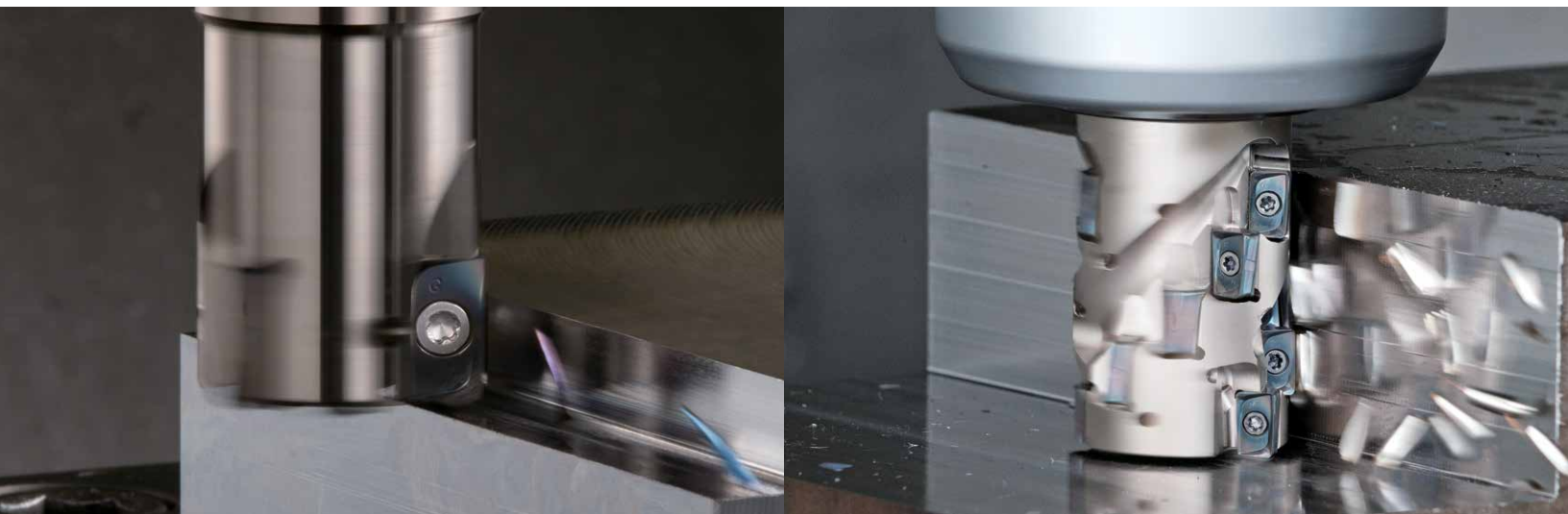




M-FOUR (MEW)

90° Milling with Double-sided 4-edge Inserts



Low Cutting Forces with Chatter Resistance for Excellent Surface Finish

Economical 4-edge Insert

MEWH Helical End Mill Added

Improved Toolholder Durability and Insert Installation Accuracy



PR18 Series Inserts with MEGACOAT
NANO EX Coating Technology



M-FOUR (MEW)

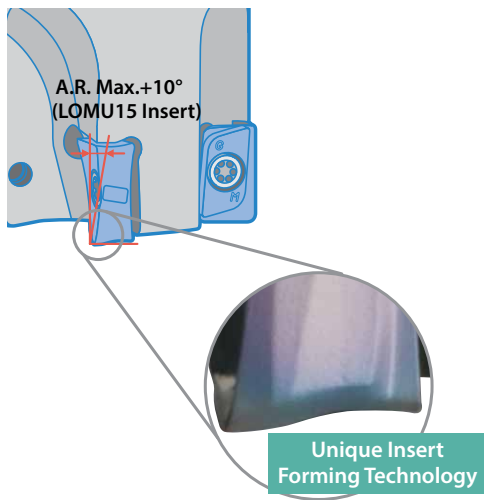
90° Milling with Double-sided 4-edge Insert

Low Cutting Forces with Chatter Resistance for Excellent Surface Finish

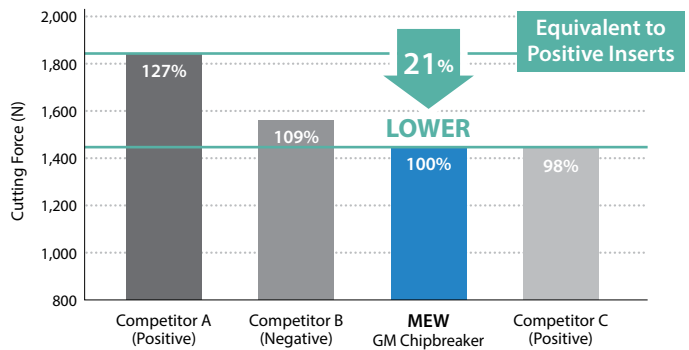
Wide Application Range with New DLC Coating PDL025 for Machining Aluminum

1 Low Cutting Forces Equivalent to Positive Inserts

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



Cutting Force Comparison (In-house Evaluation)

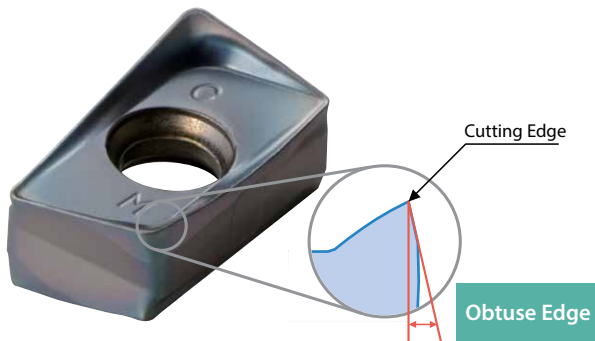


Cutting force is the resultant force of the principal force and the feed force.

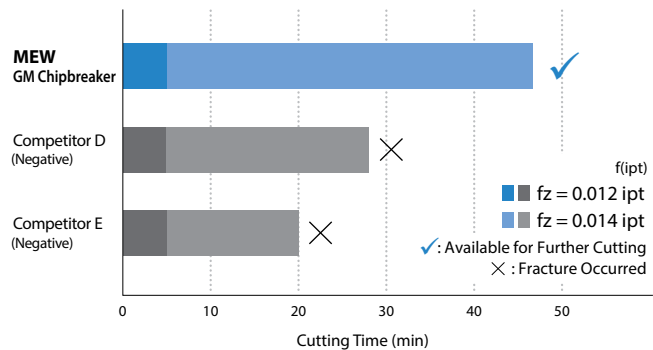
Cutting Conditions : $V_c = 490$ sfm, $f_z = 0.006$ ipt, D.O.C. $\times$ ae = $0.118'' \times 0.591''$
Cutter Dia. $\varnothing 0.750''$ Workpiece : 1040

2 Excellent Fracture Resistance

Obtuse edge for increased cutting edge toughness and stable machining at high feed rates



Fracture Resistance Comparison (In-house Evaluation)



Cutting Conditions : $V_c = 390$ sfm, $f_z = 0.012 - 0.014$ ipt, D.O.C. $\times$ ae = $0.118'' \times 0.394''$
Cutter Dia. $\varnothing 0.750''$ Workpiece : 4140H (28-32 HRC)

3

Improved Surface Finish & Minimized Vibration

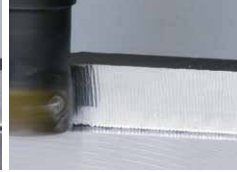
Sharp cutting and superior burr and vibration resistance due to helical cutting edge and optimum axial rake design

Surface of Shoulder Wall (In-house Evaluation)

MEW



Competitor F Positive Cutter



Chatter

Cutting Conditions : Vc = 790 sfm, fz = 0.005 ipt, D.O.C. $\times$ ae = 0.158" $\times$ 0.197"
Cutter Dia. 00.750", Dry Workpiece : A65

Burr Comparison with Positive Cutters (In-house Evaluation)

MEW



Competitor G Positive Cutter



Burr

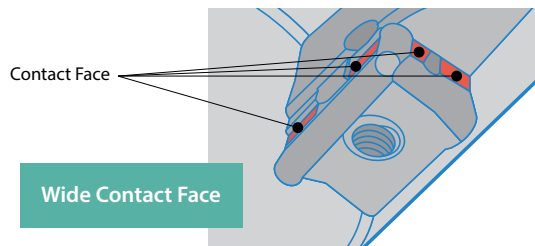
Cutting Conditions : Vc = 820 sfm, fz = 0.004 ipt, D.O.C. $\times$ ae = 0.158" $\times$ 0.197"
Cutter Dia. 00.750", Dry Workpiece : 1049

Actual Rake Angle (In-house Evaluation)

MEW GM Chipbreaker	+20°
Competitor H (Negative)	+17°
Competitor I (Positive)	+17°

