BEST VALUE IN THE WORLD OF CUTTING TOOLS

Registered ISO 9001:2008 / ISO 14001:2004

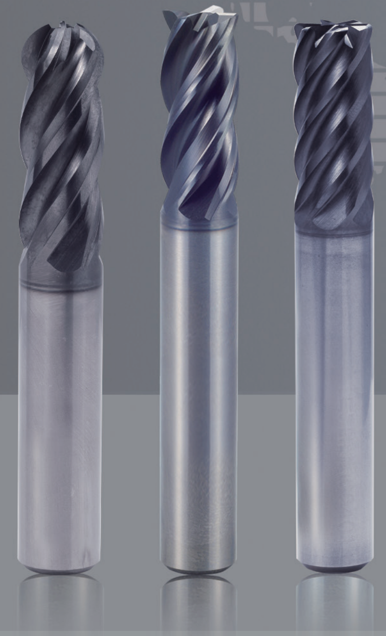
GLOBAL BRAND 2012 kotra

V7 Plus A

HIGH PERFORMANCE CARBIDE END MILLS
FOR STEEL, CAST IRON, STAINLESS STEEL

NEW SERIES

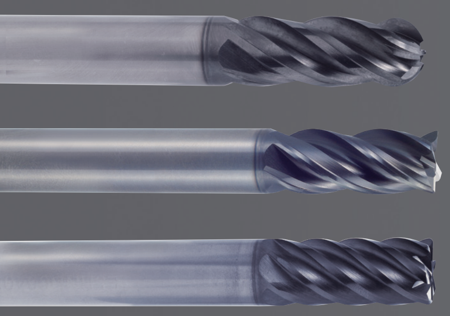
- 4 FLUTE BALL NOSE
- 6 FLUTE SQUARE & CORNER RADIUS



MADE IN USA

YG-1 CO., LTD.

V7 Plus A



YG-1 CO., LTD.

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PHONE: +82-32-526-0909
http://www.yg1.kr
E-mail:yg1@yg1.kr

Note The new address above has currently been updated since Korean new postal standard was valid from 2014.
Be noticed that the physical Headquarter location is NOT changed.

YG-1 USA
730 Corporate Woods Parkway Vernon Hills, IL 60061 U.S.A
PHONE: 800-765-8665
Technical Assistance: 888-868-5988
http://www.yg1usa.com

YouTube f in

YG1YUVP160000000

Leading Through Innovation

V7 Plus4 NEW ENGINEERED DESIGN!

The V7 Plus4 for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40 has a unique design that maximizes chip removal and improves productivity in slotting and heavy profiling operations. The V7 Plus4 advanced geometry reduces chatter for increased tool life and increased productivity.

APPLICATION :

- Stainless Steels
- Mild Steels and Cast Iron
- Low to Medium hardness materials under HRc40

FEATURES :

- High Performance Corner Geometries include Chamfer and Various Corner Radii sizes.
- Unequal Indexing
- Premium Grade Carbide Substrate

BENEFITS :

- Reduced chatter and harmonics for improved stability and better finishing.
- Designed flute geometry for optimal chip formation and chip evacuation.
- V7 Plus 6 flute has a unique geometry of the variable pitch provides the best chatter free tool for high speed and trochoidal milling.
- Enhanced corner geometry for longer tool life.
- Engineered coating for reduced wear and superior heat resistance.

YouTube YG V7 Plus

* When you search 'YG-1 Cutting Tool', you can watch more video clips.

SELECTION GUIDE

◎:Excellent ○:Good

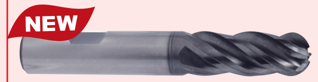
ITEM	MODEL	DESCRIPTION	SIZE Min.	SIZE Max.	P Carbon Steels ~HB225	P Alloy Steels HB225~352	P Prehardened Steels HRc30~40	P Hardened Steels HRc40~55	P HRc55~	M Stainless Steels	K Cast Iron	S High Temperature Alloy	S Titanium	PAGE
INCH														
UGMF68 UGMF69		CARBIDE, 4 FLUTE ◆	1/8 11/32	1	◎	◎	◎	○		◎	◎	○	○	7
UGMF70 UGMF71		CARBIDE, 4 FLUTE CORNER RADIUS ◆	1/8 3/8	1	◎	◎	◎	○		◎	◎	○	○	8
UGMF72 UGMF73		CARBIDE, 4 FLUTE with EXTENDED NECK ◆	1/4 3/8	1	◎	◎	◎	○		◎	◎	○	○	10
UGMF74 UGMF75		CARBIDE, 4 FLUTE with EXTENDED NECK, CORNER RADIUS ◆	1/4 3/8	1	◎	◎	◎	○		◎	◎	○	○	11
UGMF76 UGMF77		CARBIDE, 4 FLUTE ◆	3/8	1	◎	◎	◎	○		◎	◎	○	○	12
UGMG53 UGMG54	NEW	CARBIDE, 4 FLUTE BALL NOSE ◆	1/8 3/8	1	◎	◎	◎	○		◎	◎	○	○	13
UGMG20 UGMG21	NEW	CARBIDE, 6 FLUTE ◆	1/4 3/8	1	◎	◎	◎	○		◎	◎	○	○	14
UGMG22 UGMG23	NEW	CARBIDE, 6 FLUTE CORNER RADIUS ◆	1/4 3/8	1	◎	◎	◎	○		◎	◎	○	○	15

◆ U.S.A Stock

ICON GUIDE

MG HM	The tool is made of Micro grain carbide.		
4 6	No. of flute		
M-Helix 45°	Helix Angle	R ±.0008	Tolerance of Ball Radius
PLAIN FLAT	Type of shank	C x 45°	Chamfer Angle
	Cutting condition of tool see the page 000		

SELECTION GUIDE

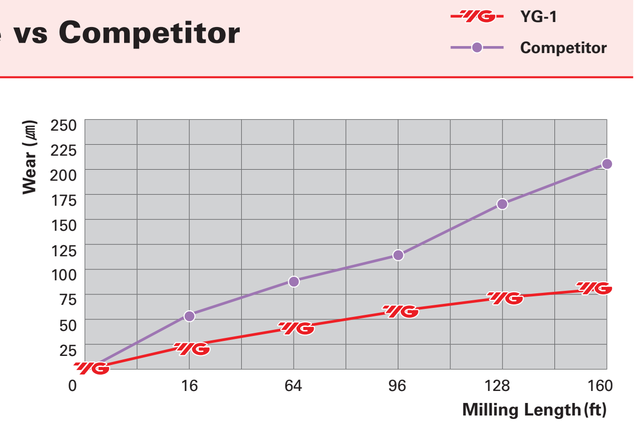
ITEM	MODEL	DESCRIPTION		SIZE Min.	SIZE Max.	P: Carbon Steels ~HB225	P: Alloy Steels HB225~352	P: Prehardened Steels HRc30~40	P: Hardened Steels HRc40~55	P: Hardened Steels HRc55~	M: Stainless Steels	K: Cast Iron	S: High Temperature Alloy	S: Titanium	PAGE
METRIC															
GMF52 GMF53		CARBIDE, 4 FLUTE SHORT	◇	D3.0	D20.0	◎	◎	◎	○		◎	◎	○	○	17
GMF54 GMF55		CARBIDE, 4 FLUTE SHORT, CORNER RADIUS	◇	D3.0	D20.0	◎	◎	◎	○		◎	◎	○	○	18
GMF56 GMF57		CARBIDE, 4 FLUTE LONG	◇	D3.0	D25.0	◎	◎	◎	○		◎	◎	○	○	19
GMF58 GMF59		CARBIDE, 4 FLUTE LONG, CORNER RADIUS	◇	D3.0	D25.0	◎	◎	◎	○		◎	◎	○	○	20
GMF60 GMF61		CARBIDE, 4 FLUTE with EXTENDED NECK	◇	D3.0	D20.0	◎	◎	◎	○		◎	◎	○	○	21
GMF62 GMF63		CARBIDE, 4 FLUTE with EXTENDED NECK, CORNER RADIUS	◇	D3.0	D20.0	◎	◎	◎	○		◎	◎	○	○	23
GMG55 GMG56	NEW 	CARBIDE, 4 FLUTE BALL NOSE	◇	R1.5	R12.5	◎	◎	◎	○		◎	◎	○	○	25
GMG12 GMG13	NEW 	CARBIDE, 6 FLUTE LONG	◇	D6.0	D25.0	◎	◎	◎	○		◎	◎	○	○	26
GMG14 GMG15		CARBIDE, 6 FLUTE EXTRA LONG	◇												
GMG16 GMG17	NEW 	CARBIDE, 6 FLUTE LONG, CORNER RADIUS	◇	D6.0	D25.0	◎	◎	◎	○		◎	◎	○	○	27
GMG18 GMG19		CARBIDE, 6 FLUTE EXTRA LONG, CORNER RADIUS	◇												28

◇ Call for Availability

CASE STUDIES

Test - I: V7 Plus4 4 Flute vs Competitor

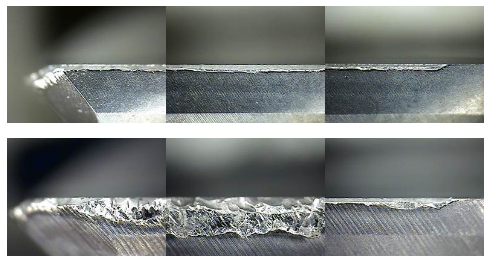
List \ Tool	V7 Plus4	Competitor
Wear(㎛)	83.518	203.381
Milling Length(ft)	160	160
Size(mm)	Ø10 x Ø10 x 22 x 72	
Work Material	- JIS:S45C(HRc30) - DIN:C45 - WR:1.0503	
Cutting Speed	754 ft/min.	
RPM	7,324 rev/min.	
Feed	57.64 inch/min.	
Feed per tooth	.002 inch/tooth	
Milling Method	Down & Side Cutting	
Milling Depth	Axial: .394 inch, Radial: .118 inch	
Coolant	Wet Cut	
Overhang	1.339 inch	
Machine	Machining Center	



