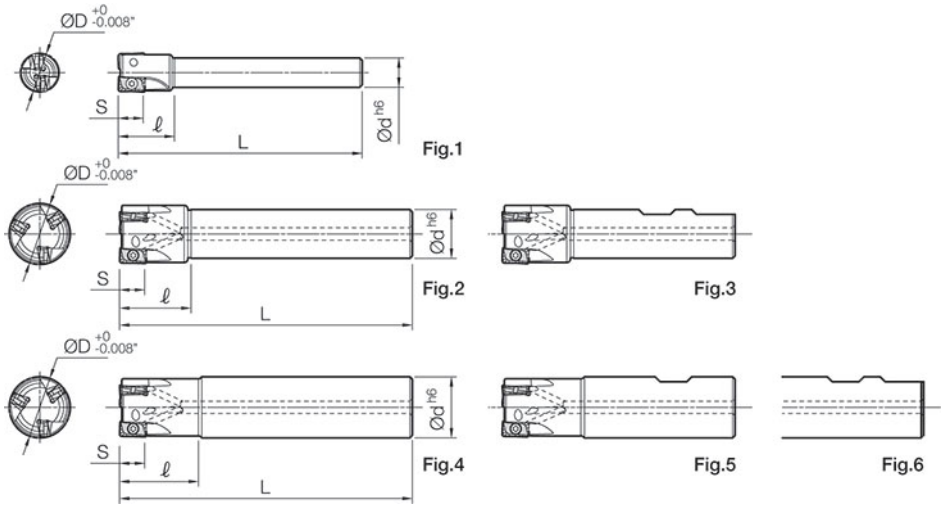
● : U.S. Stock

Endmill Spare Parts & Applicable Inserts (inch)

Part Number	Spare Parts			Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEW ..-10-_T	SB-3065TRP For Insert Screw Recommended torque is 1.2Nm	DTPM-8	MP-1	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH
MEW ..-15-_T	SB-4090TRP For Insert Screw Recommended torque is 3.5Nm	DTPM-15	MP-1	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH

Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.

Recommended Cutting Conditions **P16**



MEW Endmills (metric)

Shank	Part Number	Stock	No. of Inserts	Dimensions (mm)					Rake Angle		Coolant Hole	Drawing	Max. Revolution* (min ⁻¹)			
				ØD	Ød	L	l	S	A.R. (MAX)	R.R.						
Weldon	Standard Shank	MEW 16-W16-10-2T	<input type="checkbox"/>	2	16	16	75	25	10	+7°	-22°	✓	Fig.5	43,750		
		20-W20-10-2T	<input type="checkbox"/>	2	20	20	77	25	10	+7°	-20°	✓	Fig.5	41,000		
		20-W20-10-3T	<input type="checkbox"/>	3	20	20	77	25	10	+7°	-20°	✓	Fig.5	41,000		
		25-W25-10-2T	<input type="checkbox"/>	2	25	25	90	32	10	+7°	-20°	✓	Fig.6	37,500		
		25-W25-10-3T	<input type="checkbox"/>	3	25	25	90	32	10	+7°	-20°	✓	Fig.6	37,500		
		32-W32-10-4T	<input type="checkbox"/>	4	32	32	102	40	10	+7°	-20°	✓	Fig.6	33,900		
		40-W32-10-5T	<input type="checkbox"/>	5	40	32	111	50	10	+7°	-19°	✓	Fig.3	30,000		
		MEW 25-W25-15-2T	<input type="checkbox"/>	2	25	25	90	32	15	+10°	-22°	✓	Fig.6	35,000		
		32-W32-15-3T	<input type="checkbox"/>	3	32	32	102	40	15	+10°	-22°	✓	Fig.6	30,000		
40-W32-15-4T	<input type="checkbox"/>	4	40	32	111	50	15	+10°	-21°	✓	Fig.3	25,000				
Cylindrical	Standard Shank	MEW 16-S12-10-2T	<input type="circle"/>	2	16	12	100	23	10	+7°	-22°	✗	Fig.1	43,750		
		16-S16-10-2T	<input type="circle"/>	2	16	16	100	26	10	+7°	-21°	✓	Fig.4	43,750		
		18-S16-10-2T	<input type="circle"/>	2	18	16	100	25	10	+7°	-21°	✓	Fig.2	43,000		
		20-S16-10-2T	<input type="circle"/>	2	20	16	110	26	10	+7°	-20°	✓	Fig.2	41,000		
		20-S20-10-2T	<input type="circle"/>	2	20	20	110	30	10	+7°	-20°	✓	Fig.4	41,000		
		20-S20-10-3T	<input type="circle"/>	3	20	20	110	30	10	+7°	-20°	✓	Fig.4	41,000		
		22-S20-10-3T	<input type="circle"/>	3	22	20	110	26	10	+7°	-20°	✓	Fig.2	39,600		
		25-S20-10-3T	<input type="circle"/>	3	25	20	120	29	10	+7°	-20°	✓	Fig.2	37,500		
		25-S25-10-2T	<input type="circle"/>	2	25	25	120	32	10	+7°	-20°	✓	Fig.4	37,500		
		25-S25-10-3T	<input type="circle"/>	3	25	25	120	32	10	+7°	-20°	✓	Fig.4	37,500		
		28-S25-10-3T	<input type="circle"/>	3	28	25	120	29	10	+7°	-20°	✓	Fig.2	35,800		
		30-S25-10-4T	<input type="circle"/>	4	30	25	130	32	10	+7°	-20°	✓	Fig.2	34,800		
		32-S25-10-4T	<input type="circle"/>	4	32	25	130	32	10	+7°	-20°	✓	Fig.2	33,900		
		32-S32-10-3T	<input type="circle"/>	3	32	32	130	40	10	+7°	-20°	✓	Fig.4	33,900		
		32-S32-10-4T	<input type="circle"/>	4	32	32	130	40	10	+7°	-20°	✓	Fig.4	33,900		
		40-S32-10-5T	<input type="circle"/>	5	40	32	150	50	10	+7°	-19°	✓	Fig.2	30,000		
		50-S32-10-5T	<input type="circle"/>	5	50	32	120	40	10	+7°	-19°	✓	Fig.2	22,500		
		Long	Standard Shank	MEW 20-S20-10-150-2T	<input type="circle"/>	2	20	20	150	40	10	+7°	-20°	✓	Fig.4	41,000
				25-S25-10-170-2T	<input type="circle"/>	2	25	25	170	50	10	+7°	-20°	✓	Fig.4	37,500
		Standard Shank	Standard Shank	MEW 25-S20-15-2T	<input type="circle"/>	2	25	20	120	29	15	+10°	-22°	✓	Fig.2	35,000
25-S25-15-2T	<input type="circle"/>			2	25	25	120	32	15	+10°	-22°	✓	Fig.4	35,000		
32-S25-15-2T	<input type="circle"/>			2	32	25	130	32	15	+10°	-22°	✓	Fig.2	30,000		
32-S32-15-2T	<input type="circle"/>			2	32	32	130	40	15	+10°	-22°	✓	Fig.4	30,000		
32-S32-15-3T	<input type="circle"/>			3	32	32	130	40	15	+10°	-22°	✓	Fig.4	30,000		
40-S32-15-3T	<input type="circle"/>			3	40	32	150	50	15	+10°	-21°	✓	Fig.2	25,000		
40-S32-15-4T	<input type="circle"/>			4	40	32	150	50	15	+10°	-21°	✓	Fig.2	25,000		
50-S32-15-4T	<input type="circle"/>			4	50	32	120	40	15	+10°	-21°	✓	Fig.2	17,000		

Max. Revolution*

When running the endmill and cutter at the maximum revolution, the insert or toolholder may be damaged by centrifugal force.

○ : World Express (Shipping - 10 Business Days)

□ : Made to Order

Endmill Spare Parts & Applicable Inserts (metric)

Part Number	Spare Parts			Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEW ...-10-_T	SB-3065TRP	DTPM-8	MP-1	LOMU1004..ER-GM	LOMU100408ER-SM	LOMU100408ER-GH
MEW ...-15-_T	SB-4090TRP	DTPM-15	MP-1	LOMU1505..ER-GM	LOMU150508ER-SM	LOMU150508ER-GH

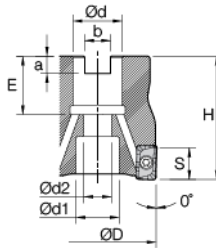
For SB-3065TRP Insert Screw Recommended torque is 1.2Nm

For SB-4090TRP Insert Screw Recommended torque is 3.5Nm

Recommended Cutting Conditions **P16**

Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.