4

Improved Toolholder Durability and Insert Installation Accuracy



5

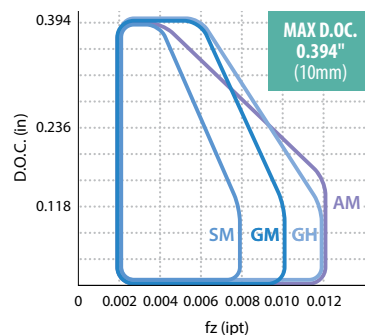
Various Chipbreakers for a Wide Range of Applications

4 types of chipbreakers for a wide range of applications along with a large lineup of corner R (r_c) for the GM chipbreaker

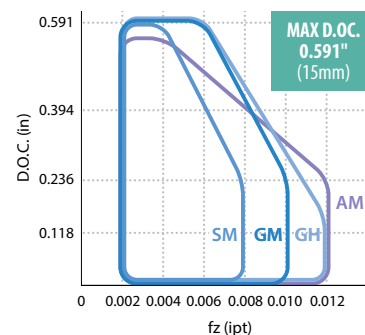
Chipbreaker	Application	Shape
GM	General Purpose	
SM	Low Cutting Force	
GH	Heavy Milling	
AM	Non-ferrous Metals / Aluminum	

Chipbreaker Recommended Applications (Shouldering)

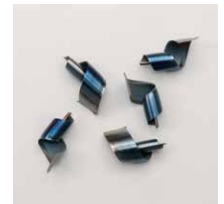
LOMU10 Type



LOMU15 Type



Chips (GM Chipbreaker)



MEWH

90° Helical End Mill with Double-sided 4-edge Insert

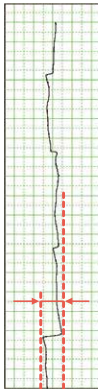
Excellent Surface Finish and Stable Machining due to Innovative Toolholder Design
Economical 4-edge Inserts

1 Improved Surface Finish & Minimized Vibration

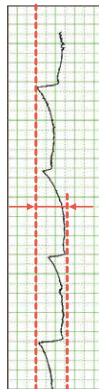
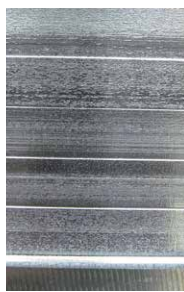
Better surface quality than competitor

Surface Finish Comparison (In-house Evaluation)

MEWH



Competitor J



Smooth Surface
Finish

Cutting Conditions : $V_c = 390$ sfm, $f_z = 0.004$ ipt, D.O.C. $\times$ ae = $1.772'' \times 0.197''$, Dry
MEWH1500-W150-10-5-3T LOMU100408ER-GM (PR1525)
Workpiece : 4137

2 Excellent Chip Evacuation

Chips are constantly evacuated in the opposite direction of the cutter feed without clogging

Chipbreaker	Workpiece	$f_z = 0.006$ ipt	$f_z = 0.008$ ipt
GM	4137		
GM	A36		
SM			



Cutting Conditions : $V_c = 390$ sfm, D.O.C. $\times$ ae = $0.787'' \times 0.591''$, Dry

Next-generation PVD coating for milling **NEW**

PR18 Series

Kyocera's Nano Layer Coating Technology
Longer Tool Life with Next-generation Coating for Milling



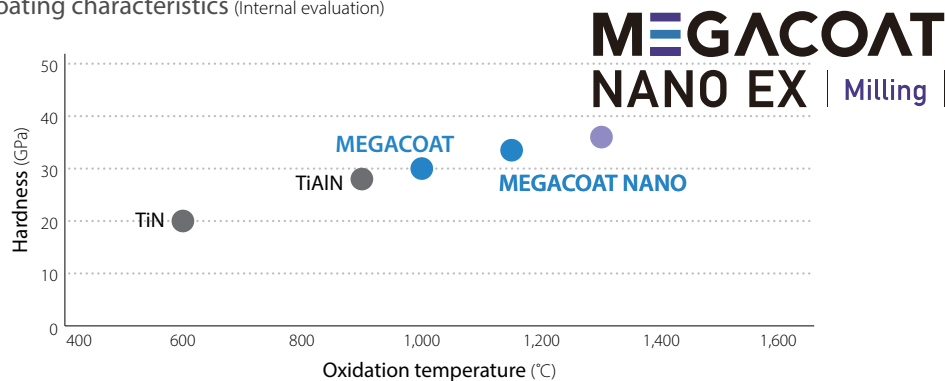
For steel, stainless steel and cast iron

PR1825/PR1835/PR1810 New development MEGACOAT NANO EX

PR1825	P	PR1835	M	PR1810	K
For Steel (Wear resistance oriented)		For Steel (Stability oriented) 1st Recommendation for stainless steel		For Cast iron	

Workpiece	P Steel					M Stainless steel					K Cast iron				
ISO	01	10	20	30	40	01	10	20	30	40	01	10	20	30	40
Grade		Wear resistance oriented PR1825					1st Recommendation PR1835					1st Recommendation PR1810			
		Stability oriented PR1835													

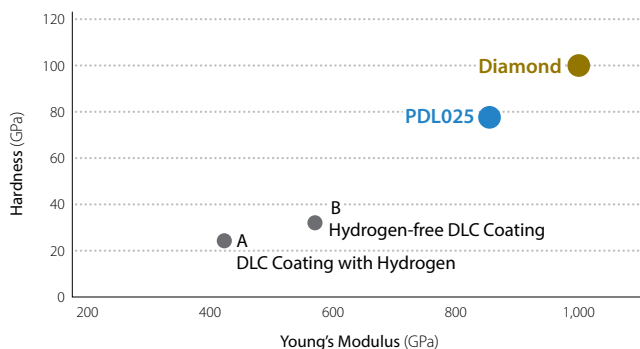
Coating characteristics (Internal evaluation)



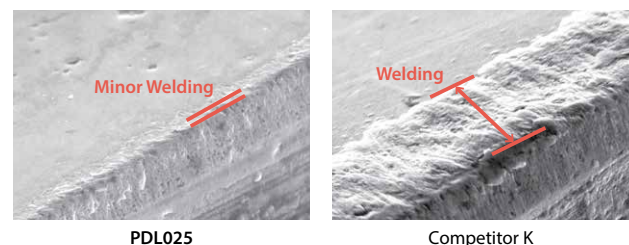
PDL025 DLC Coated Carbide

High Quality and Long Tool Life for Machining Aluminum
High Hardness with Kyocera's Proprietary Hydrogen-free DLC Coating

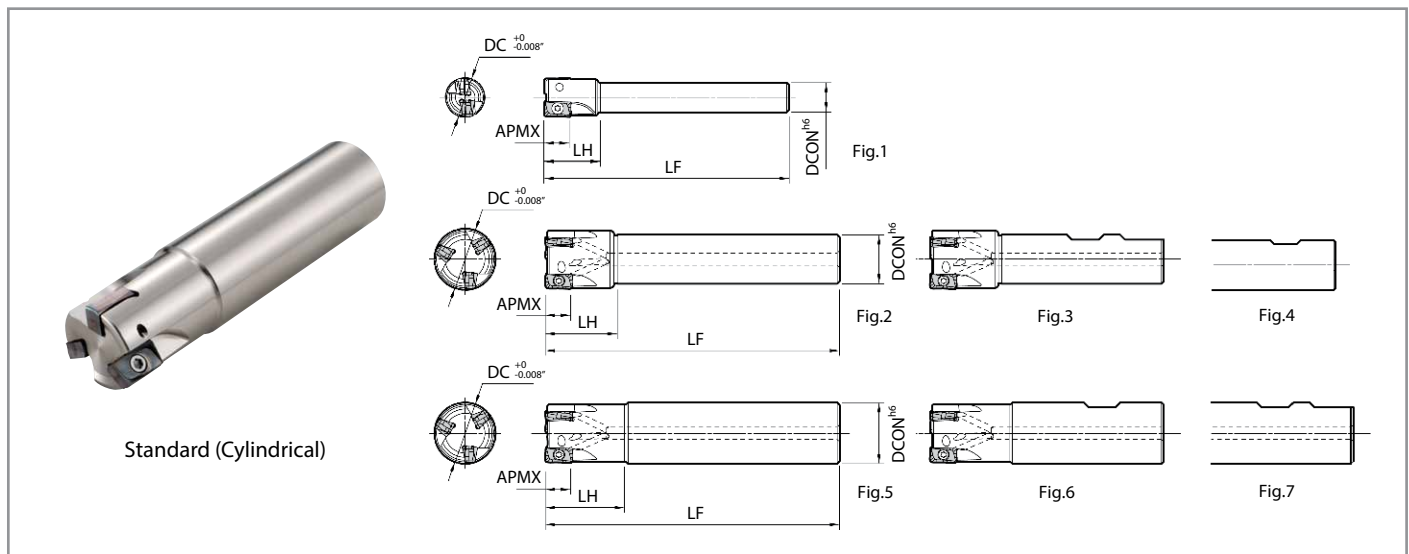
Coating Properties



Welding Resistance Comparison (In-house Evaluation)



Cutting Conditions : Vc = 2,630 sfm, fz = 0.004 ipt, D.O.C. × ae = 0.118" × 0.197", Dry
Cutter Dia. 01.000" Workpiece : 5052 Cutting Length : 187 ft