Comparison of the Cutting Edges

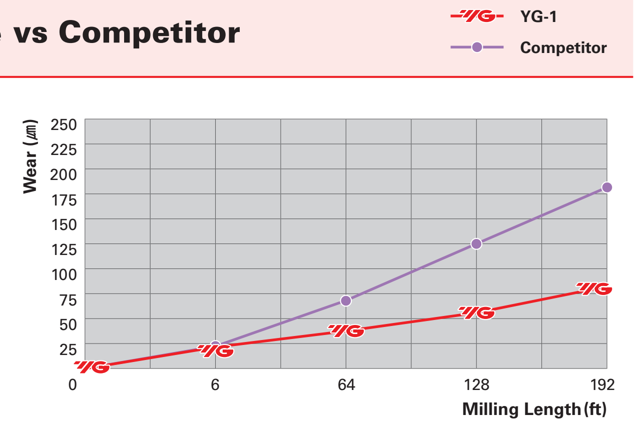
V7 Plus4

Competitor



Test - II: V7 Plus4 4 Flute vs Competitor

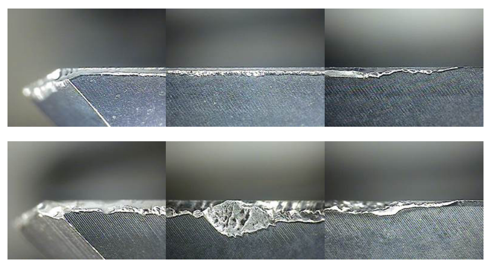
List \ Tool	V7 Plus4	Competitor
Wear(㎛)	81.485	183.296
Milling Length(ft)	192	192
Size(mm)	Ø16 x Ø16 x 32 x 92	
Work Material	- JIS:S45C(HRc30) - DIN:C45 - WR:1.0503	
Cutting Speed	524 ft/min.	
RPM	3,183 rev/min.	
Feed	22.56 inch/min.	
Feed per tooth	.002 inch/tooth	
Milling Method	Down & Side Cutting	
Milling Depth	Axial: .551 inch, Radial: .118 inch	
Coolant	Wet Cut	
Overhang	1.772 inch	
Machine	Machining Center	



Comparison of the Cutting Edges

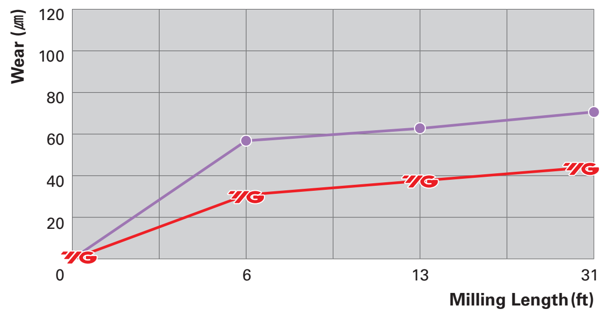
V7 Plus4

Competitor



Test - Ⅲ: V7 Plus4 4 Flute vs Competitor

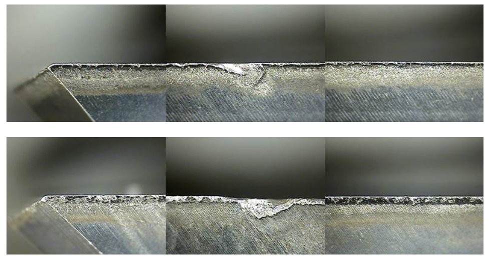
Tool / List	V7 Plus4	Competitor
Wear(㎛)	43.535	72.683
Milling Length(ft)	31	31
Size(mm)	Ø16 x Ø16 x 32 x 92	
Work Material	- JIS:SUS304 - DIN:X5CrNi18 10 (X 4 CrNi18-10) - WR:1.4303	
Cutting Speed	328 ft/min.	
RPM	1,990 rev/min.	
Feed	21.93 inch/min.	
Feed per tooth	.001 inch/tooth	
Milling Method	Slotting	
Milling Depth	Axial: .630 inch	
Coolant	Wet Cut	
Overhang	1.772 inch	
Machine	Machining Center	



Comparison of the Cutting Edges

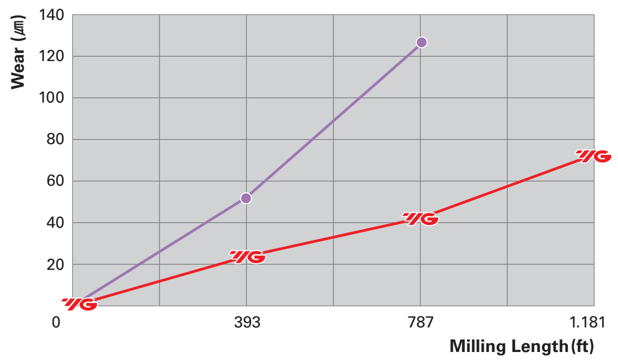
V7 Plus4

Competitor



Test - Ⅳ: V7 Plus4 6 Flute vs Competitor

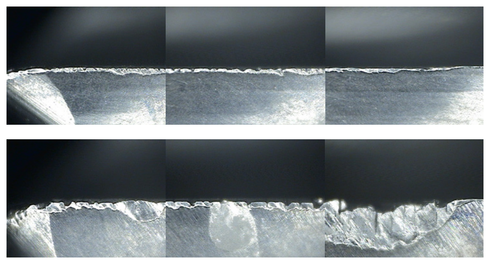
Tool / List	V7 Plus4	Competitor
Wear(㎛)	70.855	76.498
Milling Length(ft)	1,181	1,181
Size(mm)	Ø12(R1) x Ø12 x 26 x 83	
Work Material	- JIS:S45C(HRc30) - DIN:C45 - WR:1.0503	
Cutting Speed	914 ft/min.	
RPM	7,392 rev/min.	
Feed	295.08 inch/min.	
Feed per tooth	.007 inch/tooth	
Milling Method	Trochoidal Cutting	
Milling Depth	Axial: .945 inch,Radial: .024 inch	
Coolant	Wet Cut	
Overhang	1.417 inch	
Machine	Machining Center	



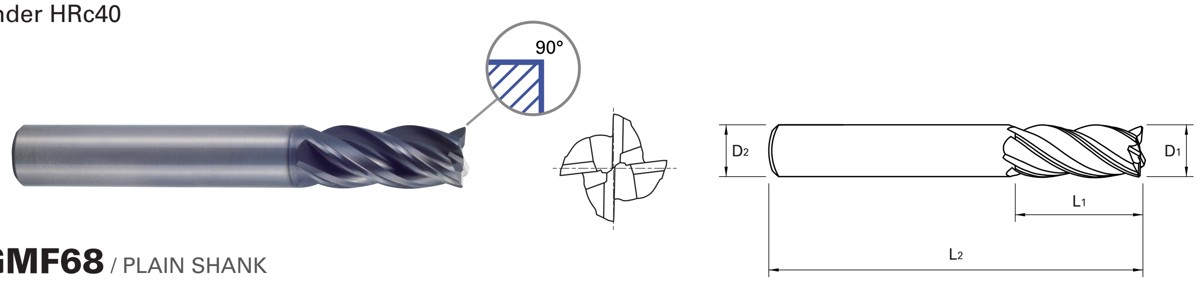
Comparison of the Cutting Edges

V7 Plus4

Competitor



- Special flute geometry and multiple helix eliminate vibrations
- Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



UGMF68 / PLAIN SHANK
UGMF69 / FLAT SHANK

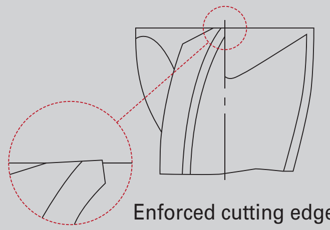
MG HM | 4 | M-Helix | PLAIN | FLAT | P.30~33

MADE IN USA

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

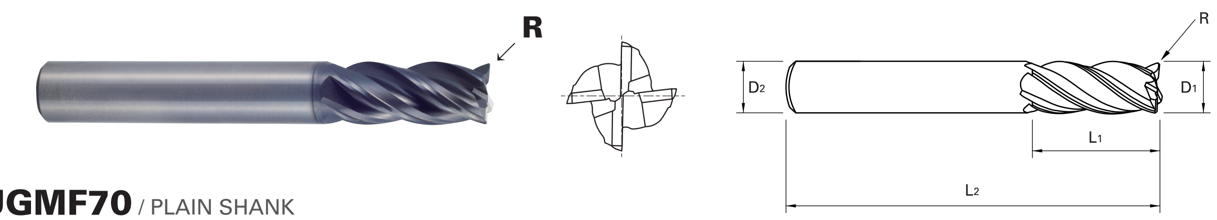
EDP No. PLAIN	EDP No. FLAT	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
UGMF68008	-	1/8	1/8	1/8	1-1/2
UGMF68901	-		1/8	3/8	1-1/2
UGMF68010	-	5/32	3/16	3/16	2
UGMF68902	-		3/16	7/16	2
UGMF68012	-	3/16	3/16	3/16	2
UGMF68903	-		3/16	7/16	2
UGMF68014	-	7/32	1/4	1/4	2
UGMF68904	-		1/4	7/16	2-1/2
UGMF68016	-	1/4	1/4	3/8	2
UGMF68905	-		1/4	3/4	2-1/2
UGMF68018	-	9/32	5/16	5/8	2-1/2
UGMF68020	-	5/16	5/16	7/16	2
UGMF68906	-		5/16	13/16	2-1/2
UGMF68022	UGMF69022	11/32	3/8	1/2	2-1/2
UGMF68024	UGMF69024	3/8	3/8	1/2	2-1/2
UGMF68907	UGMF69907		3/8	7/8	2-1/2
UGMF68028	UGMF69028	7/16	7/16	5/8	2-1/2
UGMF68908	UGMF69908		7/16	1	2-3/4
UGMF68032	UGMF69032	1/2	1/2	5/8	2-1/2
UGMF68909	UGMF69909		1/2	1	3
UGMF68910	UGMF69910		1/2	1-1/4	3-1/2
UGMF68040	UGMF69040	5/8	5/8	3/4	3
UGMF68911	UGMF69911		5/8	1-1/4	3-1/2
UGMF68048	UGMF69048	3/4	3/4	3/4	3
UGMF68912	UGMF69912		3/4	1-1/2	4
UGMF68064	UGMF69064	1	1	1	4
UGMF68913	UGMF69913		1	1-1/2	4
UGMF68914	UGMF69914		1	2	5