M-Four Face Mill (With Coolant Hole)



MEW Face Mills (inch) - with coolant hole

Part Number	Stock	No. of Inserts	Dimensions (inch)									Rake Angle		Coolant Hole	Weight (kg)	Max. Revolution* (min ⁻¹)
			ØD	Ød	Ød1	Ød2	H	E	a	b	S	A.R. (MAX)	R.R.			
MEW 1500R-10-5T	●	5	1.50	0.750	0.669	0.433	1.575	0.826	0.188	0.312	0.393	+7°	-19°	✓	0.2	30,700
2000R-10-5T	●	5	2.00	0.750	0.669	0.433	1.575	0.826	0.188	0.312	0.393	+7°	-19°	✓	0.4	22,300
2500R-10-6T	●	6	2.50	0.750	0.669	0.433	1.575	0.826	0.188	0.312	0.393	+7°	-19°	✓	0.6	20,400
MEW 2000R-15-4T	●	4	2.00	0.750	0.669	0.433	1.575	0.826	0.188	0.312	0.590	+10°	-21°	✓	0.4	16,800
2500R-15-5T	●	5	2.50	0.750	0.669	0.433	1.575	0.826	0.188	0.312	0.590	+10°	-21°	✓	0.5	14,400
3000R-15-6T	●	6	3.00	1.000	0.866	0.551	1.969	1.063	0.236	0.381	0.590	+10°	-20°	✓	1.0	12,250
NEW 4000R-15-8T	●	8	4.00	1.500	2.047	-	1.969	1.181	0.393	0.625	0.590	+10°	-20°	✓	1.8	10,400

MEW Face Mills (metric) - with coolant hole

Part Number	Stock	No. of Inserts	Dimensions (mm)									Rake Angle		Coolant Hole	Weight (kg)	Max. Revolution* (min ⁻¹)
			ØD	Ød	Ød1	Ød2	H	E	a	b	S	A.R. (MAX)	R.R.			
MEW 032R-10-4T-M	○	4	32	16	14	9	35	19	6	8	10	+7°	-20°	✓	0.1	33,900
040R-10-5T-M	○	5	40	16	14	9	40	19	6	8	10	+7°	-19°	✓	0.2	30,000
050R-10-5T-M	○	5	50	22	18	11	40	21	6	10	10	+7°	-19°	✓	0.4	22,500
063R-10-6T-M	○	6	63	22	18	11	40	21	6	10	10	+7°	-19°	✓	0.5	20,500
MEW 040R-15-4T-M	○	4	40	16	14	9	40	19	6	8	15	+10°	-21°	✓	0.2	25,000
050R-15-4T-M	○	4	50	22	18	11	40	21	6	10	15	+10°	-21°	✓	0.3	17,000
063R-15-5T-M	○	5	63	22	18	11	40	21	6	10	15	+10°	-21°	✓	0.5	14,500
080R-15-6T-M	○	6	80	27	20	13	50	25	7	12	15	+10°	-20°	✓	1.0	12,000
080R-15-6T	○	6	80	25	20	13	50	27	6	10	15	+10°	-20°	✓	1.0	12,000

● : U.S. Stock ○ : World Express (Shipping - 10 Business Days)

Face Mill Spare Parts & Applicable Inserts (inch)

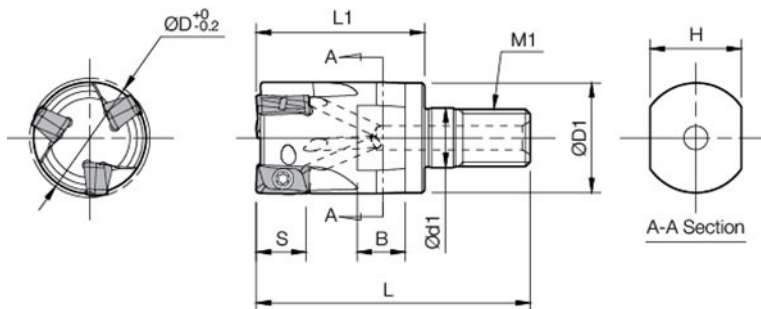
Part Number	Spare Parts				Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	Arbor Bolt	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEW 1500R-10-5T	SB-3065TRP	DTPM-8	MP-1	HH3/8-1.25 (HH3/8-1.25H)	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH
2000R-10-5T	For Insert Screw Recommended torque is 1.2Nm						
2500R-10-6T							
MEW 2000R-15-4T	SB-4090TRP	DTPM-15	MP-1	HH3/8-1.25 (HH3/8-1.25H)	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH
2500R-15-5T	For Insert Screw Recommended torque is 3.5Nm						
3000R-15-6T							
4000R-15-8T							

Face Mill Spare Parts & Applicable Inserts (metric)

Part Number	Spare Parts				Applicable Inserts				
	Insert Screw	Wrench	Anti-seize Compound	Arbor Bolt	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)		
MEW 032R-10-4T-M	SB-3065TRP	DTPM-8	MP-1	HH8x25 (HH8x25H)	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH		
040R-10-5T-M				HH10x30 (HH10x30H)					
050R-10-5T-M								For Insert Screw Recommended torque is 1.2Nm	
063R-10-6T-M									
MEW 040R-15-4T-M	SB-4090TRP	DTPM-15	MP-1	HH8x25 (HH8x25H)	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH		
050R-15-4T-M	For Insert Screw Recommended torque is 3.5Nm			HH10x30 (HH10x30H)					
063R-15-5T-M									
080R-15-6T(-M)								HH12x40 (HH12x40H)	

Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.
 *If through spindle coolant is required please order arbor bolt in () separately.

Recommended Cutting Conditions P16



MEW Modular Endmill

Part Number	Stock	No. of Inserts	Dimensions (mm)									Rake Angle		Coolant Hole	Applicable Inserts	Max. Revolution* (min ⁻¹)
			ØD	ØD1	Ød1	L	L1	M1	H	B	S	A.R. (MAX)	R.R.			
MEW 16-M08-10-2T	○	2	16	14.7	8.5	43	25	M8×P1.25	12	8	10	+7°	-22°	✓	LOMU1004	43,750
20-M10-10-2T	○	2	20	18.7	10.5	49	30	M10×P1.5	15	9	10	+7°	-20°	✓	LOMU1004	41,000
20-M10-10-3T	○	3	20	18.7	10.5	49	30	M10×P1.5	15	9	10	+7°	-20°	✓	LOMU1004	41,000
25-M12-10-3T	○	3	25	23	12.5	57	35	M12×P1.75	19	10	10	+7°	-20°	✓	LOMU1004	37,500
32-M16-10-4T	○	4	32	30	17	63	40	M16×P2	24	12	10	+7°	-20°	✓	LOMU1004	33,900
MEW 25-M12-15-2T	○	2	25	23	12.5	57	35	M12×P1.75	19	10	15	+10°	-22°	✓	LOMU1505	35,000
32-M16-15-3T	○	3	32	30	17	63	40	M16×P2	24	12	15	+10°	-22°	✓	LOMU1505	30,000

○ : World Express (Shipping - 10 Business Days)

Modular Endmill Spare Parts & Applicable Inserts

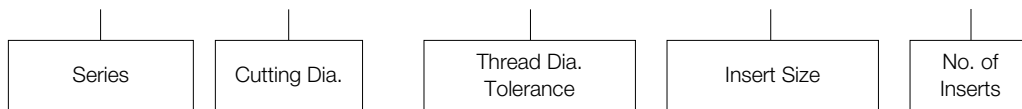
Part Number	Spare Parts			Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEW 16-M08-10-2T	SB-3065TRP	DTPM-8	MP-1	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH
20-M10-10-2T	For Insert Screw Recommended torque is 1.2Nm					
20-M10-10-3T						
25-M12-10-3T						
32-M16-10-4T						
MEW 25-M12-15-2T	SB-4090TRP	DTPM-15	MP-1	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH
32-M16-15-3T	For Insert Screw Recommended torque is 3.5Nm					

🔑 Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.