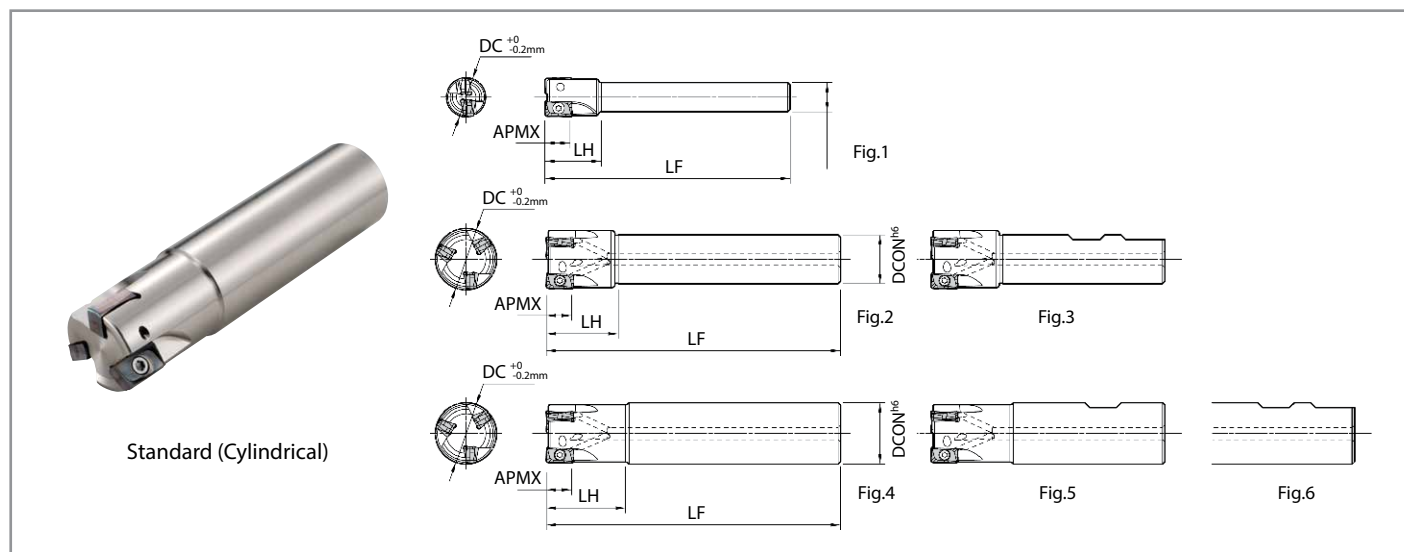
Toolholder Dimensions (Inch Size)

Shank	Part Number	Stock	No. of Inserts	Dimensions (in)					Rake Angle (°)		Coolant Hole	Drawing	Max. RPM*
				DC	DCON	LF	LH	APMX	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°	x	Fig.4	43,900
		0625-W625-10-2T	●	2	0.625	0.625	3.00	1.046				Fig.6	43,900
		0750-W625-10-2T	●	2	0.750	0.625	3.25	1.145				Fig.3	42,000
		0750-W750-10-2T	●	2	0.750	0.750	3.25	1.170				Fig.6	42,000
		0750-W750-10-3T	●	3	0.750	0.750	3.25	1.170				Fig.6	42,000
		0750-W750-4-10-3T	●	3	0.750	0.750	4.00	1.921				Fig.6	42,000
		1000-W750-10-3T	●	3	1.000	0.750	3.25	1.219				Fig.3	37,200
		1000-W100-10-2T	●	2	1.000	1.000	3.75	1.413			✓	Fig.7	37,200
		1000-W100-10-3T	●	3	1.000	1.000	3.75	1.413				Fig.7	37,200
		1000-W100-475-10-3T	●	3	1.000	1.000	4.75	1.413				Fig.7	37,200
		1250-W100-10-4T	●	4	1.250	1.000	3.75	1.469				Fig.3	34,000
		1250-W125-10-3T	●	3	1.250	1.250	4.00	1.663				Fig.7	34,000
		1250-W125-10-4T	●	4	1.250	1.250	4.00	1.663				Fig.7	34,000
		1500-W125-10-5T	●	5	1.500	1.250	4.125	2.070				Fig.3	30,700
	Long Overhang	MEW 1000-W100-45-10-3T	●	3	1.000	1.000	4.50	2.163	0.393	+7°	✓	Fig.7	37,200
Cylindrical	Long Shank	MEW 0625-S625-6-10-2T	●	2	0.625	0.625	6.00	1.500	0.393	+7°	✓	Fig.5	43,900
		0750-S750-7-10-2T	●	2	0.750	0.750	7.00	1.586				Fig.5	42,000
		1000-S100-7-10-3T	●	3	1.000	1.000	7.00	1.980				Fig.5	37,200
		1000-S100-8-10-2T	●	2	1.000	1.000	8.00	1.980				Fig.5	37,200
		1000-S100-8-10-3T	●	3	1.000	1.000	8.00	1.980				Fig.5	37,200
		1250-S125-8-15-3T	●	3	1.250	1.250	8.00	1.980	0.590	+10°	✓	Fig.5	30,100
		1500-S125-8-15-4T	●	4	1.500	1.250	8.00	2.069				Fig.2	25,600
Weldon	Standard Shank	MEW 1000-W750-15-2T	●	2	1.000	0.750	3.25	1.219	0.590	+10°	✓	Fig.3	34,700
		1000-W100-15-2T	●	2	1.000	1.000	3.75	1.413				Fig.7	34,700
		1000-W100-475-15-2T	●	2	1.000	1.000	4.75	1.413				Fig.7	34,700
		1250-W100-15-2T	●	2	1.250	1.000	3.75	1.469				Fig.3	30,100
		1250-W125-15-2T	●	2	1.250	1.250	4.00	1.663				Fig.7	30,100
		1250-W125-15-3T	●	3	1.250	1.250	4.00	1.663				Fig.7	30,100
		1500-W125-15-3T	●	3	1.500	1.250	4.125	2.069				Fig.3	25,600
		1500-W125-15-4T	●	4	1.500	1.250	4.125	2.069				Fig.3	25,600

● : Standard Item

Max. RPM*
When running the cutter at the maximum revolution, the insert or toolholder may be damaged by centrifugal force.

Spare Parts and Applicable Inserts **P8**



Toolholder Dimensions (Metric Size)

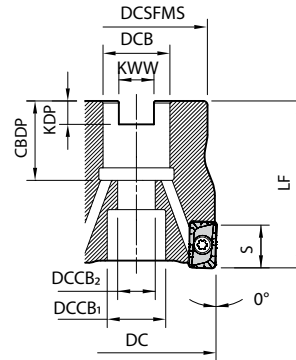
Shank	Part Number	Stock	No. of Inserts	Dimensions (mm)					Rake Angle (°)		Coolant Hole	Drawing	Max. RPM*
				DC	DCON	LF	LH	APMX	A.R. (Max)	R.R.			
Cylindrical	MEW 16-S12-10-2T	●	2	16	12	100	23	10	+7°	-22°	x	Fig.1	43,750
		●	2	16	16	100	26			-22°		Fig.4	43,750
		●	2	18	16	100	25			-21°		Fig.2	43,000
		●	2	20	16	110	26			-20°		Fig.2	41,000
		●	2	20	20	110	30			-20°		Fig.4	41,000
		●	3	20	20	110	30			-20°		Fig.4	41,000
		●	3	22	20	110	26			-20°		Fig.2	39,600
		●	3	25	20	120	29			-20°		Fig.2	37,500
		●	2	25	25	120	32			-20°	✓	Fig.4	37,500
		●	3	25	25	120	32			-20°		Fig.4	37,500
		●	3	28	25	120	29			-20°		Fig.2	35,800
		●	4	30	25	130	32			-20°		Fig.2	34,800
		●	4	32	25	130	32			-20°		Fig.2	33,900
		●	3	32	32	130	40			-20°		Fig.4	33,900
		●	4	32	32	130	40			-20°		Fig.4	33,900
		●	5	40	32	150	50			-19°		Fig.2	30,000
		●	5	50	32	120	40			-19°		Fig.2	22,500
	MEW 20-S20-10-150-2T	●	2	20	20	150	40	10	+7°	-20°	✓	Fig.4	41,000
		●	2	25	25	170	50			-20°		Fig.4	37,500
Cylindrical	MEW 25-S20-15-2T	●	2	25	20	120	29	15	+10°	-22°	✓	Fig.2	35,000
		●	2	25	25	120	32			-22°		Fig.4	35,000
		●	2	32	25	130	32			-22°		Fig.2	30,000
		●	2	32	32	130	40			-22°		Fig.4	30,000
		●	3	32	32	130	40			-22°		Fig.4	30,000
		●	3	40	32	150	50			-21°		Fig.2	25,000
		●	4	40	32	150	50			-21°		Fig.2	25,000
		●	4	50	32	120	40			-21°		Fig.2	17,000
Weldon	MEW 16-W16-10-2T	□	2	16	16	75	25	10	+7°	-22°	✓	Fig.5	43,750
		□	2	20	20	77	25			-20°		Fig.5	41,000
		□	3	20	20	77	25			-20°		Fig.5	41,000
		□	2	25	25	90	32			-20°		Fig.6	37,500
		●	3	25	25	90	32			-20°		Fig.6	37,500
		□	4	32	32	102	40			-20°		Fig.6	33,900
		●	5	40	32	111	50			-19°		Fig.3	30,000
	MEW 25-W25-15-2T	□	2	25	25	90	32	15	+10°	-22°	✓	Fig.6	35,000
		□	3	32	32	102	40			-22°		Fig.6	30,000
		□	4	40	32	111	50			-21°		Fig.3	25,000
		□	4	40	32	111	50			-21°		Fig.3	25,000