Enforced cutting edge

CARBIDE, 4 FLUTE CORNER RADIUS

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



UGMF70 / PLAIN SHANK
UGMF71 / FLAT SHANK

MG HM | 4 | M-Helix | PLAIN | FLAT | P.30~33

MADE IN USA

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

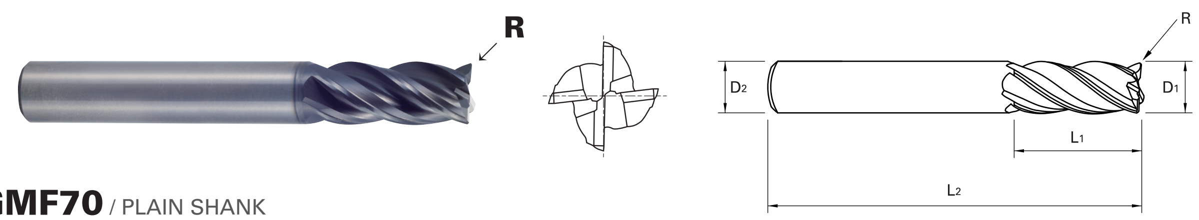
Unit : inch

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
UGMF70008	-	R.010	1/8	1/8	1/8	1-1/2
UGMF70901	-			1/8	3/8	1-1/2
UGMF70902	-	R.030		1/8	3/8	1-1/2
UGMF70012	-	R.010	3/16	3/16	3/16	2
UGMF70903	-			3/16	7/16	2
UGMF70904	-	R.030		3/16	7/16	2
UGMF70016	-	R.010	1/4	1/4	3/8	2
UGMF70905	-	R.030		1/4	3/8	2
UGMF70906	-	R.060		1/4	3/8	2
UGMF70907	-	R.010		1/4	3/4	2-1/2
UGMF70908	-	R.015		1/4	3/4	2-1/2
UGMF70909	-	R.030		1/4	3/4	2-1/2
UGMF70020	-	R.030	5/16	5/16	7/16	2
UGMF70910	-	R.010		5/16	13/16	2-1/2
UGMF70911	-	R.030		5/16	13/16	2-1/2
UGMF70912	-	R.060		5/16	13/16	2-1/2
UGMF70024	UGMF71024	R.010	3/8	3/8	1/2	2-1/2
UGMF70913	UGMF71913	R.030		3/8	1/2	2-1/2
UGMF70914	UGMF71914	R.060		3/8	1/2	2-1/2
UGMF70915	UGMF71915	R.010		3/8	7/8	2-1/2
UGMF70916	UGMF71916	R.030		3/8	7/8	2-1/2
UGMF70917	UGMF71917	R.060		3/8	7/8	2-1/2
UGMF70028	UGMF71028	R.015	7/16	7/16	5/8	2-1/2
UGMF70918	UGMF71918	R.030		7/16	5/8	2-1/2
UGMF70919	UGMF71919	R.010		7/16	1	2-3/4
UGMF70920	UGMF71920	R.030		7/16	1	2-3/4
UGMF70921	UGMF71921	R.060		7/16	1	2-3/4
UGMF70032	UGMF71032	R.010	1/2	1/2	5/8	2-1/2
UGMF70922	UGMF71922	R.015		1/2	5/8	2-1/2
UGMF70923	UGMF71923	R.030		1/2	5/8	2-1/2
UGMF70924	UGMF71924	R.060		1/2	5/8	2-1/2
UGMF70925	UGMF71925	R.010		1/2	1	3

▶ NEXT PAGE

CARBIDE, 4 FLUTE CORNER RADIUS

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



UGMF70 / PLAIN SHANK
UGMF71 / FLAT SHANK

MG HM | 4 | M-Helix | PLAIN | FLAT | P.30~33

MADE IN USA

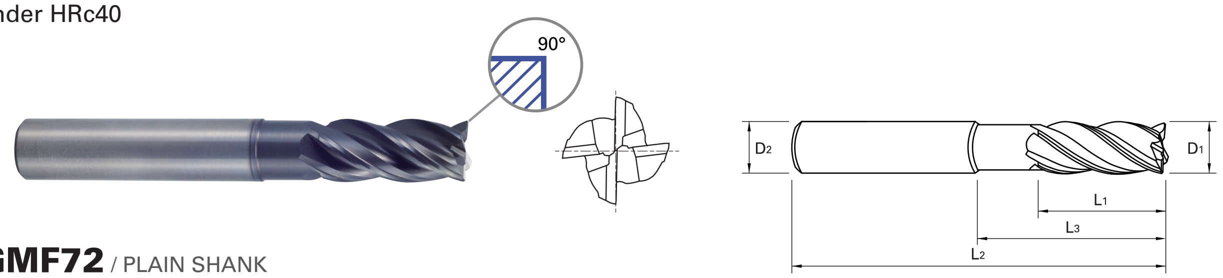
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
UGMF70926	UGMF71926	R.030	1/2	1/2	1	3
UGMF70927	UGMF71927	R.060		1/2	1	3
UGMF70928	UGMF71928	R.125		1/2	1	3
UGMF70929	UGMF71929	R.010		1/2	1-1/4	3-1/2
UGMF70930	UGMF71930	R.015		1/2	1-1/4	3-1/2
UGMF70931	UGMF71931	R.030		1/2	1-1/4	3-1/2
UGMF70932	UGMF71932	R.060		1/2	1-1/4	3-1/2
UGMF70933	UGMF71933	R.125		1/2	1-1/4	3-1/2
UGMF70040	UGMF71040	R.010	5/8	5/8	3/4	3
UGMF70934	UGMF71934	R.030		5/8	3/4	3
UGMF70935	UGMF71935	R.060		5/8	3/4	3
UGMF70936	UGMF71936	R.010		5/8	1-1/4	3-1/2
UGMF70937	UGMF71937	R.015		5/8	1-1/4	3-1/2
UGMF70938	UGMF71938	R.030		5/8	1-1/4	3-1/2
UGMF70939	UGMF71939	R.060		5/8	1-1/4	3-1/2
UGMF70940	UGMF71940	R.125		5/8	1-1/4	3-1/2
UGMF70048	UGMF71048	R.030	3/4	3/4	3/4	3
UGMF70941	UGMF71941	R.060		3/4	3/4	3
UGMF70942	UGMF71942	R.015		3/4	1-1/2	4
UGMF70943	UGMF71943	R.030		3/4	1-1/2	4
UGMF70944	UGMF71944	R.060		3/4	1-1/2	4
UGMF70945	UGMF71945	R.125		3/4	1-1/2	4
UGMF70064	UGMF71064	R.015	1	1	1	4
UGMF70946	UGMF71946	R.030		1	1	4
UGMF70947	UGMF71947	R.060		1	1	4
UGMF70948	UGMF71948	R.015		1	1-1/2	4
UGMF70949	UGMF71949	R.030		1	1-1/2	4
UGMF70950	UGMF71950	R.060		1	1-1/2	4
UGMF70951	UGMF71951	R.125		1	1-1/2	4
UGMF70952	UGMF71952	R.015		1	2	5
UGMF70953	UGMF71953	R.030		1	2	5
UGMF70954	UGMF71954	R.060		1	2	5

CARBIDE, 4 FLUTE with EXTENDED NECK

- Special flute geometry and multiple helix eliminate vibrations
- Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



UGMF72 / PLAIN SHANK
UGMF73 / FLAT SHANK

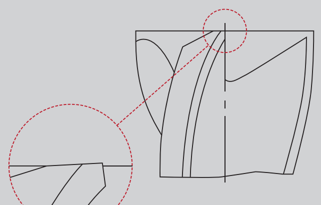
MG HM | 4 | M-Helix | PLAIN | FLAT | P.30~33

MADE IN USA

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

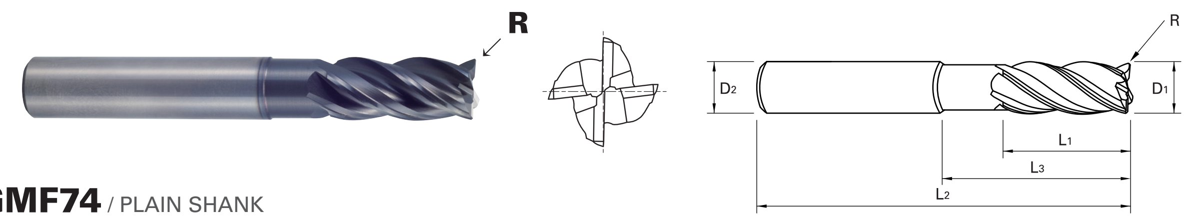
EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length
PLAIN	FLAT	D1	D2	L1	L3	L2
UGMF72016	-	1/4	1/4	3/8	3/4	4
UGMF72901	-		1/4	3/8	1-1/8	4
UGMF72902	-		1/4	3/8	2-1/8	4
UGMF72024	UGMF73024	3/8	3/8	1/2	1-1/8	4
UGMF72903	UGMF73903		3/8	1/2	2-1/8	4
UGMF72904	UGMF73904		3/8	1/2	3-1/8	6
UGMF72032	UGMF73032	1/2	1/2	5/8	1-1/2	4
UGMF72905	UGMF73905		1/2	5/8	2-1/4	4
UGMF72906	UGMF73906		1/2	5/8	3-3/8	6
UGMF72040	UGMF73040	5/8	5/8	3/4	1-5/8	4
UGMF72907	UGMF73907		5/8	3/4	2-3/8	6
UGMF72908	UGMF73908		5/8	3/4	3-3/8	6
UGMF72048	UGMF73048	3/4	3/4	1	2	4
UGMF72909	UGMF73909		3/4	1	3	6
UGMF72910	UGMF73910		3/4	1	4	6
UGMF72064	UGMF73064	1	1	1-1/8	2	4
UGMF72911	UGMF73911		1	1-1/8	3	6
UGMF72912	UGMF73912		1	1-1/8	4	6



Enforced cutting edge

CARBIDE, 4 FLUTE with EXTENDED NECK, CORNER RADIUS

- Special flute geometry and multiple helix eliminate vibrations
- Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



UGMF74 / PLAIN SHANK
UGMF75 / FLAT SHANK

MG HM | 4 | M-Helix | PLAIN | FLAT | P.30~33

MADE IN USA

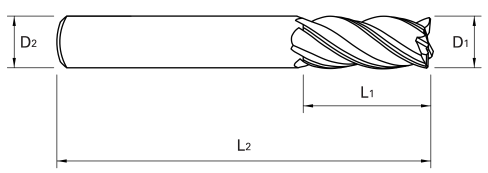
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L3	L2
UGMF74016	-	R.015	1/4	1/4	3/8	3/4	4
UGMF74901	-			1/4	3/8	1-1/8	4
UGMF74902	-			1/4	3/8	2-1/8	4
UGMF74024	UGMF75024	R.030	3/8	3/8	1/2	1-1/8	4
UGMF74903	UGMF75903			3/8	1/2	2-1/8	4
UGMF74904	UGMF75904			3/8	1/2	3-1/8	6
UGMF74032	UGMF75032	R.030	1/2	1/2	5/8	1-1/2	4
UGMF74905	UGMF75905			1/2	5/8	2-1/4	4
UGMF74906	UGMF75906			1/2	5/8	3-3/8	6
UGMF74040	UGMF75040	R.030	5/8	5/8	3/4	1-5/8	4
UGMF74907	UGMF75907			5/8	3/4	2-3/8	6
UGMF74908	UGMF75908			5/8	3/4	3-3/8	6
UGMF74048	UGMF75048	R.030	3/4	3/4	1	2	4
UGMF74909	UGMF75909			3/4	1	3	6
UGMF74910	UGMF75910			3/4	1	4	6
UGMF74064	UGMF75064	R.030	1	1	1-1/8	2	4
UGMF74911	UGMF75911			1	1-1/8	3	6
UGMF74912	UGMF75912			1	1-1/8	4	6