Recommended Cutting Conditions **P16**

Modular Endmill Head Identification System

MEW 16 - M08 - 10 - 2T



Wrenches and clamp screws are "Torx Plus".

- 1) See Fig. 1 for "Torx Plus" Wrench. (Purple grip)
- 2) See Fig. 2 for "Torx" Wrench. (Black grip)

- "Torx Plus" Wrench and a "Torx" Wrench have different top shapes. Please use a "Torx Plus" Wrench.

* If a "Torx" Wrench is used to tighten, the screw head might become damaged and the screw cannot be removed.

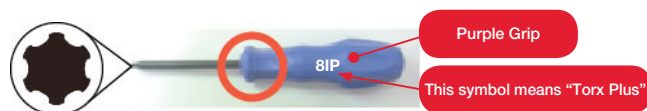


Fig. 1 "Torx Plus" Wrench (For MEW)

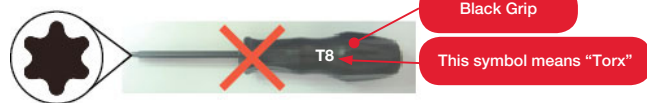


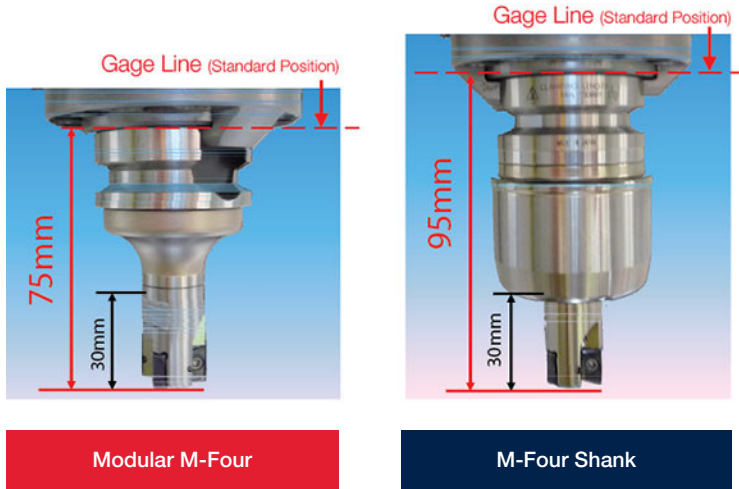
Fig. 2 "Torx" Wrench (Do NOT use for MEW)

M-Four

Modular Advantage

[BT30 M/C (two-face clamping spindle) + Cutting Dia. : Ø20 Comparison with MEW Endmill]

Low Gage Line

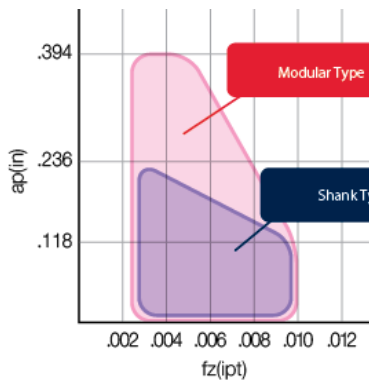


Modular M-Four has a shorter distance from the cutting edge to the gage line, compared to the M-Four Shank, though the overhang length is same.



High efficiency of cutting on high speed M/C (BT30/BT40, etc.) due to the superior anti-chattering performance. High quality cutting is possible.

Wide Range of Applications



<Cutting Condition>
 $V_c=500\text{sfm}$ ($n=2,390\text{min}^{-1}$)
 $a_e=0.394''$ (Shouldering)
 Workpiece Material : 1055 Steel, DRY
 Machine : BT30 M/C

<Tools>

Modular M-Four

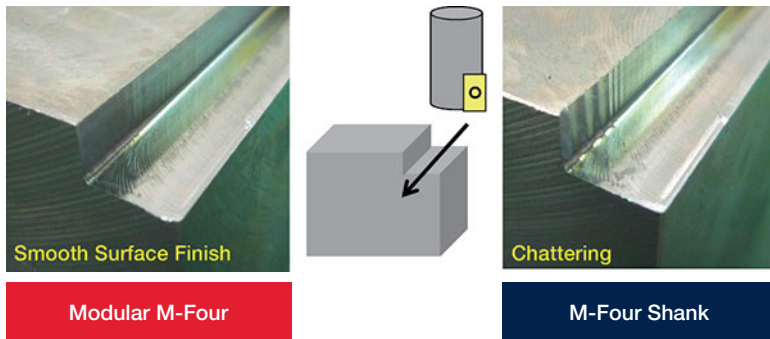
Head : MEW20-M10-10-3T
 Arbor : BT30K-M10-45
 Insert : LOMU100408ER-GM (PR1525)

M-Four Shank

Toolholder : MEW20-S20-10-3T
 Arbor : BT30 Milling Chuck (Two-face clamping)
 Insert : LOMU100408ER-GM (PR1525)

A wide range of applications even in BT30 M/C

High Quality Cutting



Head: MEW20-M10-10-3T
 Arbor: BT30K-M10-45
 Insert: LOMU100408ER-GM (PR1525)

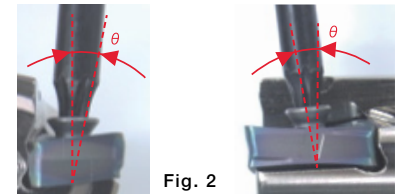
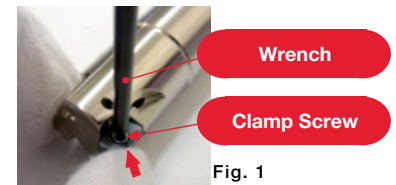
Toolholder: MEW20-S20-10-3T
 Arbor : BT30 Milling Chuck (Two-face clamping)
 Insert: LOMU100408ER-GM (PR1525)

$V_c=500\text{sfm}$ ($n=2,390\text{min}^{-1}$),
 $a_p \times a_e=0.236'' \times 0.394''$ (Shouldering)
 $f_z=0.006\text{ipt}$ ($V_f=42.32\text{ipm}$),
 1055 Steel, DRY, BT30 M/C

Smooth surface finish even in BT30 M/C

Mounting the Insert

1. Be sure to remove dust and chips from the insert mounting pocket.
2. Apply anti-seize compound on portion of taper and thread of clamp screw.
 - (1) Attach the screw (with magnetic head) to the front end of the wrench.
 - (2) While lightly pressing the insert against the constraint surface, put the screw into the hole of the insert and tighten.
 Tighten M3 Screws (SB-3065TRP) slightly inclined from the insert surface. (See Fig. 2)
3. When tightening the screws, make sure that the wrench is parallel to the screw. For recommended torque see **Table 1**.
4. After tightening the screw, make sure that there is no clearance between the insert seat surface and the bearing surface of the holder, or between the insert side surfaces and the constraint surface of the holder. If there is any clearance, remove the insert and mount it again according to the above steps.

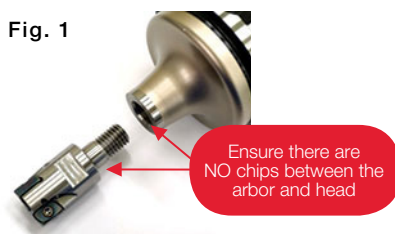


Attaching Modular M-Four Head

1. When clamping the head on the arbor, make sure there is no dust or chips inside (See Fig. 1). Do NOT put lubricant on the clamping portion.
2. Attach the head on the arbor and fix it using the wrench (See Fig. 2) See **Right Table** for recommended torque.