● : Standard Item □ : Made to Order / Quoted Item

Max. RPM*

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

Spare Parts and Applicable Inserts P9



Toolholder Dimensions (Inch Size)

Part Number	Stock	No. of Inserts	Dimensions (in)										Rake Angle (°)		Coolant Hole	Weight (kg)	Max. RPM*
			DC	DCSFMS	DCB	DCCB ₁	DCCB ₂	LF	CBDP	KDP	KWW	APMX	A.R. (Max)	R.R.			
MEW 1500R-10-5T	●	5	1.50	1.457	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	1.811	0.750	0.669	0.433	1.575	0.826	0.188	0.312					0.4	22,300
2500R-10-6T	●	6	2.50	1.969	0.750	0.669	0.433	1.575	0.826	0.188	0.312					0.6	20,400
MEW 2000R-15-4T	●	4	2.00	1.811	0.750	0.669	0.433	1.575	0.826	0.188	0.312	0.590	+10°	-21°	✓	0.4	16,800
2000R-15-5T	●	5	2.00	1.811	0.750	0.669	0.433	1.575	0.826	0.188	0.312					0.4	16,800
2500R-15-5T	●	5	2.50	1.969	0.750	0.669	0.433	1.575	0.826	0.188	0.312					0.5	14,400
3000R-15-6T	●	6	3.00	2.362	1.000	0.866	0.551	1.969	1.063	0.236	0.381	0.590	+10°	-20°		1.0	12,250
4000R-15-8T	●	8	4.00	3.504	1.500	2.047	-	1.969	1.181	0.393	0.625					1.8	10,400

Max. RPM*

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

● : Standard Item

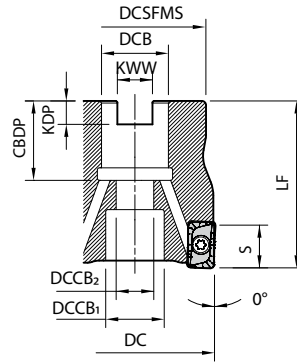
Spare Parts and Applicable Inserts (Inch End Mills and Face Mills)

Part Number	Spare Parts				Applicable Inserts			
	Insert Screw	Wrench	Anti-Seize Compound	Arbor Bolt				
					General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)	Non-ferrous Metals • Aluminum
MEW ...-10-_T	SB-3065TRP	DTPM-8	P-37	-	LOMU1004..ER-GM	LOMU100408ER-SM	LOMU100408ER-GH	LOGT100408FR-AM
MEW 1500R-10-5T	Recommended torque for insert screw 1.2Nm			HH3/8-1.25 (HH3/8-1.25H)				
2000R-10-5T								
2500R-10-6T								
MEW ...-15-_T	SB-4090TRP	DTPM-15	P-37	-	LOMU1505..ER-GM	LOMU150508ER-SM	LOMU150508ER-GH	LOGT150508FR-AM
MEW 2000R-15-4T	Recommended torque for insert screw 3.5Nm			HH3/8-1.25 (HH3/8-1.25H)				
2500R-15-5T								
3000R-15-6T								
4000R-15-8T								

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread prior to insert installation.

*If through spindle coolant is required please order arbor bolt in () separately.

Recommended Cutting Conditions  **P17**



Toolholder Dimensions (Metric Size)

Part Number	Stock	No. of Inserts	Dimensions (mm)										Rake Angle (°)		Coolant Hole	Weight (kg)	Max. RPM*
			DC	DCSFMS	DCB	DCCB ₁	DCCB ₂	LF	CBDP	KDP	KWW	APMX	A.R. (Max)	R.R.			
MEW 032R-10-4T-M	●	4	32	30	16	14	9	35	19	5.6	8.4	10	+7°	-20°	✓	0.1	33,900
040R-10-5T-M	●	5	40	34	16	14	9	40	19	5.6	8.4			-19°		0.2	30,000
050R-10-5T-M	●	5	50	45	22	18	11	40	21	6.3	10.4			-19°		0.4	22,500
063R-10-6T-M	●	6	63	47	22	18	11	40	21	6.3	10.4			-19°		0.5	20,500
MEW 040R-15-4T-M	●	4	40	34	16	14	9	40	19	5.6	8.4	15	+10°	-21°	✓	0.2	25,000
050R-15-4T-M	●	4	50	45	22	18	11	40	21	6.3	10.4			-21°		0.3	17,000
063R-15-5T-M	●	5	63	47	22	18	11	40	21	6.3	10.4			-21°		0.5	14,500
080R-15-6T-M	●	6	80	60	27	20	13	50	25	7	12.4			-20°		1.0	12,000
080R-15-6T	●	6	80		25.4	20	13	50	27	6	9.5			-20°		1.0	12,000

Max. RPM*

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

● : Standard Item

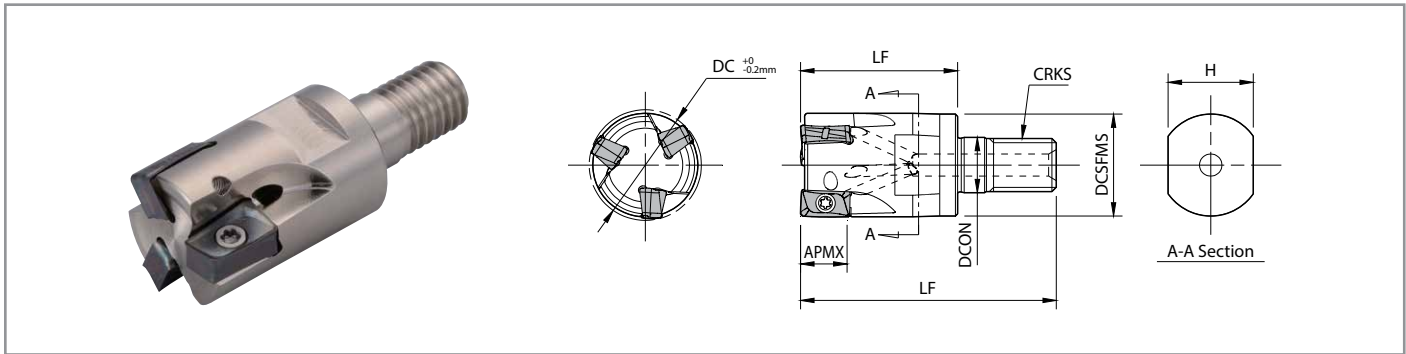
Spare Parts and Applicable Inserts (Metric End Mills and Face Mills)

Part Number	Spare Parts				Applicable Inserts			
	Insert Screw	Wrench	Anti-Seize Compound	Arbor Bolt				
					General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)	Non-ferrous Metals • Aluminum
MEW ...-10-_T	SB-3065TRP	DTPM-8	P-37	-	LOMU1004..ER-GM	LOMU100408ER-SM	LOMU100408ER-GH	LOGT100408FR-AM
MEW 032R-10-4T-M				HH8×25 (HH8X25H)				
040R-10-5T-M				HH10×30 (HH10X30H)				
050R-10-5T-M				HH10×30 (HH10X30H)				
063R-10-6T-M				HH10×30 (HH10X30H)				
MEW ...-15-_T	SB-4090TRP	DTPM-15	P-37	-	LOMU1505..ER-GM	LOMU150508ER-SM	LOMU150508ER-GH	LOGT150508FR-AM
MEW 040R-15-4T-M				HH8×25 (HH8X25H)				
050R-15-4T-M				HH10×30 (HH10X30H)				
063R-15-5T-M				HH10×30 (HH10X30H)				
080R-15-6T(-M)				HH12×35 (HH12X35H)				

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread prior to insert installation.

*If through spindle coolant is required please order arbor bolt in () separately.