CARBIDE, 4 FLUTE

- Special flute geometry and multiple helix eliminate vibrations
- Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



UGMF76 / PLAIN SHANK
UGMF77 / FLAT SHANK

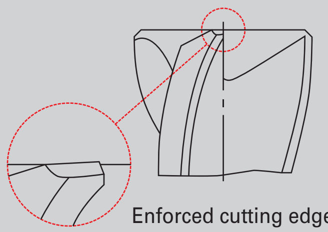
MG HM | 4 | M-Helix | PLAIN | FLAT | C x 45° | P.30~33

MADE IN USA

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

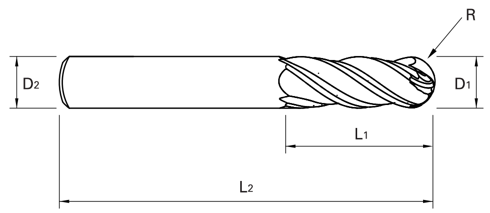
EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer
PLAIN	FLAT	D1	D2	L1	L2	
UGMF76024	UGMF77024	3/8	3/8	7/8	2-1/2	.011
UGMF76032	UGMF77032	1/2	1/2	5/8	2-1/2	.013
UGMF76901	UGMF77901		1/2	1-1/4	3-1/2	.013
UGMF76040	UGMF77040	5/8	5/8	1-1/4	3-1/2	.015
UGMF76048	UGMF77048	3/4	3/4	1-1/2	4	.019
UGMF76064	UGMF77064	1	1	1-1/2	4	.019



Enforced cutting edge

CADBIDE 4FLUTE BALL NOSE

- Special flute geometry and multiple helix eliminate vibrations
- Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



NEW

UGMG53 / PLAIN SHANK
UGMG54 / FLAT SHANK

MG HM | 4 | M-Helix | R ±.0008 | PLAIN | FLAT | P.34

MADE IN USA

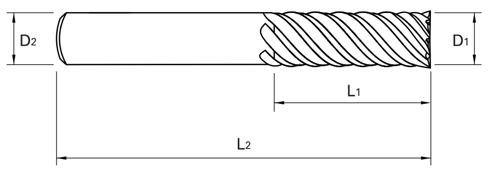
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

EDP No.		Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
UGMG53008	-	1/16	1/8	1/8	3/8	1-1/2
UGMG53010	-	5/64	5/32	3/16	7/16	2
UGMG53012	-	3/32	3/16	3/16	7/16	2
UGMG53014	-	7/64	7/32	1/4	7/16	2-1/2
UGMG53016	-	1/8	1/4	1/4	1/2	2-1/2
UGMG53018	-	9/64	9/32	5/16	5/8	2-1/2
UGMG53020	-	5/32	5/16	5/16	13/16	2-1/2
UGMG53022	UGMG54022	11/64	11/32	3/8	13/16	2-1/2
UGMG53024	UGMG54024	3/16	3/8	3/8	7/8	2-1/2
UGMG53028	UGMG54028	7/32	7/16	7/16	1	2-3/4
UGMG53032	UGMG54032	1/4	1/2	1/2	1	3
UGMG53040	UGMG54040	5/16	5/8	5/8	1-1/4	3-1/2
UGMG53048	UGMG54048	3/8	3/4	3/4	1-1/2	4
UGMG53064	UGMG54064	1/2	1	1	1-1/2	4

CARBIDE, 6 FLUTE

▶ The unique geometry of the variable pitch reduces chatter for high speed and trochoidal milling
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



NEW

UGMG20 / PLAIN SHANK
UGMG21 / FLAT SHANK

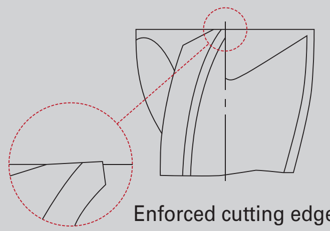
MG HM | 6 | 45° | PLAIN | FLAT | P.35

MADE IN USA

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

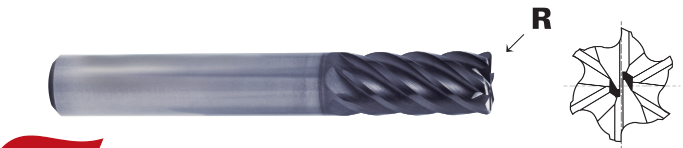
EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1	D2	L1	L2
UGMG20016	-	1/4	1/4	3/4	2-1/2
UGMG20901	-		1/4	1-1/8	3
UGMG20902	-		1/4	1-1/2	4
UGMG20020	-	5/16	5/16	3/4	2-1/2
UGMG20903	-		5/16	1-1/4	3
UGMG20904	-		5/16	1-5/8	4
UGMG20024	UGMG21024	3/8	3/8	1	3
UGMG20905	UGMG21905		3/8	1-1/2	4
UGMG20906	UGMG21906		3/8	2	4
UGMG20032	UGMG21032	1/2	1/2	1	3-1/4
UGMG20907	UGMG21907		1/2	1-1/4	3-1/2
UGMG20908	UGMG21908		1/2	2	4
UGMG20909	UGMG21909		1/2	3	5
UGMG20040	UGMG21040	5/8	5/8	1-1/4	3-1/2
UGMG20910	UGMG21910		5/8	2	4
UGMG20911	UGMG21911		5/8	3	5
UGMG20048	UGMG21048	3/4	3/4	1-1/2	4
UGMG20912	UGMG21912		3/4	3	5-1/2
UGMG20064	UGMG60064	1	1	1-1/2	4
UGMG20913	UGMG21913		1	4	7

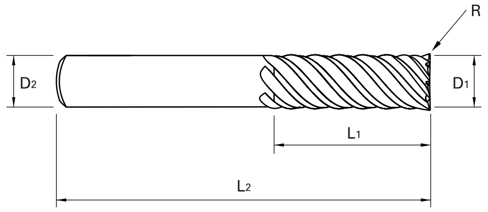


Enforced cutting edge

CARBIDE, 6 FLUTE CORNER RADIUS

▶ The unique geometry of the variable pitch reduces chatter tool for high speed and trochoidal milling
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40





NEW

UGMG22 / PLAIN SHANK
UGMG23 / FLAT SHANK

MG HM | 6 | 45° | PLAIN | FLAT | P.35

MADE IN USA

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

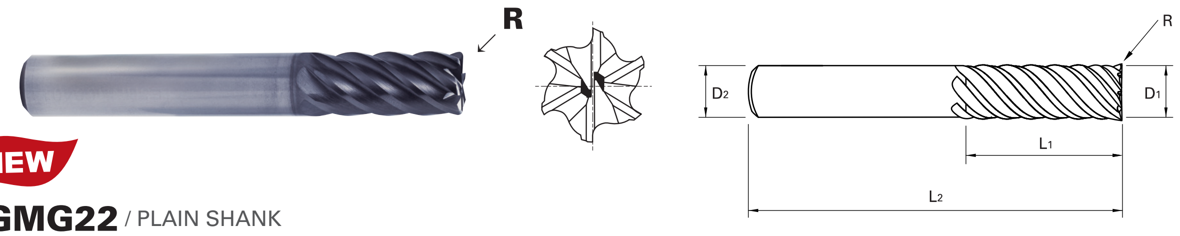
Unit : inch

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
UGMG22016	-	R.015	1/4	1/4	3/4	2-1/2
UGMG22901	-	R.015		1/4	1-1/8	3
UGMG22902	-	R.030		1/4	1-1/8	3
UGMG22903	-	R.015		1/4	1-1/2	4
UGMG22904	-	R.030		1/4	1-1/2	4
UGMG22020	-	R.015	5/16	5/16	3/4	2-1/2
UGMG22905	-	R.015		5/16	1-1/4	3
UGMG22906	-	R.030		5/16	1-1/4	3
UGMG22907	-	R.015		5/16	1-5/8	4
UGMG22908	-	R.030		5/16	1-5/8	4
UGMG22024	UGMG23024	R.015	3/8	3/8	1	3
UGMG22909	UGMG23909	R.030		3/8	1	3
UGMG22910	UGMG23910	R.060		3/8	1	3
UGMG22911	UGMG23911	R.015		3/8	1-1/2	4
UGMG22912	UGMG23912	R.030		3/8	1-1/2	4
UGMG22913	UGMG23913	R.060		3/8	1-1/2	4
UGMG22914	UGMG23914	R.015		3/8	2	4
UGMG22915	UGMG23915	R.030		3/8	2	4
UGMG22916	UGMG23916	R.060		3/8	2	4
UGMG22032	UGMG23032	R.015	1/2	1/2	1	3
UGMG22917	UGMG23917	R.030		1/2	1	3
UGMG22918	UGMG23918	R.060		1/2	1	3
UGMG22919	UGMG23919	R.030		1/2	1-1/4	3-1/2
UGMG22920	UGMG23920	R.060		1/2	1-1/4	3-1/2
UGMG22921	UGMG23921	R.090		1/2	1-1/4	3-1/2
UGMG22922	UGMG23922	R.120		1/2	1-1/4	3-1/2
UGMG22923	UGMG23923	R.030		1/2	2	4
UGMG22924	UGMG23924	R.060		1/2	2	4
UGMG22925	UGMG23925	R.090		1/2	2	4
UGMG22926	UGMG23926	R.120		1/2	2	4
UGMG22927	UGMG23927	R.030		1/2	3	5

▶ NEXT PAGE

CARBIDE, 6 FLUTE CORNER RADIUS

▶ The unique geometry of the variable pitch reduces chatter tool for high speed and trochoidal milling
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