Note) The wrench is NOT included with product.
3. Confirm that the head is fixed firmly on the arbor (See Fig. 3)

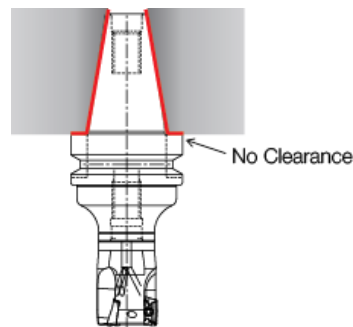
Thread Dia. Tolerance	Wrench Width Across Flat	Recommended Torque
M8	12	23 N · m
M10	15	46 N · m
M12	19	80 N · m
M16	24	90 N · m



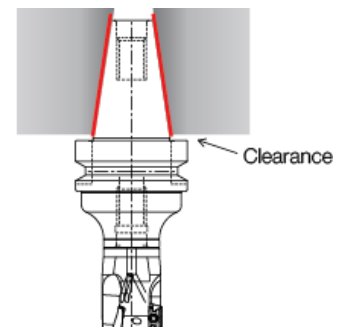
Alternatives

The two-face clamping arbor can be used as a general BT arbor with a general BT spindle

It can be used as a general BT arbor, though the advantage of the two-face clamping will not be shown.



Two-face clamping arbor mounted on two-face clamping spindle



Two-face clamping arbor mounted on general spindle

MEWH Helical Endmill (Coolant Hole for Bottom Insert)

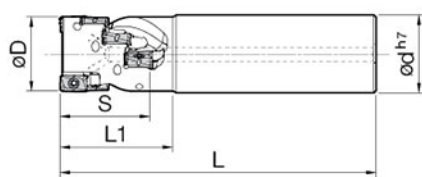


Fig.1

Rake Angle	A.R. (MAX)	R.R.
	+13°	-20°

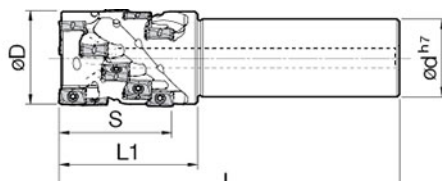


Fig.2



Fig.3

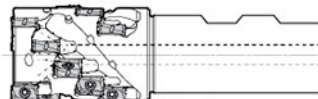


Fig.4

MEWH Endmills (inch) - with coolant hole for bottom insert

Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (inch)					Coolant Hole	Drawing
					ØD	Ød	L	L1	S		
MEWH 1000W100-10-3-2T	●	2	3	6	1.000	1.000	3.806	1.523	1.102	✓	Fig.3
1250W125-10-4-2T	●	2	4	8	1.250	1.250	4.161	1.878	1.456	✓	Fig.3
1500W125-10-5-3T	●	3	5	15	1.500	1.250	4.610	2.244	1.811	✓	Fig.4
1500W150-10-5-3T	□	3	5	15	1.500	1.500	4.957	2.267	1.811	✓	Fig.3
MEWH 1500W125-15-4-2T	●	2	4	8	1.500	1.250	4.846	2.480	2.086	✓	Fig.4
1500W150-15-4-2T	□	2	4	8	1.500	1.500	5.193	2.504	2.086	✓	Fig.3
2000W150-15-4-3T	●	3	4	12	2.000	1.500	5.252	2.480	2.086	✓	Fig.4

MEWH Endmills (metric) - with coolant hole for bottom insert

Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (mm)					Coolant Hole	Drawing
					ØD	Ød	L	L1	S		
MEWH 025-S25-10-3-2T	○	2	3	6	25	25	120	37	28	✓	Fig.1
032-S32-10-4-2T	○	2	4	8	32	32	130	46	37	✓	Fig.1
040-S32-10-5-2T	○	2	5	10	40	32	140	57	46	✓	Fig.2
040-S32-10-5-3T	○	3	5	15	40	32	140	57	46	✓	Fig.2
MEWH 040-S32-15-4-2T	○	2	4	8	40	32	160	63	53	✓	Fig.2
050-S42-15-4-2T	○	2	4	8	50	42	160	63	53	✓	Fig.2
050-S42-15-4-3T	○	3	4	12	50	42	160	63	53	✓	Fig.2

● : U.S. Stock □ : Made to Order ○ : World Express (Shipping - 10 Business Days)

MEWH Endmill Spare Parts & Applicable Inserts (inch)

Part Number	Spare Parts			Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEWH 1000W100-10-3-2T	SB-3065TRP	DTPM-8	MP-1	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH
1250W125-10-4-2T	Recommended Insert Screw Torque 1.2Nm					
1500W125-10-5-3T						
1500W150-10-5-3T						
MEWH 1500W125-15-4-2T	SB-4090TRP	DTPM-15	MP-1	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH
1500W150-15-4-2T	Recommended Insert Screw Torque 3.5Nm					
2000W150-15-4-3T						

MEWH Endmill Spare Parts & Applicable Inserts (metric)

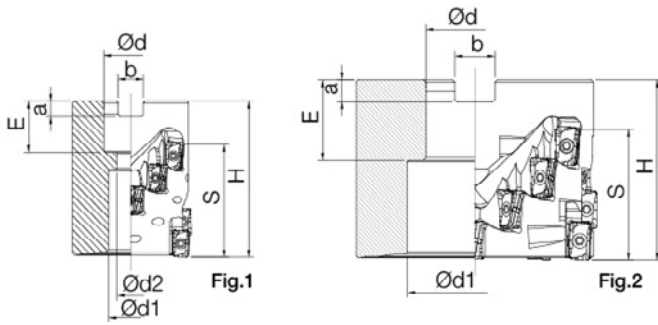
Part Number	Spare Parts			Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEWH 025-S25-10-3-2T	SB-3065TRP	DTPM-8	MP-1	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH
032-S32-10-4-2T	Recommended Insert Screw Torque 1.2Nm					
040-S32-10-5-2T						
040-S32-10-5-3T						
MEWH 040-S32-15-4-2T	SB-4090TRP	DTPM-15	MP-1	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH
050-S42-15-4-2T	Recommended Insert Screw Torque 3.5Nm					
050-S42-15-4-3T						

Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.

Recommended Cutting Conditions **P17**

MEWH Shell Mill

Rake Angle	A.R. (MAX)	R.R.
	+13°	-20°



MEWH Shell Mill (inch)

Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (inch)									Drawing
					ØD	Ød	Ød1	Ød2	H	E	a	b	S	
MEWH 1500R-10-4-3T	<input type="checkbox"/>	3	4	12	1.50	0.75	0.669	0.433	2.087	0.750	0.187	0.312	1.456	Fig.1
2000R-10-5-3T	<input type="checkbox"/>	3	5	15	2.00	0.75	0.669	0.433	2.520	0.750	0.187	0.312	1.811	Fig.1
MEWH 2000R-15-4-3T	<input checked="" type="checkbox"/>	3	4	12	2.00	0.75	0.669	0.433	2.756	0.750	0.187	0.312	2.086	Fig.1
2500R-15-3-3T	<input type="checkbox"/>	3	3	9	2.50	1.00	0.866	0.551	2.283	1.063	0.236	0.381	1.614	Fig.1
3000R-15-4-4T	<input type="checkbox"/>	4	4	16	3.00	1.00	0.866	0.551	2.756	1.063	0.236	0.381	2.086	Fig.1
4000R-15-4-5T	<input type="checkbox"/>	5	4	20	4.00	1.50	2.047	-	2.913	1.142	0.393	0.625	2.086	Fig.2

MEWH Shell Mill (metric)

Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (mm)									Drawing
					ØD	Ød	Ød1	Ød2	H	E	a	b	S	
MEWH 040R-10-4-3T-M	<input type="checkbox"/>	3	4	12	40	16	15	9	53	19	5.6	8.4	37	Fig.1
050R-10-5-3T-M	<input type="checkbox"/>	3	5	15	50	22	18	11	64	21	6.3	10.4	46	Fig.1
MEWH 050R-15-4-3T-M	<input type="checkbox"/>	3	4	12	50	22	18	11	70	21	6.3	10.4	53	Fig.1
063R-15-3-3T-M	<input type="checkbox"/>	3	3	9	63	27	20	13	58	24	7	12.4	41	Fig.1
080R-15-4-4T-M	<input type="checkbox"/>	4	4	16	80	32	26	18	70	28	8	14.4	53	Fig.1
100R-15-4-5T-M	<input type="checkbox"/>	5	4	20	100	40	55	-	74	33	9	16.4	53	Fig.2

● : U.S. Stock □ : Made to Order

MEWH Shell Mill Spare Parts & Applicable Inserts (inch)