Recommended Cutting Conditions  **P17**



Toolholder Dimensions

Part Number	Stock	No. of Inserts	Dimensions (mm)								Rake Angle (°)		Coolant Hole	Applicable Inserts	Max. RPM*
			DC	DCSFMS	DCON	OAL	LF	CRKS	H	APMX	A.R. (Max)	R.R.			
MEW 16-M08-10-2T	●	2	16	14.7	8.5	43	25	M8×P1.25	12	10	+7°	-22°	✓	LOMU1004 LOGT1004	43,750
20-M10-10-2T	●	2	20	18.7	10.5	49	30	M10×P1.5	15			-22°			41,000
20-M10-10-3T	●	3	20	18.7	10.5	49	30	M10×P1.5	15			-20°			41,000
25-M12-10-3T	●	3	25	23	12.5	57	35	M12×P1.75	19			-20°			37,500
32-M16-10-4T	●	4	32	30	17	63	40	M16×P2.0	24			-20°			33,900
MEW 25-M12-15-2T	●	2	25	23	12.5	57	35	M12×P1.75	19	15	+10°	-22°	✓	LOMU1505 LOGT1505	35,000
32-M16-15-3T	●	3	32	30	17	63	40	M16×P2.0	24			-22°			30,000

Max. RPM*

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

● : Standard Item

Spare Parts and Applicable Inserts (Modular End Mill)

Part Number	Spare Parts			Applicable Inserts			
	Insert Screw	Wrench	Anti-Seize Compound				
				General Purpose	Low Cutting Force	Tough Edge (Heavy Milling)	Non-ferrous Metals • Alumin
MEW 16-M08-10-2T	SB-306STRP	DTPM-8	P-37	LOMU 1004..ER-GM	LOMU 100408ER-SM	LOMU 100408ER-GH	LOGT 100408FR-AM
20-M10-10-2T							
20-M10-10-3T							
25-M12-10-3T							
32-M16-10-4T							
MEW 25-M12-15-2T	SB-4090TRP	DTPM-15	P-37	LOMU 1505..ER-GM	LOMU 150508ER-SM	LOMU 150508ER-GH	LOGT 150508FR-AM
32-M16-15-3T							

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread prior to insert installation.

Recommended Cutting Conditions **P17**

Modular End Mill Identification System

MEW 16 - M08 - 10 - 2T

Series Cutting Dia. Thread Size for Clamping Insert Size No. of Inserts

Wrenches and Clamp Screws are "Torx Plus" Styles

1) See Fig. 1 for "Torx Plus" Wrench. (Purple Grip)

2) See Fig. 2 for "Torx" Wrench. (Black Grip)

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

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



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

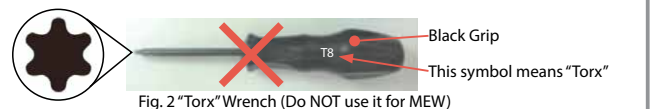
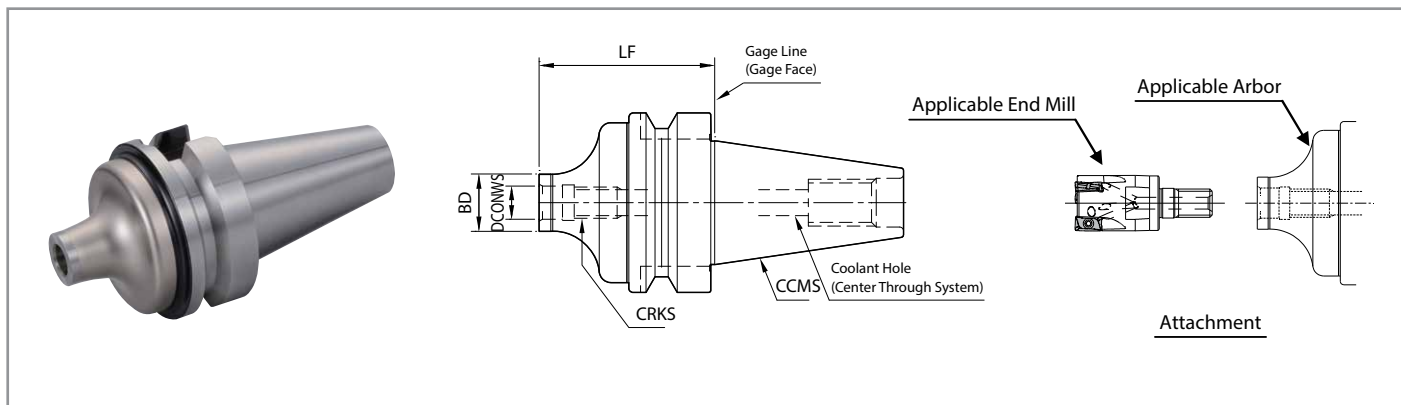


Fig. 2 "Torx" Wrench (Do NOT use it for MEW)



Dimensions

Part Number	Stock	Dimensions (mm)					Coolant Hole	Arbor (Two-face Clamping)	Applicable End Mill
		LF	BD	DCONWS	CRKS			CCMS	
BT30K- M08-45	☐	45	14.7	8.5	M8×P1.25		✓	BT30	MEW16-M08..
	☒	45	18.7	10.5	M10×P1.5				MEW20-M10..
	☒	45	23	12.5	M12×P1.75				MEW25-M12..
BT40K- M08-55	☐	55	14.7	8.5	M8×P1.25		✓	BT40	MEW16-M08..
	☐	60	18.7	10.5	M10×P1.5				MEW20-M10..
	☐	55	23	12.5	M12×P1.75				MEW25-M12..
	☐	65	30	17	M16×P2.0				MEW32-M16..

● : Standard Item □ : Made to Order / Quoted Item

Actual End Mill Depth

Arbor Part Number	Applicable End Mill			Actual End Mill Depth (mm)
	Part Number	Cutting Dia. (mm)	Dimension (mm)	
		DC	LF	
BT30K- M08-45	MEW16-M08..	Ø16	25	31.8
	MEW20-M10..	Ø20	30	36.8
	MEW25-M12..	Ø25	35	42.8
BT40K- M08-55	MEW16-M08..	Ø16	25	31.7
	MEW20-M10..	Ø20	30	38.7
	MEW25-M12..	Ø25	35	44.6
	MEW32-M16..	Ø32	40	51.2

Arbor Identification System

BT30 **K** - **M08** - **45**

Arbor Size

Two-Face
Clamping
Spindle

Thread Size for
Clamping

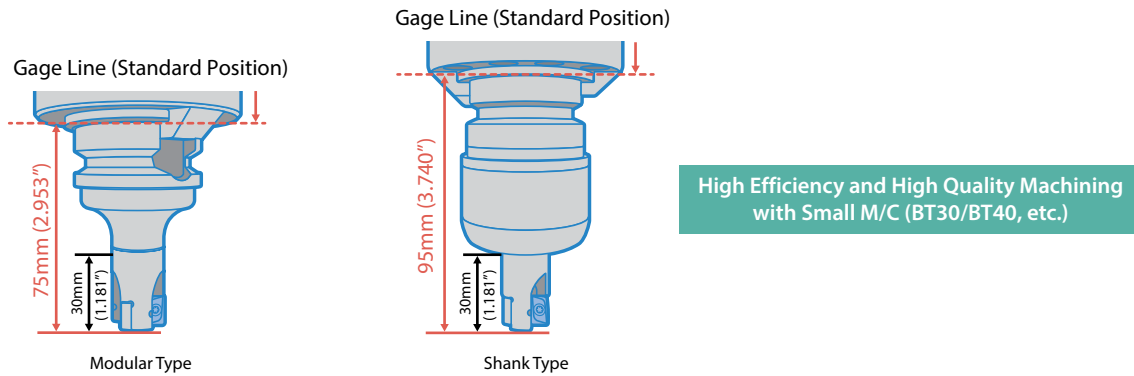
Length from the
Gage

Advantages of the Modular MEW

Comparing BT30 M/C (Dual Contact Clamping Spindle) + Cutting Dia. : Ø20mm with MEW End Mill

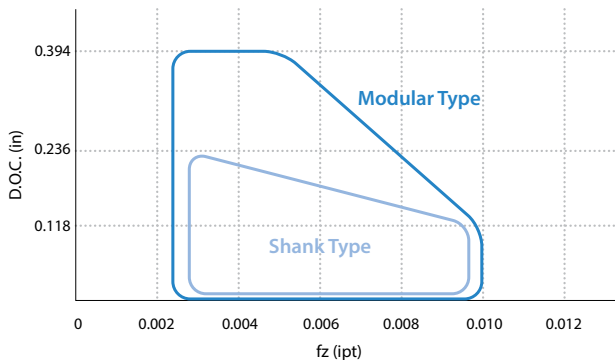
1 Low Gage Line Reduces Chattering

The distance from the cutting edge to the gage line is shorter with the same overhang length (30 mm / 1.181")



2 Applicable to a Wide Range of Applications

For a wide range of applications even in BT30 M/C

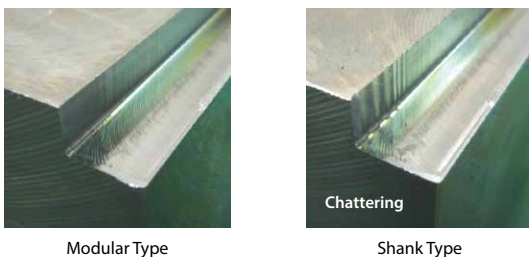


Cutting Conditions : Vc = 490 sfm, ae = 0.394", Shouldering, Dry
Workpiece : 1055 BT30 M/C