NEW

UGMG22 / PLAIN SHANK
UGMG23 / FLAT SHANK

MG HM | 6 | 45° | PLAIN | FLAT | P.35

MADE IN USA

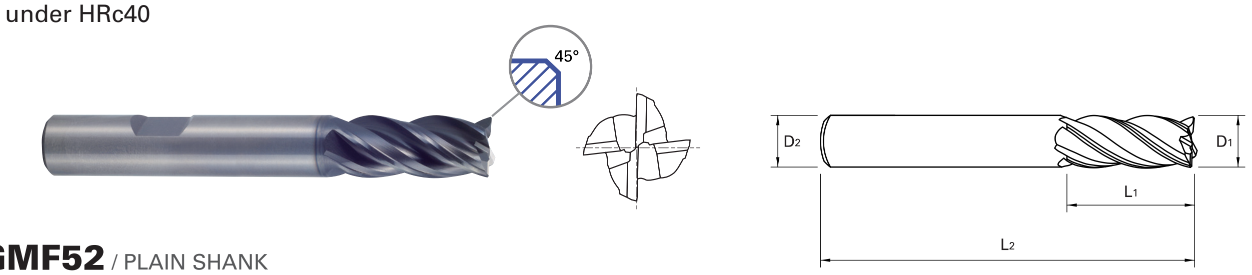
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : inch

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
UGMG22928	UGMG23928	R.060	1/2	1/2	3	5
UGMG22929	UGMG23929	R.090		1/2	3	5
UGMG22930	UGMG23930	R.120		1/2	3	5
UGMG22040	UGMG23040	R.030	5/8	5/8	1-1/4	3-1/2
UGMG22931	UGMG23931	R.060		5/8	1-1/4	3-1/2
UGMG22932	UGMG23932	R.090		5/8	1-1/4	3-1/2
UGMG22933	UGMG23933	R.120		5/8	1-1/4	3-1/2
UGMG22934	UGMG23934	R.030		5/8	2	4
UGMG22935	UGMG23935	R.060		5/8	2	4
UGMG22936	UGMG23936	R.090		5/8	2	4
UGMG22937	UGMG23937	R.120		5/8	2	4
UGMG22938	UGMG23938	R.030		5/8	3	5
UGMG22939	UGMG23939	R.060		5/8	3	5
UGMG22940	UGMG23940	R.090		5/8	3	5
UGMG22941	UGMG23941	R.120		5/8	3	5
UGMG22048	UGMG23048	R.030	3/4	3/4	1-1/2	4
UGMG22942	UGMG23942	R.060		3/4	1-1/2	4
UGMG22943	UGMG23943	R.090		3/4	1-1/2	4
UGMG22944	UGMG23944	R.120		3/4	1-1/2	4
UGMG22945	UGMG23945	R.030		3/4	3	5-1/2
UGMG22946	UGMG23946	R.060		3/4	3	5-1/2
UGMG22947	UGMG23947	R.090		3/4	3	5-1/2
UGMG22948	UGMG23948	R.120		3/4	3	5-1/2
UGMG22064	UGMG23064	R.030	1	1	1-1/2	4
UGMG22949	UGMG23949	R.060		1	1-1/2	4
UGMG22950	UGMG23950	R.090		1	1-1/2	4
UGMG22951	UGMG23951	R.120		1	1-1/2	4
UGMG22952	UGMG23952	R.030		1	4	7
UGMG22953	UGMG23953	R.060		1	4	7
UGMG22954	UGMG23954	R.090		1	4	7
UGMG22955	UGMG23955	R.120		1	4	7

CARBIDE, 4 FLUTE SHORT

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



GMF52 / PLAIN SHANK
GMF53 / FLAT SHANK

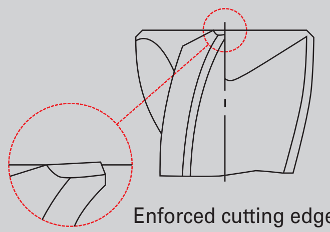
◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | C x 45° | P.36~37

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

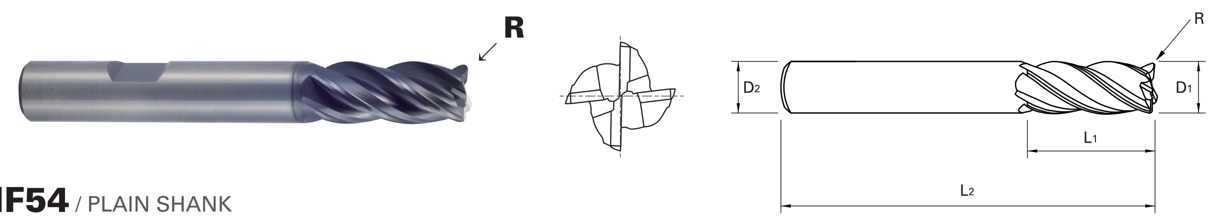
Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer
PLAIN	FLAT	D1	D2	L1	L2	
GMF52030	GMF53030	3.0	6	7	54	0.10
GMF52040	GMF53040	4.0	6	8	54	0.15
GMF52050	GMF53050	5.0	6	10	54	0.15
GMF52060	GMF53060	6.0	6	10	54	0.20
GMF52080	GMF53080	8.0	8	12	58	0.20
GMF52100	GMF53100	10.0	10	14	66	0.30
GMF52120	GMF53120	12.0	12	16	73	0.35
GMF52140	GMF53140	14.0	14	18	75	0.40
GMF52160	GMF53160	16.0	16	22	82	0.40
GMF52180	GMF53180	18.0	18	24	84	0.50
GMF52200	GMF53200	20.0	20	26	92	0.50



YG CARBIDE, 4 FLUTE SHORT CORNER RADIUS

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



GMF54 / PLAIN SHANK
GMF55 / FLAT SHANK

◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | P.36~37

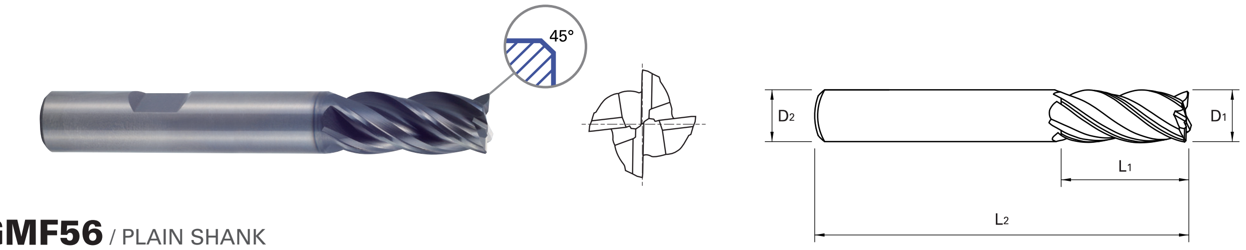
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMF54030	GMF55030	R0.3	3.0	6	7	54
GMF54901	GMF55901	R0.5		6	7	54
GMF54040	GMF55040	R0.3	4.0	6	8	54
GMF54902	GMF55902	R0.5		6	8	54
GMF54050	GMF55050	R0.3	5.0	6	10	54
GMF54903	GMF55903	R0.5		6	10	54
GMF54060	GMF55060	R0.3	6.0	6	10	54
GMF54904	GMF55904	R0.5		6	10	54
GMF54905	GMF55905	R1.0		6	10	54
GMF54080	GMF55080	R0.5	8.0	8	12	58
GMF54906	GMF55906	R1.0		8	12	58
GMF54100	GMF55100	R0.5	10.0	10	14	66
GMF54907	GMF55907	R1.0		10	14	66
GMF54120	GMF55120	R0.5	12.0	12	16	73
GMF54908	GMF55908	R1.0		12	16	73
GMF54909	GMF55909	R2.0		12	16	73
GMF54140	GMF55140	R0.5	14.0	14	18	75
GMF54160	GMF55160	R1.0	16.0	16	22	82
GMF54912	GMF55912	R2.0		16	22	82
GMF54913	GMF55913	R3.0		16	22	82
GMF54180	GMF55180	R1.0	18.0	18	24	84
GMF54200	GMF55200	R1.0	20.0	20	26	92
GMF54916	GMF55916	R2.0		20	26	92
GMF54917	GMF55917	R3.0		20	26	92

YG CARBIDE, 4 FLUTE LONG

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



GMF56 / PLAIN SHANK
GMF57 / FLAT SHANK

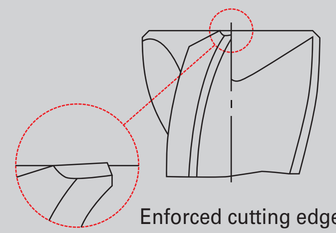
◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | C x 45° | P.36~37

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : mm

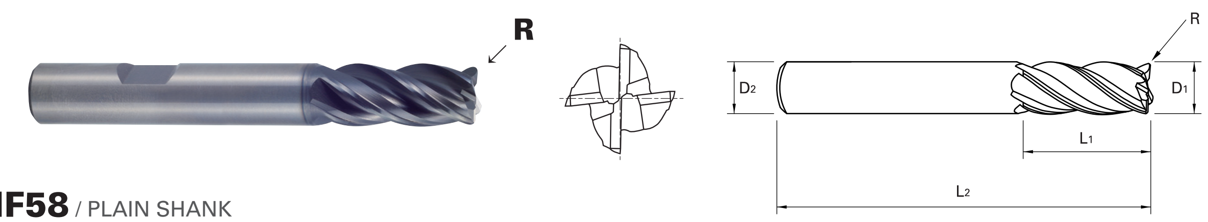
EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	Chamfer
PLAIN	FLAT	D1	D2	L1	L2	
GMF56030	GMF57030	3.0	6	8	57	0.10
GMF56040	GMF57040	4.0	6	11	57	0.15
GMF56050	GMF57050	5.0	6	13	57	0.15
GMF56060	GMF57060	6.0	6	13	57	0.20
GMF56080	GMF57080	8.0	8	19	63	0.20
GMF56100	GMF57100	10.0	10	22	72	0.30
GMF56120	GMF57120	12.0	12	26	83	0.35
GMF56140	GMF57140	14.0	14	26	83	0.40
GMF56160	GMF57160	16.0	16	32	92	0.40
GMF56180	GMF57180	18.0	18	32	92	0.50
GMF56200	GMF57200	20.0	20	38	104	0.50
GMF56250	GMF57250	25.0	25	38	104	0.50