Part Number	Spare Parts				Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	Arbor Bolt	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEWH 1500R-10-4-3T	SB-3065TRP	DTPM-8	MP-1	HH3/8-1.25	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH
2000R-10-5-3T	Recommended Insert Screw Torque 1.2Nm						
MEWH 2000R-15-4-3T	SB-4090TRP	DTPM-15	MP-1	HH3/8-1.25	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH
2500R-15-3-3T	Recommended Insert Screw Torque 3.5Nm						
3000R-15-4-4T							
4000R-15-4-5T							

MEWH Shell Mill Spare Parts & Applicable Inserts (metric)

Part Number	Spare Parts				Applicable Inserts		
	Insert Screw	Wrench	Anti-seize Compound	Arbor Bolt	General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)
MEWH 040R-10-4-3T-M	SB-3065TRP	DTPM-8	MP-1	HH8X25	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH
050R-10-5-3T-M	Recommended Insert Screw Torque 1.2Nm			HH10X30			
MEWH 050R-15-4-3T-M	SB-4090TRP	DTPM-15	MP-1	HH10X30	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH
063R-15-3-3T-M	Recommended Insert Screw Torque 3.5Nm			HH12X35			
080R-15-4-4T-M				HH16X45			
100R-15-4-5T-M				-			

Coat Anti-seize Compound (MP-1) thinly on portion of taper and thread when insert is fixed.

Recommended Cutting Conditions P17

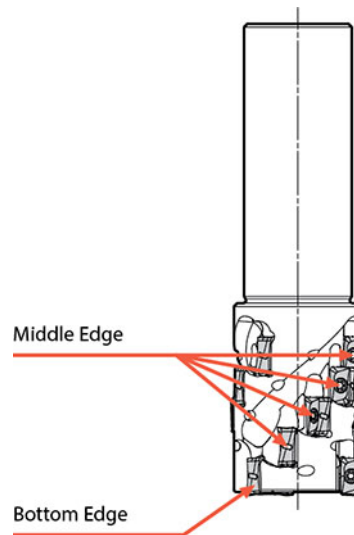
MEWH Applicable Inserts

Insert Location Indication	Toolholder Description										
	MEWH...10.. Corner R (rε)					MEWH...15.. Corner R (rε)					
	0.4	0.8	1.2	1.6	2.0	0.4	0.8	1.0	1.2	1.6	2.0
Middle Edge	Applicable	Applicable	※1 Not Recommended	※2 Not Recommended	※2 Not Recommended	Applicable	Applicable	Applicable	Applicable	Applicable	※3 Not Recommended
Bottom Edge	Applicable	Applicable	Applicable	※2 Conditional Usage	※2 Conditional Usage	Applicable	Applicable	Applicable	Applicable	Applicable	Applicable

- ※1: For middle edge, use insert with Corner R (rε) 0.4 or 0.8
Insert with Corner R (rε) 1.2 and larger is not recommended for the middle edge because it may worsen the machined wall flatness




- ※2: For middle edge, use insert with Corner R (rε) 0.4
Insert with Corner R (rε) 0.8 and larger is not recommended for the middle edge because it may worsen the machined wall flatness

- ※3: For middle edge, use insert with Corner R (rε) 0.4 - 1.6
Insert with Corner R (rε) 2.0 is not recommended for the middle edge because it may worsen the machined wall flatness



Applicable Inserts

Usage Classification	P	Carbon Steel / Alloy Steel		★		
		Mold Steel		★		
★ Roughing / 1st Choice ☆ Roughing / 2nd Choice ■ Finishing / 1st Choice □ Finishing / 2nd Choice (When hardness is under 45HRC)	M	Austenitic Stainless Steel		★	☆	
		Martensitic Stainless Steel		☆		★
		Precipitation Hardened Stainless Steel		★		
	K	Gray Cast Iron				★
		Nodular Cast Iron				★
	N	Non-Ferrous Metals				
S	Heat Resistant Alloy (Ni-base)		☆		★	
	Titanium Alloy		★		☆	
H	Hard Materials			□		

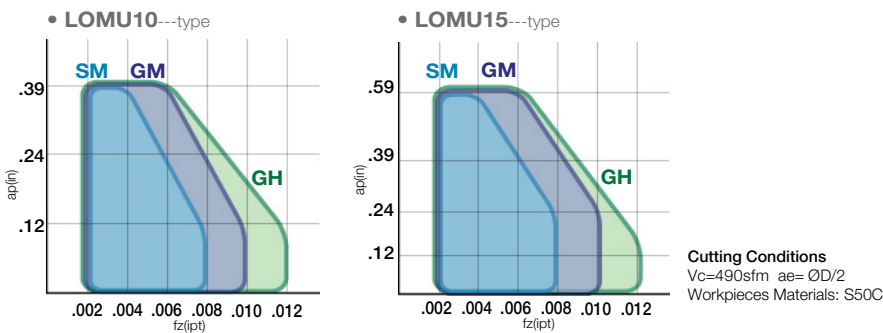
Insert	Part Number	Dimensions (mm)						MEGACOAT NANO			CVD Coated Carbide	Applicable Toolholder
		A	T	Ød	W	Z	rE	PR1535	PR1525	PR1510	CA6535	
 General Purpose	LOMU 100404ER-GM	6.6	4.0	3.4	10.9	2.1	0.4	●	●	●	●	MEW...-10.. MEWH...-10..
	100408ER-GM	6.6	4.0	3.4	10.9	1.7	0.8	●	●	●	●	
	100412ER-GM	6.6	4.0	3.4	10.9	1.3	1.2	○	○	○	○	
	100416ER-GM	6.6	4.0	3.4	10.9	1.0	1.6	●	●	○	●	
	100420ER-GM	6.6	4.0	3.4	10.9	1.0	2.0	○	○	○	○	
 Low Cutting Force	LOMU 150504ER-GM	9.2	5.6	4.8	15.7	2.2	0.4	●	●	●	●	MEW...-15.. MEWH...-15..
	150508ER-GM	9.2	5.6	4.8	15.7	1.8	0.8	●	●	●	●	
	150510ER-GM	9.2	5.6	4.8	15.7	1.6	1.0		○			
	150512ER-GM	9.2	5.6	4.8	15.7	1.4	1.2	○	○	○	○	
	150516ER-GM	9.2	5.6	4.8	15.7	1.0	1.6	●	●	○	●	
	150520ER-GM	9.2	5.6	4.8	15.7	0.6	2.0	○	○	○	○	
 Tough Edge (Heavy Milling)	LOMU 100408ER-SM	6.6	4.0	3.4	10.9	1.7	0.8	●	●	●	○	MEW...-10.. MEWH...-10..
	150508ER-SM	9.2	5.6	4.8	15.7	1.8	0.8	●	●	●	○	MEW...-15.. MEWH...-15..
	LOMU 100408ER-GH	6.6	4.0	3.4	10.9	1.7	0.8		●	●		MEW...-10.. MEWH...-10..
	150508ER-GH	9.2	5.6	4.8	15.7	1.8	0.8		●	●		MEW...-15.. MEWH...-15..