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

Shank
Holder : MEW20-S20-10-3T, Arbor : BT30 Milling Chuck (Dual Contact Clamping)
Insert : LOMU100408ER-GM (PR1525)

3 Smooth Surface Finish



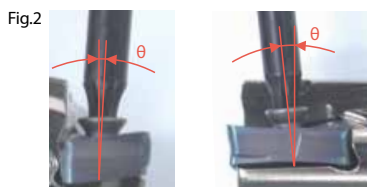
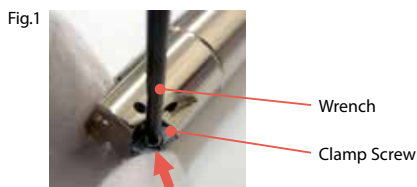
Cutting Conditions : Vc = 490 sfm, fz = 0.006 ipt, ae = 0.394", Shouldering, Dry
Workpiece : 1055 BT30 M/C

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

Shank
Holder : MEW20-S20-10-3T, Arbor : BT30 Milling Chuck (Dual Contact Clamping)
Insert : LOMU100408ER-GM (PR1525)

How to Mount the Inserts

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.
Attach the screw (magnetic head) to the front end of the wrench.
While lightly pressing the insert against the pocket walls, put the screw into the hole of the insert and tighten. (See Fig. 1.)
Tighten M3 screws (SB-3065TRP) slightly inclined from the insert surface. (See Fig. 2.)
3. When tightening the screw, 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 pocket floor of the holder or between the insert side surfaces and the pocket walls of the holder. If there is any clearance, remove the insert and mount it again according to the above steps.



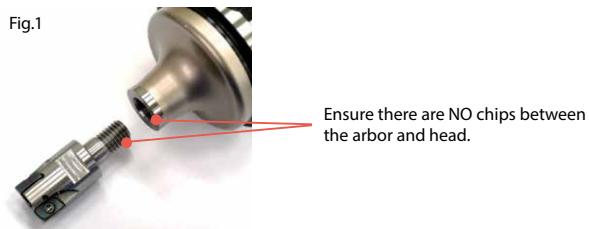
How to Attach MEW Modul Head

1. When clamping the head on the arbor, make sure there is no dust or chips inside (Fig. 1).
Do NOT put lubricant on the clamping portion.
2. Attach the head on the arbor and fix it using the wrench (Fig. 2).
See Table 1 for Recommended Torque.
Note) The wrench is NOT included with product.

Table 1. Recommended Head Torque

Thread Dia. Tolerance	Wrench Width Across Flat (mm)	Recommended Torque (Nm)
M8	12	23
M10	15	46
M12	19	80
M16	24	90

3. Confirm that the head is fixed firmly on the arbor (Fig. 3).

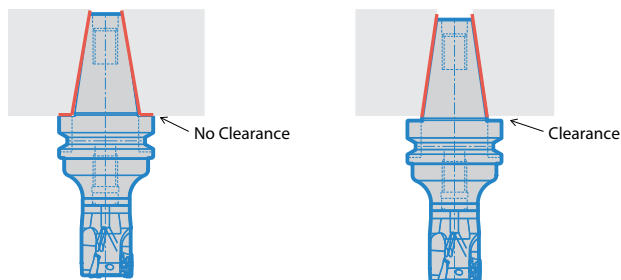


Frequently Asked Questions

Q. Can the dual contact clamping arbor be mounted on a general BT spindle?

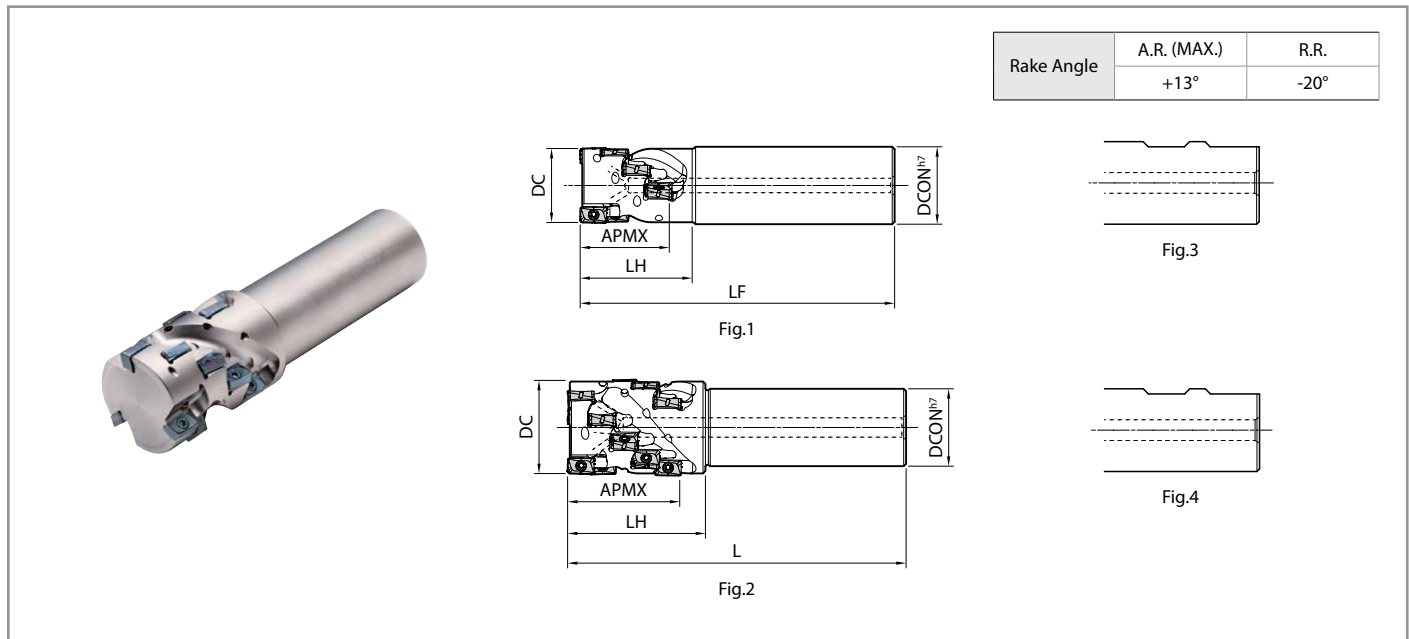
A. Yes. It can be used as a general BT arbor with a general BT spindle.

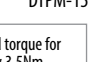
It can be used as a general BT arbor, though the advantage of the dual contact clamping will not apply.



Dual Contact Clamping Arbor Mounted on Dual Contact Clamping Spindle

Dual Contact Clamping Arbor Mounted on General Spindle


Toolholder Dimensions (Inch Size)

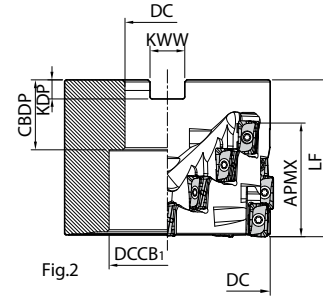
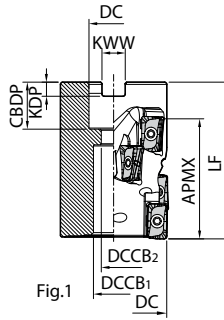
Shank	Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (in)					Coolant Hole	Drawing	Spare Parts			Applicable Inserts	
						DC	DCON	LF	LH	APMX			Insert Screw	Wrench	Anti-Seize Compound		
Weldon	MEWH 1000-W100-10-3-2T	●	2	3	6	1.000	1.000	3.806	1.523	1.102	✓	Fig.3				LOMU1004..	
	1250-W125-10-4-2T	●	2	4	8	1.250	1.250	4.161	1.878	1.456		Fig.3	Recommended torque for insert screw 1.2Nm				
	1500-W125-10-5-3T	●	3	5	15	1.500	1.250	4.610	2.244	1.811		Fig.4					
	1500-W150-10-5-3T	●	3	5	15	1.500	1.500	4.957	2.267	1.811		Fig.3					
	MEWH 1500-W125-15-4-2T	●	2	4	8	1.500	1.250	4.846	2.480	2.086	✓	Fig.4				LOMU1505..	
	1500-W150-15-4-2T	□	2	4	8	1.500	1.500	5.193	2.504	2.086		Fig.3	Recommended torque for insert screw 3.5Nm				
	2000-W150-15-4-3T	●	3	4	12	2.000	1.500	5.252	2.480	2.086		Fig.4					

Toolholder Dimensions (Metric Size)

Shank	Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (mm)					Coolant Hole	Drawing	Spare Parts			Applicable Inserts
						DC	DCON	LF	LH	APMX			Insert Screw	Wrench	Anti-Seize Compound	
Cylindrical	MEWH 025-S25-10-3-2T	●	2	3	6	25	25	120	37	28	✓	Fig.1	SB-3065TRP	DTPM-8	P-37	LOMU1004..
	032-S32-10-4-2T	●	2	4	8	32	32	130	46	37		Fig.1	Recommended torque for insert screw 1.2Nm			
	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	SB-4090TRP	DTPM-15	P-37	LOMU1505..
	050-S42-15-4-2T	●	2	4	8	50	42	160	63	53		Fig.2	Recommended torque for insert screw 3.5Nm			
	050-S42-15-4-3T	●	3	4	12	50	42	160	63	53		Fig.2				