Enforced cutting edge

CARBIDE, 4 FLUTE LONG CORNER RADIUS

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



GMF58 / PLAIN SHANK
GMF59 / FLAT SHANK

◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | P.36~37

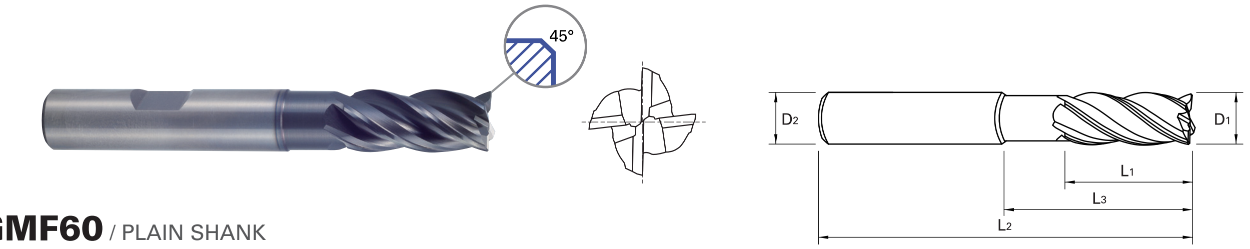
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D_1	D_2	L_1	L_2
GMF58030	GMF59030	R0.3	3.0	6	8	57
GMF58901	GMF59901	R0.5		6	8	57
GMF58040	GMF59040	R0.3	4.0	6	11	57
GMF58902	GMF59902	R0.5		6	11	57
GMF58050	GMF59050	R0.3	5.0	6	13	57
GMF58903	GMF59903	R0.5		6	13	57
GMF58060	GMF59060	R0.3	6.0	6	13	57
GMF58904	GMF59904	R0.5		6	13	57
GMF58905	GMF59905	R1.0		6	13	57
GMF58080	GMF59080	R0.5	8.0	8	19	63
GMF58906	GMF59906	R1.0		8	19	63
GMF58100	GMF59100	R0.5	10.0	10	22	72
GMF58907	GMF59907	R1.0		10	22	72
GMF58120	GMF59120	R0.5	12.0	12	26	83
GMF58908	GMF59908	R1.0		12	26	83
GMF58909	GMF59909	R2.0		12	26	83
GMF58140	GMF59140	R0.5	14.0	14	26	83
GMF58160	GMF59160	R1.0	16.0	16	32	92
GMF58912	GMF59912	R2.0		16	32	92
GMF58913	GMF59913	R3.0		16	32	92
GMF58180	GMF59180	R1.0	18.0	18	32	92
GMF58200	GMF59200	R1.0	20.0	20	38	104
GMF58916	GMF59916	R2.0		20	38	104
GMF58917	GMF59917	R3.0		20	38	104
GMF58250	GMF59250	R1.0	25.0	25	38	104

CARBIDE, 4 FLUTE with EXTENDED NECK

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



GMF60 / PLAIN SHANK
GMF61 / FLAT SHANK

◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | C x 45° | P.36~37

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Chamfer
PLAIN	FLAT	D_1	D_2	L_1	L_3	L_2	D_3	
GMF60030	GMF61030	3.0	6	7	12	54	2.7	0.10
GMF60901	GMF61901		6	7	17	57	2.7	0.10
GMF60902	GMF61902		6	8	14	57	2.7	0.10
GMF60040	GMF61040	4.0	6	8	15	57	3.7	0.15
GMF60903	GMF61903		6	8	22	63	3.7	0.15
GMF60904	GMF61904		6	11	16	57	3.7	0.15
GMF60050	GMF61050	5.0	6	10	17	57	4.7	0.15
GMF60905	GMF61905		6	10	27	67	4.7	0.15
GMF60906	GMF61906		6	13	18	57	4.7	0.15
GMF60060	GMF61060	6.0	6	10	15	57	5.5	0.20
GMF60907	GMF61907		6	10	20	62	5.5	0.20
GMF60908	GMF61908		6	10	32	74	5.5	0.20
GMF60909	GMF61909		6	13	21	57	5.5	0.20
GMF60080	GMF61080	8.0	8	12	20	63	7.5	0.20
GMF60910	GMF61910		8	12	30	73	7.5	0.20
GMF60911	GMF61911		8	12	46	90	7.5	0.20
GMF60912	GMF61912		8	19	27	63	7.5	0.20
GMF60100	GMF61100	10.0	10	14	25	72	9.2	0.30
GMF60913	GMF61913		10	14	35	82	9.2	0.30
GMF60914	GMF61914		10	14	55	102	9.2	0.30
GMF60915	GMF61915		10	22	32	72	9.2	0.30

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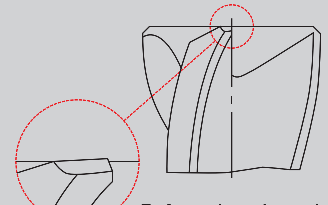
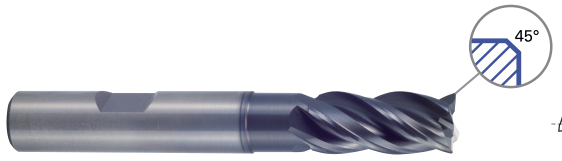
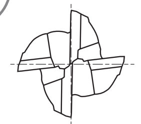


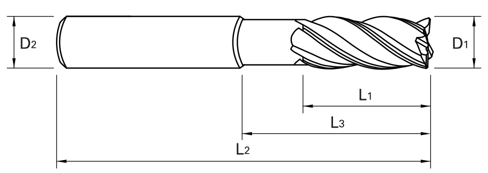
Enforced cutting edge

CARBIDE, 4 FLUTE with EXTENDED NECK

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40







GMF60 / PLAIN SHANK
GMF61 / FLAT SHANK

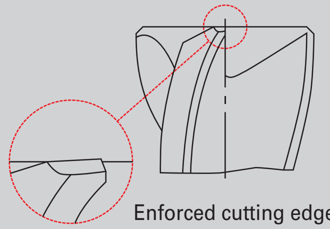
◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | C x 45° | P.36~37

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : mm

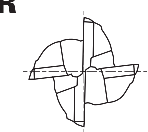
EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter	Chamfer
PLAIN	FLAT	D1	D2	L1	L3	L2	D3	
GMF60120	GMF61120	12.0	12	16	30	83	11.0	0.35
GMF60916	GMF61916		12	16	40	93	11.0	0.35
GMF60917	GMF61917		12	16	64	117	11.0	0.35
GMF60918	GMF61918		12	26	38	83	11.0	0.35
GMF60160	GMF61160	16.0	16	22	38	92	15.0	0.40
GMF60919	GMF61919		16	22	55	109	15.0	0.40
GMF60920	GMF61920		16	22	87	141	15.0	0.40
GMF60921	GMF61921		16	32	44	92	15.0	0.40
GMF60200	GMF61200	20.0	20	26	50	104	19.0	0.50
GMF60922	GMF61922		20	26	70	124	19.0	0.50
GMF60923	GMF61923		20	26	110	164	19.0	0.50
GMF60924	GMF61924		20	38	54	104	19.0	0.50

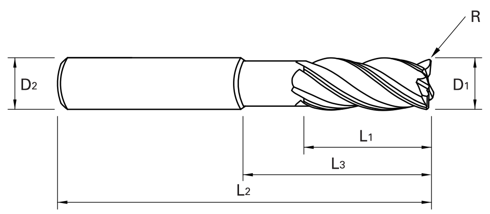


Enforced cutting edge

CARBIDE, 4 FLUTE with EXTENDED NECK CORNER RADIUS

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40





GMF62 / PLAIN SHANK
GMF63 / FLAT SHANK

◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | P.36~37

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : mm

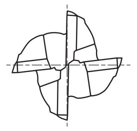
EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L3	L2
GMF62030	GMF63030	R0.3	3.0	6	7	12	54
GMF62901	GMF63901	R0.5		6	7	12	54
GMF62902	GMF63902	R0.3		6	7	17	57
GMF62903	GMF63903	R0.5		6	7	17	57
GMF62040	GMF63040	R0.3	4.0	6	8	15	57
GMF62904	GMF63904	R0.5		6	8	15	57
GMF62905	GMF63905	R0.3		6	8	22	63
GMF62906	GMF63906	R0.5		6	8	22	63
GMF62050	GMF63050	R0.3	5.0	6	10	17	57
GMF62907	GMF63907	R0.5		6	10	17	57
GMF62908	GMF63908	R0.3		6	10	27	67
GMF62909	GMF63909	R0.5		6	10	27	67
GMF62060	GMF63060	R0.3	6.0	6	10	15	57
GMF62910	GMF63910	R0.5		6	10	15	57
GMF62911	GMF63911	R1.0		6	10	15	57
GMF62912	GMF63912	R0.3		6	10	20	62
GMF62913	GMF63913	R0.5		6	10	20	62
GMF62914	GMF63914	R1.0		6	10	20	62
GMF62915	GMF63915	R0.3		6	10	32	74
GMF62916	GMF63916	R0.5		6	10	32	74
GMF62917	GMF63917	R1.0		6	10	32	74
GMF62080	GMF63080	R0.5	8.0	8	12	20	63
GMF62918	GMF63918	R1.0		8	12	20	63
GMF62919	GMF63919	R0.5		8	12	30	73
GMF62920	GMF63920	R1.0		8	12	30	73
GMF62921	GMF63921	R0.5		8	12	46	90
GMF62922	GMF63922	R1.0		8	12	46	90
GMF62100	GMF63100	R0.5	10.0	10	14	25	72
GMF62923	GMF63923	R1.0		10	14	25	72
GMF62924	GMF63924	R0.5		10	14	35	82