● : U.S. Stock ○ : World Express (Shipping - 10 Business Days)

LOMU...ER-GM Appearance

LOMU100404ER-GM LOMU150504ER-GM	LOMU100408ER-GM LOMU150508ER-GM	LOMU150510ER-GM	LOMU100412ER-GM LOMU150512ER-GM	LOMU100416ER-GM LOMU150516ER-GM	LOMU100420ER-GM LOMU150520ER-GM
					

Applicable Chipbreaker Range (Shouldering)



MEW Recommended Cutting Conditions

Chipbreaker	Workpiece Material	Feed Rate fz (ipt)		Recommended Insert Grade Vc (sfm)			
		Toolholder Description		MEGACOAT NANO			CVD Coated Carbide
		MEW0625-MEW0750 MEW16-MEW18	MEW1000-MEW1500 MEW1500R-MEW3000R MEW20-MEW50 MEW032R-MEW080R	PR1535	PR1525	PR1510	CA6535
GM	Carbon Steel	0.002- 0.004 -0.008	0.003- 0.006 -0.010	-	400- 600 -825	-	-
	Alloy Steel	0.002- 0.004 -0.006	0.003- 0.006 -0.008	-	325- 525 -725	-	-
	Mold Steel	0.002- 0.003 -0.005	0.003- 0.005 -0.008	-	250- 450 -600	-	-
	Gray Cast Iron	0.002- 0.004 -0.007	0.003- 0.007 -0.010	-	-	400- 600 -825	-
	Nodular Cast Iron	0.002- 0.003 -0.005	0.003- 0.006 -0.008	-	-	325- 500 -650	-
	Austenitic Stainless Steel	0.002- 0.003 -0.005	0.003- 0.005 -0.006	325- [☆] 525-650	325- [☆] 525-650	-	-
	Martensitic Stainless Steel	0.002- 0.003 -0.005	0.003- 0.005 -0.008	500- [☆] 650-825	-	-	600- 775 -975
	Precipitation Hardened Stainless Steel	0.002- 0.003 -0.005	0.003- 0.005 -0.008	300- 400 -500	-	-	-
	Ni-base Heat Resistant Alloy	0.002- 0.003 -0.005	0.003- 0.005 -0.006	250- [☆] 325-500	-	-	75- 100 -150
	Titanium Alloys	0.002- 0.003 -0.005	0.003- 0.006 -0.008	125- [☆] 200-250	-	100- [☆] 150-225	-
SM	Carbon Steel	0.002- 0.004 -0.007	0.003- 0.006 -0.008	-	400- 600 -825	-	-
	Alloy Steel	0.002- 0.003 -0.005	0.003- 0.005 -0.007	-	325- 525 -725	-	-
	Mold Steel	0.002- 0.003 -0.005	0.003- 0.004 -0.006	-	250- 450 -600	-	-
	Austenitic Stainless Steel	0.002- 0.003 -0.005	0.003- 0.004 -0.006	325- 525 -650	325- [☆] 525-650	-	-
	Martensitic Stainless Steel	0.002- 0.003 -0.005	0.003- 0.004 -0.006	500- [☆] 650-825	-	-	600- 775 -975
	Precipitation Hardened Stainless Steel	0.002- 0.003 -0.005	0.003- 0.004 -0.006	300- [☆] 400-500	-	-	-
	Ni-base Heat Resistant Alloy	0.002- 0.003 -0.004	0.003- 0.004 -0.005	75- [☆] 100-150	-	-	75- 100 -150
	Titanium Alloys	0.002- 0.003 -0.005	0.003- 0.005 -0.006	125- 200 -250	-	100- [☆] 150-225	-
GH	Carbon Steel	0.002- 0.004 -0.008	0.003- 0.008 -0.012	-	400- 600 -825	-	-
	Alloy Steel	0.002- 0.004 -0.006	0.003- 0.008 -0.010	-	325- 525 -725	-	-
	Mold Steel	0.002- 0.003 -0.005	0.003- 0.006 -0.009	-	250- 450 -600	-	-
	Austenitic Stainless Steel	0.002- 0.003 -0.005	0.003- 0.005 -0.006	-	325- [☆] 500-650	-	-
	Gray Cast Iron	0.002- 0.004 -0.008	0.003- 0.009 -0.012	-	-	400- 600 -825	-
	Nodular Cast Iron	0.002- 0.003 -0.006	0.003- 0.007 -0.010	-	-	325- 500 -650	-

※ Bold numbers in the graph indicate the most recommended value of feed (f)
Adjust cutting speed and feed rate according to the actual machining conditions

★ :1st recommendation
☆ : 2nd recommendation

※ Coolant is recommended for Ni-base heat resistant alloy and titanium alloy with MEW

MEWH Endmill & Shell Mill Recommended Cutting Conditions

Chipbreaker	Workpiece Material	Feed Rate fz (ipt)		Recommended Insert Grade Vc (sfm)			
		Toolholder Description		MEGACOAT NANO			CVD Coated Carbide
		MEWH Endmill MEWH1000W~MEWH2000W MEWH025~MEWH050	MEWH Shell Mill MEWH1500R~MEWH4000R MEWH040R~MEWH100R	PR1535	PR1525	PR1510	CA6535
GM	Carbon Steel	0.002~ 0.004 ~0.008		-	★ 400~ 600 ~825	-	-
	Alloy Steel	0.002~ 0.004 ~0.006		-	★ 325~ 525 ~725	-	-
	Mold Steel	0.002~ 0.003 ~0.005		-	★ 250~ 450 ~600	-	-
	Gray Cast Iron	0.002~ 0.004 ~0.007		-	-	★ 400~ 600 ~825	-
	Nodular Cast Iron	0.002~ 0.003 ~0.005		-	-	★ 325~ 500 ~650	-
	Austenitic Stainless Steel	0.002~ 0.003 ~0.005		☆ 325~ 525 ~650	☆ 325~ 525 ~650	-	-
	Martensitic Stainless Steel	0.002~ 0.003 ~0.004		☆ 500~ 650 ~825	-	-	★ 600~ 775 ~975
	Precipitation Hardened Stainless Steel	0.002~ 0.003 ~0.004		★ 300~ 400 ~500	-	-	-
	Ni-base Heat Resistant Alloy	0.002~ 0.003 ~0.004		☆ 250~ 325 ~500	-	-	★ 75~ 100 ~150
	Titanium Alloys	0.002~ 0.003 ~0.005		☆ 125~ 200 ~250	-	☆ 100~ 150 ~225	-
SM	Carbon Steel	0.002~ 0.004 ~0.007		-	★ 400~ 600 ~825	-	-
	Alloy Steel	0.002~ 0.003 ~0.005		-	★ 325~ 525 ~725	-	-
	Mold Steel	0.002~ 0.003 ~0.005		-	★ 250~ 450 ~600	-	-
	Austenitic Stainless Steel	0.002~ 0.003 ~0.005		★ 325~ 525 ~650	☆ 325~ 525 ~650	-	-
	Martensitic Stainless Steel	0.002~ 0.003 ~0.004		☆ 500~ 650 ~825	-	-	★ 600~ 775 ~975
	Precipitation Hardened Stainless Steel	0.002~ 0.003 ~0.004		☆ 300~ 400 ~500	-	-	-
	Ni-base Heat Resistant Alloy	0.002~ 0.003 ~0.004		☆ 75~ 100 ~150	-	-	★ 75~ 100 ~150
	Titanium Alloys	0.002~ 0.003 ~0.005		★ 125~ 200 ~250	-	☆ 100~ 150 ~225	-
GH	Carbon Steel	0.002~ 0.004 ~0.008		-	★ 400~ 600 ~825	-	-
	Alloy Steel	0.002~ 0.004 ~0.006		-	★ 325~ 525 ~725	-	-
	Mold Steel	0.002~ 0.003 ~0.005		-	★ 250~ 450 ~600	-	-
	Austenitic Stainless Steel	0.002~ 0.003 ~0.005		-	☆ 325~ 500 ~650	-	-
	Gray Cast Iron	0.002~ 0.004 ~0.008		-	-	★ 400~ 600 ~825	-
	Nodular Cast Iron	0.002~ 0.003 ~0.006		-	-	★ 325~ 500 ~650	-

※ Bold numbers in the graph indicate the most recommended value of feed (f)
Adjust cutting speed and feed rate according to the actual machining conditions

★ : 1st recommendation
☆ : 2nd recommendation

※ Coolant is recommended for stainless steel, Ni-base heat resistant alloy and titanium alloy with MEWH

MEW Cutting Performance

LOMU1004 Inserts

Description		Shouldering ($ap=\phi D/2$)	Slotting
Inch Sizes	Metric Sizes		
MEW0625...-10 MEW0750...-10	MEW16...-10 MEW18...-10		
MEW1000...-10 MEW1500...-10	MEW20...-10 MEW50...-10		
MEW0750...-2T MEW1000...-2T (Long Shank)	MEW20...-2T MEW25...-2T (Long Shank)		
MEW1500R...-10 MEW2500R...-10	MEW032R...-10 MEW063R...-10		