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread prior to insert installation.
Aluminum machining is not recommended (AM chipbreaker is not available for MEWH)

● : Standard Item □ : Made to Order / Quoted Item



Rake Angle	A.R. (MAX.)	R.R.
	+13°	-20°

Toolholder Dimensions (Inch Size)

Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (in)									Drawing	Spare Parts				Applicable Inserts
					DC	DCB	DCCB ₁	DCCB ₂	LF	CBDP	KDP	KWW	APMX		Insert Screw	Wrench	Anti-Seize Compound	Arbor Bolt	
MEWH 1500R-10-4-3T	□	3	4	12	1.50	0.75	0.669	0.433	2.087	0.750	0.187	0.312	1.456	Fig.1					LOMU1004..
2000R-10-5-3T	□	3	5	15	2.00	0.75	0.669	0.433	2.520	0.750	0.187	0.312	1.811	Fig.1	Recommended torque for insert screw 1.2Nm		P-37	HH3/8-1.25	
MEWH 2000R-15-4-3T	●	3	4	12	2.00	0.75	0.669	0.433	2.756	0.750	0.187	0.312	2.086	Fig.1			P-37	HH3/8-1.25	LOMU1505..
2500R-15-3-3T	□	3	3	9	2.50	1.00	0.866	0.551	2.283	1.063	0.236	0.381	1.614	Fig.1				Recommended torque for insert screw 3.5Nm	
3000R-15-4-4T	●	4	4	16	3.00	1.00	0.866	0.551	2.756	1.063	0.236	0.381	2.086	Fig.1				HH1/2-1.25	
4000R-15-4-5T	□	5		20	4.00	1.50	2.047	-	2.913	1.142	0.393	0.625	2.086	Fig.2				-	

Toolholder Dimensions (Metric Size)

Part Number	Stock	No. of Flutes	No. of Stages	No. of Inserts	Dimensions (mm)									Drawing	Spare Parts				Applicable Inserts
					DC	DCB	DCCB ₁	DCCB ₂	LF	CBDP	KDP	KWW	APMX		Insert Screw	Wrench	Anti-Seize Compound	Arbor Bolt	
MEWH 040R-10-4-3T-M	●	3	4	12	40	16	15	9	53	19	5.6	8.4	37	Fig.1					LOMU1004..
050R-10-5-3T-M	●	3	5	15	50	22	18	11	64	21	6.3	10.4	46	Fig.1	Recommended torque for insert screw 1.2Nm		P-37	HH10X30	
MEWH 050R-15-4-3T-M	●	3	4	12	50	22	18	11	70	21	6.3	10.4	53	Fig.1	SB-4090TRP	DTPM-15	P-37	HH10X30	LOMU1505..
063R-15-3-3T-M	●	3	3	9	63	27	20	13	58	24	7	12.4	41	Fig.1				Recommended torque for insert screw 3.5Nm	
080R-15-4-4T-M	●	4	4	16	80	32	26	18	70	28	8	14.4	53	Fig.1				HH16X45	
100R-15-4-5T-M	●	5	4	20	100	40	55	18	74	33	9	16.4	53	Fig.2				HH16X45	

Coat Anti-seize Compound (P-37) thinly on portion of taper and thread prior to insert installation.

Aluminum machining is not recommended (AM chipbreaker is not available for MEWH)

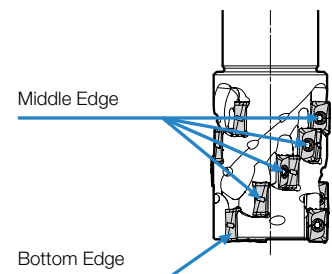
● : Standard Item □ : Made to Order / Quoted Item

Recommended Cutting Conditions **P17**

Applicable Insert Placement Guide for MEWH

Insert Location	Toolholder Part Number										
	MEWH...10...					MEWH...15...					
	Corner R(RE) (mm)					Corner R(RE) (mm)					
Bottom Edge	0.4	0.8	1.2	1.6	2.0	0.4	0.8	1.0	1.2	1.6	2.0
*Middle Edge	0.4 / 0.8	0.4 / 0.8	0.4 / 0.8	0.4	0.4	0.4 - 1.6	0.4 - 1.6	0.4 - 1.6	0.4 - 1.6	0.4 - 1.6	0.4 - 1.6

*For Middle Edges, it is not recommended to use an insert with a larger corner R (RE) than shown in the table, because it will make finished surface uneven.



Applicable Inserts

[illegible]

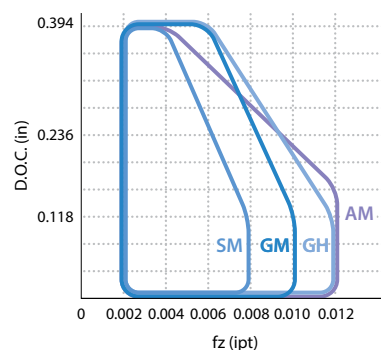
● : Standard Item

LOMU...ER-GM Insert Appearance

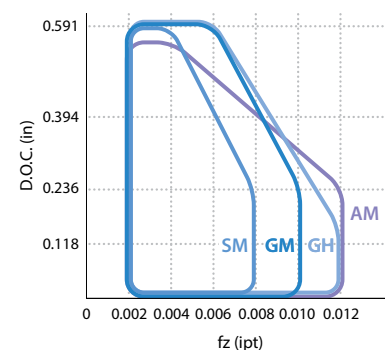
LOMU100404ER-GM LOMU150504ER-GM  04 Marking on Insert	LOMU100408ER-GM LOMU150508ER-GM  08 Has No Dimension Marking
LOMU150510ER-GM  10 Marking on Insert	LOMU100412ER-GM LOMU150512ER-GM  12 Marking on Insert
LOMU100416ER-GM LOMU150516ER-GM  16 Marking on Insert	LOMU100420ER-GM LOMU150520ER-GM  20 Marking on Insert

Applicable Chipbreaker Range (Shouldering)