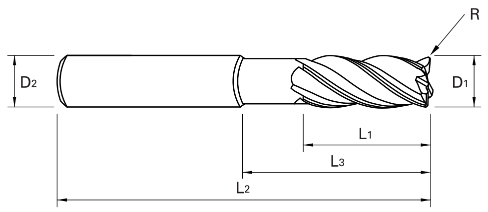
▶ NEXT PAGE

CARBIDE, 4 FLUTE with EXTENDED NECK CORNER RADIUS

V7 Plus4

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40





GMF62 / PLAIN SHANK
GMF63 / FLAT SHANK

◇ Call for Availability

MG HM | 4 | M-Helix | PLAIN | FLAT | P.36~37

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

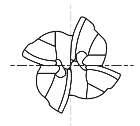
Unit : mm

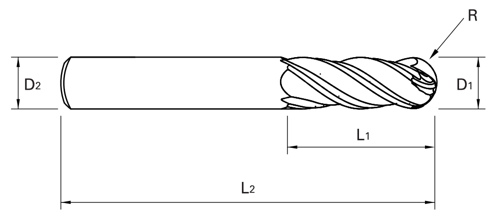
EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L3	L2
GMF62925	GMF63925	R1.0	10.0	10	14	35	82
GMF62926	GMF63926	R0.5		10	14	55	102
GMF62927	GMF63927	R1.0		10	14	55	102
GMF62120	GMF63120	R0.5	12.0	12	16	30	83
GMF62928	GMF63928	R1.0		12	16	30	83
GMF62929	GMF63929	R2.0		12	16	30	83
GMF62930	GMF63930	R0.5		12	16	40	93
GMF62931	GMF63931	R1.0		12	16	40	93
GMF62932	GMF63932	R2.0		12	16	40	93
GMF62933	GMF63933	R0.5		12	16	64	117
GMF62934	GMF63934	R1.0		12	16	64	117
GMF62935	GMF63935	R2.0		12	16	64	117
GMF62160	GMF63160	R1.0	16.0	16	22	38	92
GMF62936	GMF63936	R2.0		16	22	38	92
GMF62937	GMF63937	R3.0		16	22	38	92
GMF62938	GMF63938	R1.0		16	22	55	109
GMF62939	GMF63939	R2.0		16	22	55	109
GMF62940	GMF63940	R3.0		16	22	55	109
GMF62941	GMF63941	R1.0		16	22	87	141
GMF62942	GMF63942	R2.0		16	22	87	141
GMF62943	GMF63943	R3.0		16	22	87	141
GMF62200	GMF63200	R1.0	20.0	20	26	50	104
GMF62944	GMF63944	R2.0		20	26	50	104
GMF62945	GMF63945	R3.0		20	26	50	104
GMF62946	GMF63946	R1.0		20	26	70	124
GMF62947	GMF63947	R2.0		20	26	70	124
GMF62948	GMF63948	R3.0		20	26	70	124
GMF62949	GMF63949	R1.0		20	26	110	164
GMF62950	GMF63950	R2.0		20	26	110	164
GMF62951	GMF63951	R3.0		20	26	110	164

CARBIDE, 4 FLUTE BALL NOSE

V7 Plus4

▶ Special flute geometry and multiple helix eliminate vibrations
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40





NEW

GMG55 / PLAIN SHANK
GMG56 / FLAT SHANK

◇ Call for Availability

MG HM | 4 | M-Helix | R ±.0008 | PLAIN | FLAT | P.38

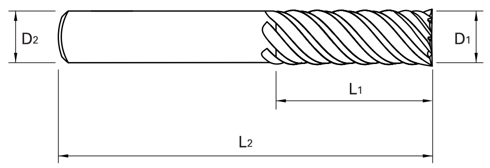
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMG55030	GMG56030	R1.5	**3.0**	6	8	57
GMG55040	GMG56040	R2.0	**4.0**	6	11	57
GMG55050	GMG56050	R2.5	**5.0**	6	13	57
GMG55060	GMG56060	R3.0	**6.0**	6	13	57
GMG55080	GMG56080	R4.0	**8.0**	8	19	63
GMG55100	GMG56100	R5.0	**10.0**	10	22	72
GMG55120	GMG56120	R6.0	**12.0**	12	26	83
GMG55160	GMG56160	R8.0	**16.0**	16	32	92
GMG55200	GMG56200	R10.0	**20.0**	20	38	104
GMG55250	GMG56250	R12.5	**25.0**	25	38	104

CARBIDE, 6 FLUTE LONG & EXTRA LONG

▶ The unique geometry of the variable pitch reduces chatter for high speed and trochoidal milling
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40



NEW

GMG12 / PLAIN SHANK **GMG14** / PLAIN SHANK
GMG13 / FLAT SHANK **GMG15** / FLAT SHANK

◇ Call for Availability

MG HM | 6 | 45° | PLAIN | FLAT | P.39

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

LONG

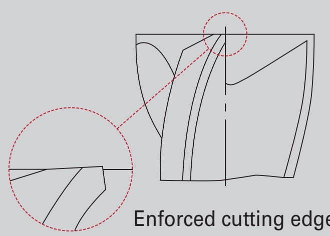
Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1	D2	L1	L2
GMG12060	GMG13060	6.0	6	13	57
GMG12080	GMG13080	8.0	8	19	63
GMG12100	GMG13100	10.0	10	22	72
GMG12120	GMG13120	12.0	12	26	83
GMG12160	GMG13160	16.0	16	32	92
GMG12200	GMG13200	20.0	20	38	104
GMG12250	GMG13250	25.0	25	44	104

EXTRA LONG

Unit : mm

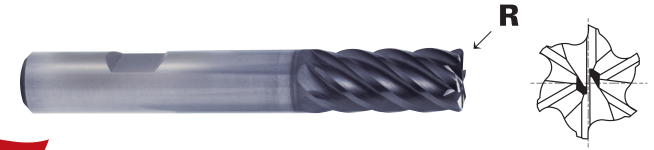
EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1	D2	L1	L2
GMG14060	GMG15060	6.0	6	24	75
GMG14080	GMG15080	8.0	8	32	75
GMG14100	GMG15100	10.0	10	40	100
GMG14120	GMG15120	12.0	12	48	120
GMG14160	GMG15160	16.0	16	64	140
GMG14200	GMG15200	20.0	20	80	150
GMG14250	GMG15250	25.0	25	100	170

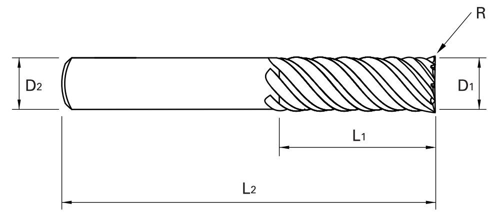


Enforced cutting edge

CARBIDE, 6 FLUTE LONG CORNER RADIUS

▶ The unique geometry of the variable pitch reduces chatter for high speed and trochoidal milling
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40





NEW

GMG16 / PLAIN SHANK
GMG17 / FLAT SHANK

◇ Call for Availability

MG HM | 6 | 45° | PLAIN | FLAT | P.39

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

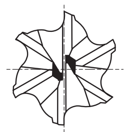
LONG

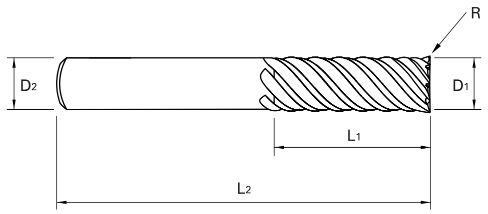
Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMG16060	GMG17060	R0.5	6.0	6	13	57
GMG16901	GMG17901	R1.0		6	13	57
GMG16080	GMG17080	R0.5	8.0	8	19	63
GMG16902	GMG17902	R1.0		8	19	63
GMG16100	GMG17100	R0.5	10.0	10	22	72
GMG16903	GMG17903	R1.0		10	22	72
GMG16904	GMG17904	R1.5		10	22	72
GMG16905	GMG17905	R2.0		10	22	72
GMG16120	GMG17120	R0.5	12.0	12	26	83
GMG16906	GMG17906	R1.0		12	26	83
GMG16907	GMG17907	R1.5		12	26	83
GMG16908	GMG17908	R2.0		12	26	83
GMG16909	GMG17909	R3.0		12	26	83
GMG16160	GMG17160	R1.0	16.0	16	32	92
GMG16910	GMG17910	R1.5		16	32	92
GMG16911	GMG17911	R2.0		16	32	92
GMG16912	GMG17912	R3.0		16	32	92
GMG16200	GMG17200	R1.0	20.0	20	38	104
GMG16913	GMG17913	R1.5		20	38	104
GMG16914	GMG17914	R2.0		20	38	104
GMG16915	GMG17915	R3.0		20	38	104
GMG16250	GMG17250	R1.0	25.0	25	44	104
GMG16916	GMG17916	R1.5		25	44	104
GMG16917	GMG17917	R2.0		25	44	104
GMG16918	GMG17918	R3.0		25	44	104

CARBIDE, 6 FLUTE EXTRA LONG CORNER RADIUS

▶ The unique geometry of the variable pitch reduces chatter tool for high speed and trochoidal milling
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40





NEW

GMG18 / PLAIN SHANK
GMG19 / FLAT SHANK

◇ Call for Availability

MG HM | 6 | 45° | PLAIN | FLAT | P.39

Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

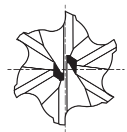
EXTRA LONG

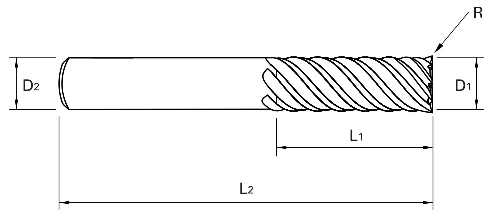
Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMG18060	GMG19060	R0.5	6.0	6	24	75
GMG18901	GMG19901	R1.0		6	24	75
GMG18080	GMG19080	R0.5	8.0	8	32	75
GMG18902	GMG19902	R1.0		8	32	75
GMG18903	GMG19903	R2.0		8	32	75
GMG18100	GMG19100	R0.5	10.0	10	40	100
GMG18904	GMG19904	R1.0		10	40	100
GMG18905	GMG19905	R1.5		10	40	100
GMG18906	GMG19906	R2.0		10	40	100
GMG18120	GMG19120	R0.5	12.0	12	48	120
GMG18907	GMG19907	R1.0		12	48	120
GMG18908	GMG19908	R1.5		12	48	120
GMG18909	GMG19909	R2.0		12	48	120
GMG18910	GMG19910	R3.0		12	48	120
GMG18160	GMG19160	R1.0	16.0	16	64	140
GMG18911	GMG19911	R1.5		16	64	140
GMG18912	GMG19912	R2.0		16	64	140
GMG18913	GMG19913	R3.0		16	64	140
GMG18200	GMG19200	R1.0	20.0	20	80	150
GMG18914	GMG19914	R1.5		20	80	150
GMG18915	GMG19915	R2.0		20	80	150
GMG18916	GMG19916	R3.0		20	80	150
GMG18917	GMG19917	R4.0		20	80	150
GMG18918	GMG19918	R5.0		20	80	150

CARBIDE, 6 FLUTE EXTRA LONG CORNER RADIUS

▶ The unique geometry of the variable pitch reduces chatter tool for high speed and trochoidal milling
▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRc40