LOMU1505 Inserts

Description		Shouldering ($ap=\phi D/2$)	Slotting
Inch Sizes	Metric Sizes		
MEW1000...-15 MEW1500...-15	MEW25...-15 MEW50...-15		
MEW2000R...-15 MEW3000R...-15	MEW040R...-15 MEW080R...-15		

Vc=600sfm

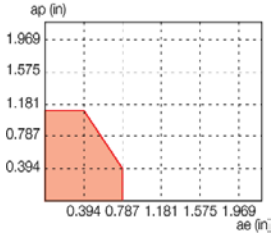
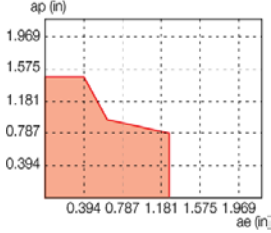
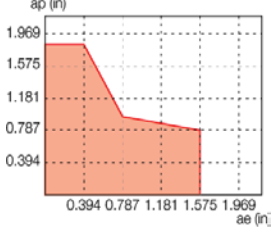
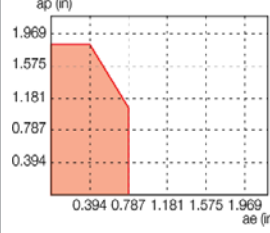
GM Chipbreaker

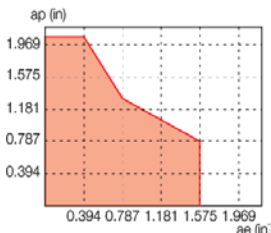
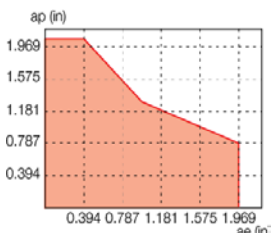
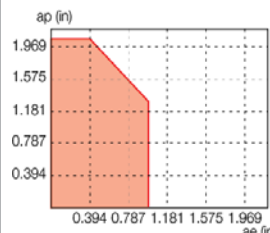
Workpiece: S50C

Overhang Length:

- 1) End Mill: Overhang length is "L" of the dimension list
- 2) Face Mill: Overhang length is "H" of the dimension list + minimum arbor overhang

MEWH Endmill Cutting Performance

LOMU1004						
Cutting Dia.	Description		2 Flute (ap x ae)	Description		3 Flute (ap x ae)
	Inch Sizes	Metric Sizes		Inch Sizes	Metric Sizes	
Ø25	MEWH 1000-W100-10-3-2T	MEWH 025-S25-10-3-2T		-	-	-
Ø32	MEWH 1250-W125-10-4-2T	MEWH 032-S32-10-4-2T		-	-	-
Ø40	MEWH 1500-W125-10-5-2T	MEWH 040-S32-10-5-2T		MEWH 1500-W150-10-5-3T	MEWH 040-S32-10-5-3T	

LOMU1505						
Cutting Dia.	Description		2 Flute (ap x ae)	Description		3 Flute (ap x ae)
	Inch Sizes	Metric Sizes		Inch Sizes	Metric Sizes	
Ø40	MEWH 1500-W125-15-4-2T	MEWH 040-S32-15-4-2T		-	-	-
Ø50	MEWH 2000-W150-15-4-2T	MEWH 050-S42-15-4-2T		MEWH 2000-W150-15-4-3T	MEWH 050-S42-15-4-3T	

Vc=400sfm
 fz=0.003-0.005ipt
 GM Chipbreaker
 Workpiece: S50C
 Overhang Length: Endmill overhang length is "L1" of the dimension list

MEWH Shell Mill Cutting Performance

LOMU1004			
Cutting Dia.	Description		3 Flute (ap x ae)
	Inch Sizes	Metric Sizes	
Ø1.5"	MEWH 1500R-10-4-3T	MEWH 040R-10-4-3T-M	
	MEWH 2000R-10-5-3T	MEWH 050R-10-5-3T-M	

LOMU1505			
Cutting Dia.	Description		3 Flute (ap x ae)
	Inch Sizes	Metric Sizes	
Ø2.0"	MEWH 2000R-15-4-3T	MEWH 050R-15-4-3T-M	
	MEWH 2500R-15-3-3T	MEWH 063R-15-3-3T-M	

LOMU1505			
Cutting Dia.	Description		4 Flute (ap x ae)
	Inch Sizes	Metric Sizes	
Ø3.0"	MEWH 3000R-15-4-4T	MEWH 080R-15-4-4T-M	

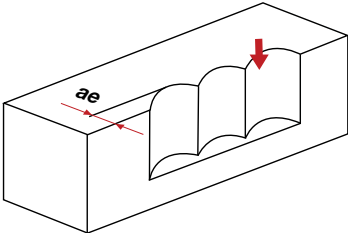
LOMU1505			
Cutting Dia.	Description		5 Flute (ap x ae)
	Inch Sizes	Metric Sizes	
Ø4.0"	MEWH 4000R-15-4-5T	MEWH 100R-15-4-5T-M	

fz=0.003~0.005ipt

Ramping, Helical Milling & Vertical Milling

1. Available for vertical milling.
2. NOT available for ramping and helical milling because interference between workpiece and insert may occur.

Vertical Milling



Insert Description	Maximum Width of Cut (ae)
LOMU10 type	0.197" (5mm)
LOMU15 type	0.276" (7mm)

Case Studies

1018

- Construction equipment part
- Vc=820sfm
- apxae=0.158x0.787in
- fz=0.006ipt (Vf=53 ipm)
- Wet
- MEW32-S32-10-4T (4 inserts)
- LOMU100408ER-GM (PR1525)




PR1525	Chip Removal Rate = 6.591in ³ /min
Competitor A (Positive cutter)	Chip Removal Rate = 4.394in ³ /min

MEW showed stable milling without chattering at higher feed, improving the cutting efficiency by 150%. Burrs are prevented and excellent surface finish is achieved.

Customer Evaluation

1018

- Machine part
- Vc=820sfm
- apxae=0.128x0.787in (Grooving)
- fz=0.008ipt (Vf=94 ipm)
- Dry
- MEW20-S20-10-3T (3 inserts)
- LOMU100408ER-GM (PR1525)



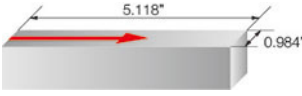
PR1525	Chip Removal Rate = 8.787in ³ /min (Stable milling)
Competitor B (Positive cutter)	Chip Removal Rate = 6.957in ³ /min (Unstable)

No chattering with MEW, while Competitor B chattered at the same cutting conditions. No burrs with MEW and excellent surface finish is gained.

Customer Evaluation

15-5PH (42HRC)

- Aircraft Part
- Vc=590sfm
- apxae=0.079x0.984in
- fz=0.004ipt (Vf=28in/min)
- Wet
- MEW32-S32-10-4T (4 inserts)
- LOMU150508ER-GM (PR1525)




PR1525	Chip Removal Rate = 2.185in ³ /min (Further Milling Possible)
Competitor C (Positive cutter)	Chip Removal Rate = 1.635in ³ /min (Unable to continue cutting)

No chattering and more stable milling is possible with MEW. Despite the milling difficulty because of the properties of the material, PR1525 kept good cutting edge form, minimizing wear and adhesion.

Customer Evaluation

H13

- Mold Part
- Vc=330sfm
- apxae=0.138x1.181in
- fz=0.004ipt (Vf=15in/min)
- Dry
- MEW32-S32-10-4T (4 inserts)
- LOMU100408ER-GH (PR1525)



PR1525	Chip Removal Rate = 2.563in ³ /min (Further Milling Possible)
Competitor D (Positive cutter)	Chip Removal Rate = 1.282in ³ /min (Unable to continue cutting)

MEW doubled cutting efficiency. Furthermore, MEW inserts have double number of edges (4-edge), which enables a drastic cost reduction.