LOMU10 Insert



LOMU15 Insert



Cutting Conditions : $V_c = 490$ sfm, $a_e = DC/2$ Workpiece : 1049

Chipbreaker	Workpiece	Feed Rate fz : ipt			Recommended Insert Grade / Cutting Speed (Vc: sfm)									
		Toolholder Part Numbers			MEGACOAT NANO EX			MEGACOAT NANO				CVD	DLC	Carbide
		MEW0625-MEW0750 MEW16 - MEW18	MEW1000-MEW1500 MEW1500R-MEW3000R MEW20 - MEW40 MEW040R - MEW080R	MEWH... (Helical End Mill)	PR1810	PR1825	PR1835	PR1535	PR1525	PR1510	PR0155	CA6535	PDL025	GW25
G M	Carbon Steel	0.002 - 0.004 - 0.008	0.003 - 0.006 - 0.010	0.002 - 0.004 - 0.008	-	★ 390-590-820	☆ 390-590-820	☆ 390-590-820	★ 390-590-820	-	-	-	-	-
	Alloy Steel	0.002 - 0.004 - 0.006	0.003 - 0.006 - 0.008	0.002 - 0.004 - 0.006	-	★ 330-520-720	☆ 330-520-720	☆ 330-520-720	★ 330-520-720	-	-	-	-	-
	Mold Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.008	0.002 - 0.003 - 0.005	-	★ 260-460-590	☆ 260-460-590	☆ 260-460-590	★ 260-460-590	-	-	-	-	-
	Austenitic Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.006	0.002 - 0.003 - 0.005	-	★ 330-520-660	☆ 330-520-660	☆ 330-520-660	★ 330-520-660	-	-	-	-	-
	Martensitic Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.008	0.002 - 0.003 - 0.004	-	-	☆ 490-660-820	☆ 490-660-820	-	-	-	★ 590-790-980	-	-
	Precipitation Hardened Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.008	0.002 - 0.003 - 0.004	-	-	★ 300-390-490	★ 300-390-490	-	-	-	-	-	-
	Gray Cast Iron	0.002 - 0.004 - 0.007	0.003 - 0.007 - 0.010	0.002 - 0.004 - 0.007	★ 390-590-820	-	-	-	-	★ 390-590-820	-	-	-	-
	Nodular Cast Iron	0.002 - 0.003 - 0.005	0.003 - 0.006 - 0.008	0.002 - 0.003 - 0.005	★ 330-490-660	-	-	-	-	★ 330-490-660	-	-	-	-
	Ni-base Heat-Resistant Alloy	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.006	0.002 - 0.003 - 0.004	-	-	☆ 70-100-160	☆ 70-100-160	-	-	-	★ 70-100-160	-	-
	Titanium Alloy	0.002 - 0.003 - 0.005	0.003 - 0.006 - 0.008	0.002 - 0.003 - 0.005	☆ 100-160-230	-	☆ 130-200-260	☆ 130-200-260	-	☆ 100-160-230	-	-	-	-
S M	Carbon Steel	0.002 - 0.004 - 0.007	0.003 - 0.006 - 0.008	0.002 - 0.004 - 0.007	-	★ 390-590-820	☆ 390-590-820	☆ 390-590-820	★ 390-590-820	-	-	-	-	-
	Alloy Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.007	0.002 - 0.003 - 0.005	-	★ 330-520-720	☆ 330-520-720	☆ 330-520-720	★ 330-520-720	-	-	-	-	-
	Mold Steel	0.002 - 0.003 - 0.005	0.003 - 0.004 - 0.006	0.002 - 0.003 - 0.005	-	★ 260-460-590	☆ 260-460-590	☆ 260-460-590	★ 260-460-590	-	-	-	-	-
	Austenitic Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.004 - 0.006	0.002 - 0.003 - 0.005	-	★ 330-520-660	☆ 330-520-660	☆ 330-520-660	★ 330-520-660	-	-	-	-	-
	Martensitic Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.004 - 0.006	0.002 - 0.003 - 0.004	-	-	☆ 490-660-820	☆ 490-660-820	-	-	-	★ 590-790-980	-	-
	Precipitation Hardened Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.004 - 0.006	0.002 - 0.003 - 0.004	-	-	☆ 300-390-490	☆ 300-390-490	-	-	-	-	-	-
	Ni-base Heat-Resistant Alloy	0.002 - 0.003 - 0.004	0.003 - 0.004 - 0.005	0.002 - 0.003 - 0.004	-	-	☆ 70-100-160	☆ 70-100-160	-	-	-	★ 70-100-160	-	-
	Titanium Alloy	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.006	0.002 - 0.003 - 0.005	☆ 100-160-230	-	☆ 130-200-260	☆ 130-200-260	-	☆ 100-160-230	-	-	-	-
G H	Carbon Steel	0.002 - 0.004 - 0.008	0.003 - 0.008 - 0.012	0.002 - 0.004 - 0.008	-	★ 390-590-820	☆ 390-590-820	☆ 390-590-820	★ 390-590-820	-	-	-	-	-
	Alloy Steel	0.002 - 0.004 - 0.006	0.003 - 0.008 - 0.010	0.002 - 0.004 - 0.006	-	★ 330-520-720	☆ 330-520-720	☆ 330-520-720	★ 330-520-720	-	-	-	-	-
	Mold Steel	0.002 - 0.003 - 0.005	0.003 - 0.006 - 0.009	0.002 - 0.003 - 0.005	-	★ 260-460-590	☆ 260-460-590	☆ 260-460-590	★ 260-460-590	-	-	-	-	-
	Austenitic Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.006	0.002 - 0.003 - 0.005	-	☆ 330-520-660	☆ 330-520-660	☆ 330-520-660	☆ 330-520-660	-	-	-	-	-
	Martensitic Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.008	0.002 - 0.003 - 0.004	-	-	☆ 490-660-820	☆ 490-660-820	-	-	-	☆ 590-790-980	-	-
	Precipitation Hardened Stainless Steel	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.008	0.002 - 0.003 - 0.004	-	-	☆ 300-390-490	☆ 300-390-490	-	-	-	-	-	-
	Gray Cast Iron	0.002 - 0.004 - 0.008	0.003 - 0.009 - 0.012	0.002 - 0.004 - 0.008	☆ 390-590-820	-	-	-	-	☆ 390-590-820	-	-	-	-
	Nodular Cast Iron	0.002 - 0.003 - 0.006	0.003 - 0.007 - 0.010	0.002 - 0.003 - 0.006	☆ 330-490-660	-	-	-	-	☆ 330-490-660	-	-	-	-
	Ni-base Heat-Resistant Alloy	0.002 - 0.003 - 0.005	0.003 - 0.005 - 0.006	0.002 - 0.003 - 0.004	-	-	☆ 70-100-160	☆ 70-100-160	-	-	-	☆ 70-100-160	-	-
	Titanium Alloy	0.002 - 0.003 - 0.005	0.003 - 0.006 - 0.008	0.002 - 0.003 - 0.005	☆ 100-160-230	-	☆ 130-200-260	☆ 130-200-260	-	☆ 100-160-230	-	-	-	-
	Hardened Materials (≤ 60 HRC)	0.002 - 0.003 - 0.005	0.003 - 0.006 - 0.009	-	-	-	-	-	-	-	★ 200-260-330	-	-	-
A M	Aluminum (Si < 13%)	0.002 - 0.005 - 0.008	0.005 - 0.007 - 0.012	NOT Recommended	-	-	-	-	-	-	-	-	★ 660-2,950	☆ 660-980
	Aluminum (Si > 13%)	0.002 - 0.003 - 0.005	0.002 - 0.005 - 0.008		-	-	-	-	-	-	-	-	-	-

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

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

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

MEW Cutting Performance

LOMU1004 Insert

Part Number	Shouldering (Cutting Width ae = DC/2)	Slotting
MEW0625...-10 MEW0750...-10 MEW16...-10 MEW18...-10		
MEW1000...-10 } MEW1500...-10 MEW20...-10 } MEW50...-10		
MEW20-S20-10-150-2T MEW25-S25-10-170-2T (Long Shank)		
MEW032R...-10 } MEW063R...-10		

LOMU1505 Insert

Part Number	Shouldering (Cutting Width ae = DC/2)	Slotting
MEW1000...-15 } MEW1500...-15 MEW25...-15 } MEW50...-15		
MEW2000R...-15 } MEW3000R...-15 MEW040R...-15 } MEW080R...-15		

Cutting Conditions : Vc = 590 sfm, GM Chipbreaker Workpiece : 1049

Overhang Length

1. End Mill : Overhang length is "LH" in the product dimensions table
2. Face Mill : Overhang length is "LF" in the product dimensions table + minimum arbor overhang

MEWH Cutting Performance

LOMU1004 Insert

Cutting Dia.	Part Number	2 Flute (D.O.C. × ae)	Part Number	3 Flute (D.O.C. × ae)
Ø1.000" Ø25mm	MEWH1000 -W100-10-3-2T MEWH025 -S25-10-3-2T		-	-
Ø1.250" Ø32mm	MEWH1250 -W125-10-4-2T MEWH032 -S32-10-4-2T		-	-
Ø1.500" Ø40mm	MEWH1500 -W125-10-5-2T MEWH040 -S32-10-5-2T		MEWH040 -S32-10-5-3T	

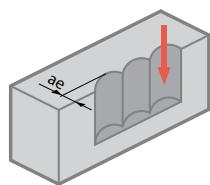
LOMU1505 Insert

Cutting Dia.	Part Number	2 Flute (D.O.C. × ae)	Part Number	3 Flute (D.O.C. × ae)
Ø1.500" Ø40mm	MEWH1500 -W125-15-4-2T MEWH040 -S32-15-4-2T		-	-
Ø2.000" Ø50mm	MEWH2000 -W150-15-4-2T MEWH050 -S42-15-4-2T		MEWH2000 -W150-15-4-3T MEWH050 -S42-15-4-3T	

Cutting Conditions : Vc = 490 sfm, fz = 0.003 - 0.005 ipt, GM Chipbreaker Workpiece : 4137

Overhang Length

End Mill : Overhang length is "L1" in the product dimension table



Available for Plunging

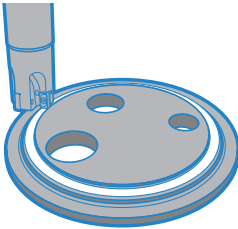
Insert Part Number	Maximum Width of Cut (ae)
LOMU10 LOGT10	0.197"
LOMU15 LOGT15	0.276"

NOT available for ramping and helical milling, because interference between workpiece and insert may occur.

Case Studies (MEW)

Construction Equipment Part A36

Vc = 820 sfm
fz = 0.006 ipt (Vf = 53.150 ipm)
D.O.C. x ae = 0.158" x 0.787"
Wet
MEW1250-W100-10-4T (4 Flutes)
LOMU100408ER-GM (PR1525)



Chip Removal Rate

PR1525



Machining Efficiency



Competitor L
(Positive Cutter)

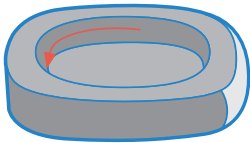


MEW showed stable milling without chattering at higher feed rates, improving the cutting efficiency by 150%. Burrs are prevented and excellent surface finish is achieved.

(User Evaluation)

Mold Part H13 (45HRC)

Vc = 330 sfm
fz = 0.004 ipt (Vf = 15.748 ipm)
D.O.C. x ae = 0.138" x 1.181"
Dry
MEW1250-W100-10-4T (4 Flutes)
LOMU100408ER-GH (PR1525)



Chip Removal Rate

PR1525



Machining Efficiency



Competitor M
(Positive Cutter)



(Unable to Continue Cutting)

MEW doubled cutting efficiency while MEW inserts also have double the number of edges (4-edge) for drastic cost reduction.

(User Evaluation)



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