Customer Evaluation

KYO-CAT Taper Adapters

CAT40

Face Mill Toolholders

- Made from 8620 Alloy Steel
- Concentricity is less than .0002 at face and arbor
- All critical surfaces are precision ground
- Case hardened to 54-58 RC
- Case depth is .03-.04
- Balanced to G2.5 @ 20,000 rpm
- Rear thread for pull stud is 5/8-11
- Coolant through capable

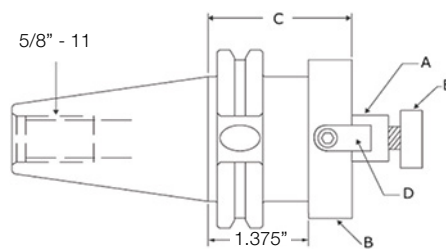


Fig.1

CAT40

Endmill Toolholders

- Made from 8620 Alloy Steel
- All critical surfaces are precision ground
- Case hardened to 56-58 RC
- Case depth is .03-.04
- Balanced to G2.5 @ 20,000 rpm
- Concentricity is .0001 or less
- Rear thread for pull stud is 5/8-11
- Coolant through capable

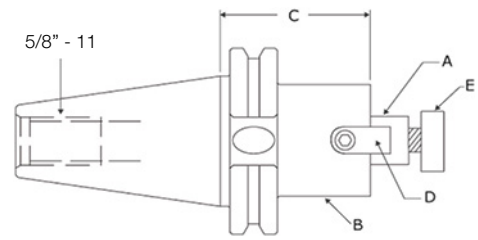


Fig.2

CAT40 Face Mill Holder

Part Number	Stock	Dimensions (in)					Fig.	Suggested Retail Price
		Arbor Diameter (A)	O.D. (B)	Gage Length (C)	Key Width (D)	Screw (E)		
KYO-CAT40- FM.75-2.0	●	0.750	1.750	2.000	5/16	3/8-24	2	\$139
FM1.0-2.0	●	1.000	2.180	2.000	3/8	1/2-20	1	\$139
FM1.25-2.0	●	1.250	2.440	2.000	1/2	5/8-18	1	\$139
FM1.5-2.0	●	1.500	2.520	2.000	5/8	3/4-16	1	\$139

● : U.S. Stock

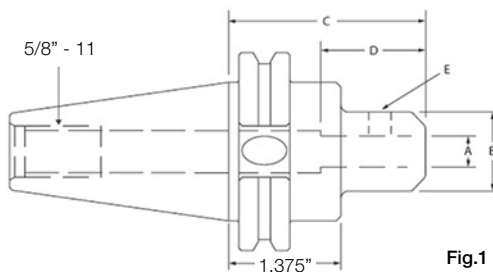


Fig.1

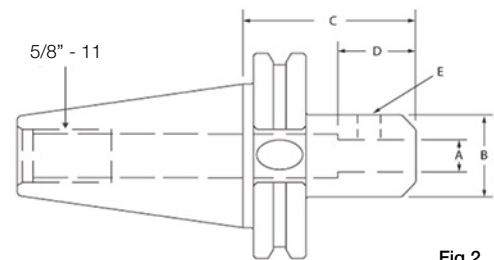


Fig.2

CAT40 Endmill Holder

Part Number	Stock	Dimensions (in)					Fig.	Suggested Retail Price
		I.D. (A)	O.D. (B)	Gage Length (C)	Tool Depth (D)	Set Screw (E)		
KYO-CAT40- EM.500-1.75	●	0.500	1.375	1.750	N/A	7/16-20	2	\$109
EM.625-1.75	●	0.625	1.500	1.750	2.100	9/16-18	2	\$109
EM.75-1.75	●	0.750	1.750	1.750	2.500	5/8-18	2	\$109
EM1.0-1.75	●	1.000	1.750	1.750	2.600	5/8-18	2	\$109
EM1.25-2.5	●	1.250	2.500	2.500	2.750	3/4-16	1	\$114
EM1.5-4.0	●	1.500	2.620	4.000	3.000	2x - 3/4-16	2*	\$129

※ This tool holder does not have a safety zone for the tool changer.
Although most machines do not require a safety zone, please be sure to check your machine tool requirements.

● : U.S. Stock

CAT50

Face Mill Toolholders

- Made from 8620 Alloy Steel
- Concentricity is less than .0002 at face and arbor
- All critical surfaces are precision ground
- Case hardened to 54-58 RC
- Case depth is .03-.04
- Balanced to G2.5 @ 20,000 rpm
- Rear thread for pull stud is 1" x 8
- Coolant through capable

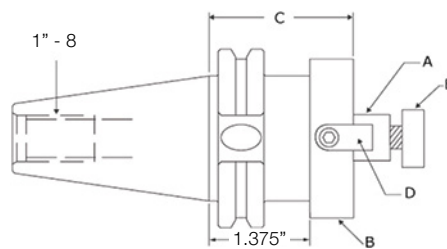


Fig.1

CAT50

Endmill Toolholders

- Made from 8620 Alloy Steel
- All critical surfaces are precision ground
- Case hardened to 56-58 RC
- Case depth is .03-.04
- Balanced to G2.5 @ 20,000 rpm
- Concentricity is .0002 or less
- Rear thread for pull stud is 1" x 8
- Coolant through capable

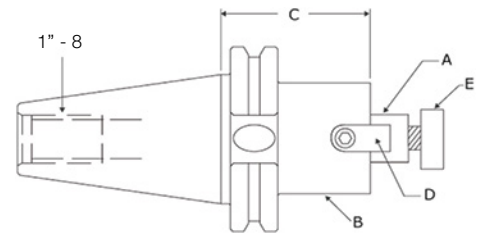


Fig.2

CAT50 Face Mill Holder

Part Number	Stock	Dimensions (in)					Fig.	Suggested Retail Price
		Arbor Diameter (A)	O.D. (B)	Gage Length (C)	Key Width (D)	Screw (E)		
KYO-CAT50- FM.75-3.0	●	0.750	1.750	3.000	5/16	3/8-24	2	\$199
FM1.0-3.0	●	1.000	2.180	3.000	3/8	1/2-20	2	\$199
FM1.25-3.0	●	1.250	2.440	3.000	1/2	5/8-18	2	\$199
FM1.5-3.0	●	1.500	2.740	3.000	5/8	3/4-16	2	\$199
FM2.0-3.0	●	2.000	3.700	3.000	3/4	1-14	1	\$229
FM2.5-3.0	●	2.500	4.000	3.000	1.0	1-14	1	\$229

● : U.S. Stock

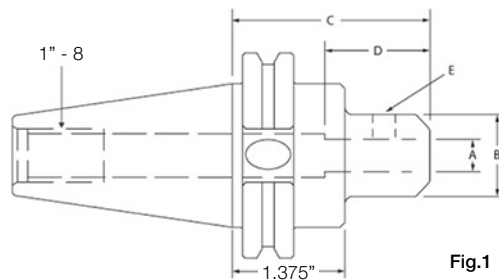


Fig.1

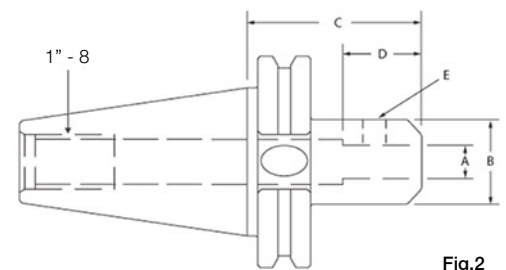


Fig.2

CAT50 Endmill Holder

Part Number	Stock	Dimensions (in)					Fig.	Suggested Retail Price
		I.D. (A)	O.D. (B)	Gage Length (C)	Tool Depth (D)	Set Screw (E)		
KYO-CAT50- EM.500-3.0	●	0.500	1.375	3.000	N/A	7/16-20	1	\$169
EM.625-3.0	●	0.625	1.500	3.000	N/A	9/16-18	1	\$169
EM.75-3.0	●	0.750	1.750	3.000	N/A	5/8-18	1	\$169
EM1.0-4.0	●	1.000	1.900	4.000	2.750	5/8-18	1	\$179
EM1.25-4.0	●	1.250	2.500	4.000	2.750	3/4-16	1	\$179
EM1.5-4.5	●	1.500	2.750	4.500	3.000	2x - 3/4-16	1	\$189
EM2.0-5.0	●	2.000	3.500	5.000	3.500	2x - 1.0-14	2*	\$214

※ This tool holder does not have a safety zone for the tool changer.
Although most machines do not require a safety zone, please be sure to check your machine tool requirements.

● : U.S. Stock



KYOCERA Precision Tools, Inc.

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