NEW

GMG18 / PLAIN SHANK
GMG19 / FLAT SHANK

◇ Call for Availability

MG HM | 6 | 45° | PLAIN | FLAT | P.39

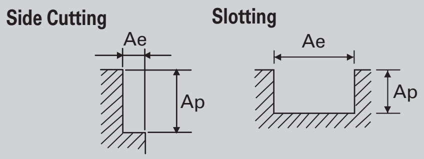
Mill Dia. Tolerance (inch)	Shank Dia. Tolerance
0~-.0012	h6

EXTRA LONG

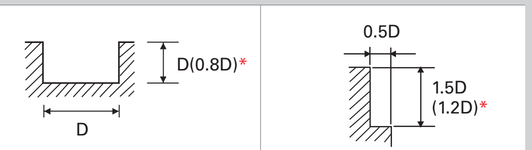
Unit : mm

EDP No.		Corner Radius	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	R	D1	D2	L1	L2
GMG18250	GMG19250	R1.0	25.0	25	100	170
GMG18919	GMG19919	R1.5		25	100	170
GMG18920	GMG19920	R2.0		25	100	170
GMG18921	GMG19921	R3.0		25	100	170
GMG18922	GMG19922	R4.0		25	100	170
GMG18923	GMG19923	R5.0		25	100	170

UGMF68, UGMF69, UGMF70, UGMF71, UGMF72, UGMF73, UGMF74, UGMF75, UGMF76, UGMF77 SERIES



RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth



*Axial cutting depth			
Length of Cut	＜1.5D	0.8D	1.2D
	≥1.5D	D	1.5D

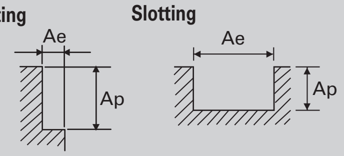
RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

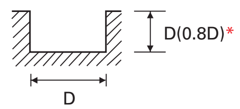
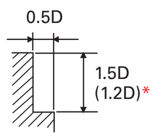
Speed and Feed Recommendations						Diameter (inch)													
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	1/8	5/32	3/16	7/32	1/4	9/32	5/16	11/32	3/8	7/16	1/2	5/8	3/4	1
P < 380	CARBON STEEL 10**, 11**, 12**, 12L**, 15**"	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	499 (400-599)				499 (400-599)			525 (420-630)	551 (441-662)	551 (441-661)	551 (441-662)			
					RPM	15249	12200	10166	8714	7625	6778	6100	5834	5613	4811	4210	3368	2806	2105
					Fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0026	.0025
					Feed	12.01	15.37	17.61	18.53	19.21	22.95	25.94	29.86	33.59	32.20	31.16	28.11	28.73	21.21
		Slotting	1 (0.8)	1	SFM (Vc)	499 (400-599)				499 (400-598)			525 (420-630)	551 (441-662)	551 (441-661)	551 (441-662)			
					RPM	15249	12200	10166	8714	7625	6778	6100	5834	5613	4811	4210	3368	2806	2105
					Fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0026	.0025
					Feed	12.01	15.37	17.61	18.53	19.21	22.95	25.94	29.86	33.59	32.20	31.16	28.11	28.73	21.21
K < 260	ALLOY STEEL 41**, 43**, 51**, 86**	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	351 (281-422)			351 (281-421)	351 (281-422)	351 (281-421)	351 (281-422)	368 (295-441)	384 (308-461)	384 (308-460)	384 (308-461)			
					RPM	10727	8581	7151	6129	5363	4767	4291	4089	3912	3353	2934	2347	1956	1467
					Fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0026	.0025
					Feed	8.45	10.81	12.39	13.03	13.51	16.14	18.24	20.93	23.41	22.44	21.71	19.59	20.02	14.78
		Slotting	1 (0.8)	1	SFM (Vc)	351 (281-422)			351 (281-421)	351 (281-422)	351 (281-421)	351 (281-422)	368 (295-441)	384 (308-461)	384 (308-460)	384 (308-461)			
					RPM	10727	8581	7151	6129	5363	4767	4291	4089	3912	3353	2934	2347	1956	1467
					Fz	.0002	.0003	.0004	.0005	.0006	.0008	.0011	.0013	.0015	.0017	.0019	.0021	.0023	.0025
					Feed	8.45	10.81	12.39	13.03	13.51	16.14	18.24	20.93	23.41	22.44	21.71	19.59	18.17	14.78
P < 380	TOOL STEEL A2, D2, H13, P20,T15	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	210 (168-252)				210 (168-252)			220 (176-264)	230 (184-276)					
					RPM	6418	5134	4278	3667	3209	2852	2567	2445	2343	2008	1757	1406	1171	879
					Fz	.0001	.0002	.0003	.0004	.0004	.0006	.0007	.0009	.0011	.0012	.0013	.0015	.0018	.0018
					Feed	3.03	4.85	5.39	5.49	5.56	6.74	7.68	8.86	9.96	9.33	8.86	8.19	8.30	6.23
		Slotting	1 (0.8)	1	SFM (Vc)	210 (168-252)				210 (168-252)			220 (176-264)	230 (184-276)					
					RPM	6418	5134	4278	3667	3209	2852	2567	2445	2343	2008	1757	1406	1171	879
					Fz	.0001	.0002	.0003	.0004	.0004	.0006	.0007	.0009	.0011	.0012	.0013	.0015	.0018	.0018
					Feed	3.03	4.85	5.39	5.49	5.56	6.74	7.68	8.86	9.96	9.33	8.86	8.19	8.30	6.23
K < 260	CAST IRON Gray, Mallable, Ductile	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	367 (294-440)				367 (294-440)			386 (309-463)	404 (324-484)					
					RPM	11216	8972	7477	6409	5608	4985	4486	4290	4115	3527	3087	2469	2058	1543
					Fz	.0002	.0004	.0006	.0007	.0008	.0011	.0013	.0016	.0019	.0021	.0023	.0026	.0032	.0031
					Feed	10.60	14.13	16.48	17.16	17.66	21.19	24.02	27.70	31.11	29.44	28.19	25.28	26.25	19.20
		Slotting	1 (0.8)	1	SFM (Vc)	367 (294-440)				367 (294-440)			386 (309-463)	404 (324-484)					
					RPM	11216	8972	7477	6409	5608	4985	4486	4290	4115	3527	3087	2469	2058	1543
					Fz	.0002	.0004	.0006	.0007	.0008	.0011	.0013	.0016	.0019	.0021	.0023	.0026	.0032	.0031
					Feed	10.60	14.13	16.48	17.16	17.66	21.19	24.02	27.70	31.11	29.44	28.19	25.28	26.25	19.20

▶ NEXT PAGE

CUTTING CONDITION

UGMF68, UGMF69, UGMF70, UGMF71, UGMF72, UGMF73, UGMF74, UGMF75, UGMF76, UGMF77 SERIES

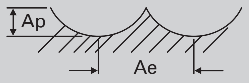


*Axial cutting depth			
Length of Cut	< 1.5D	0.8D	1.2D
	≥ 1.5D	D	1.5D

RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

Speed and Feed Recommendations						Diameter (inch)													
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	1/8	5/32	3/16	7/32	1/4	9/32	5/16	11/32	3/8	7/16	1/2	5/8	3/4	1
M	**STAINLESS STEELS 300** **304, 316, 304L, 316LSUS316**	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	377 (302-452)				377 (302-452)									
					RPM	11521	9217	7681	6583	5761	5120	4608	4189	3840	3292	2880	2304	1920	1440
					Fz	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0025	.0030	.0031
					Feed	9.07	11.61	15.72	16.07	16.33	18.55	20.32	25.07	29.03	26.96	25.40	22.86	23.28	17.69
		Slotting	1 (0.8)	1	SFM (Vc)	377 (302-452)				377 (302-452)									
					RPM	11521	9217	7681	6583	5761	5120	4608	4189	3840	3292	2880	2304	1920	1440
					Fz	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0025	.0030	.0031
					Feed	9.07	11.61	15.72	16.07	16.33	18.55	20.32	25.07	29.03	26.96	25.40	22.86	23.28	17.69
M	**STAINLESS STEELS 400** **416, 420F, 430F, 440F**	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	528 (423-633)				528 (423-633)									
					RPM	16136	12909	10757	9220	8068	7171	6454	5868	5379	4610	4034	3227	2689	2017
					Fz	.0002	.0002	.0004	.0004	.0005	.0007	.0009	.0011	.0013	.0015	.0016	.0018	.0022	.0022
					Feed	10.16	12.20	15.25	15.97	16.52	20.08	22.36	25.87	28.80	26.86	25.41	22.87	23.29	17.47
		Slotting	1 (0.8)	1	SFM (Vc)	528 (423-633)				528 (423-633)									
					RPM	16136	12909	10757	9220	8068	7171	6454	5868	5379	4610	4034	3227	2689	2017
					Fz	.0002	.0002	.0004	.0004	.0005	.0007	.0009	.0011	.0013	.0015	.0016	.0018	.0022	.0022
					Feed	10.16	12.20	15.25	15.97	16.52	19.76	22.36	25.87	28.80	26.86	25.41	22.87	23.29	17.47
M	**STAINLESS STEELS(PH)** **17-4PH, 15-5PH, 13-8PH**	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	341 (273-409)				341 (273-409)									
					RPM	10421	8337	6947	5955	5210	4632	4168	3789	3474	2977	2605	2084	1737	1303
					Fz	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0024	.0030	.0031
					Feed	8.21	10.50	14.22	14.54	14.77	16.78	18.38	22.68	26.26	24.15	22.57	20.35	21.06	16.00
		Slotting	1 (0.8)	1	SFM (Vc)	341 (273-409)				341 (273-409)									
					RPM	10421	8337	6947	5955	5210	4632	4168	3789	3474	2977	2605	2084	1737	1303
					Fz	.0002	.0003	.0005	.0006	.0007	.0009	.0011	.0015	.0019	.0020	.0022	.0024	.0030	.0031
					Feed	8.21	10.50	14.22	14.54	14.77	16.78	18.38	22.68	26.26	24.15	22.57	20.35	21.06	16.00
S	**TITANIUM** **Ti6Al4V, Ti5Al5V5Mo, Ti7Al4Mo**	Side Cutting	1	0.35	SFM (Vc)	266 (213-319)				266 (213-319)									
					RPM	8129	6503	5419	4645	4064	3613	3252	2956	2710	2323	2032	1626	1355	1016
					Fz	.0002	.0003	.0004	.0005	.0006	.0008	.0010	.0013	.0017	0.0018	.0020	.0022	.0027	.0028
					Feed	5.12	7.17	9.39	9.88	10.24	11.66	12.80	15.83	18.35	17.01	16.00	14.34	14.72	11.20
		Slotting	0.5	1	SFM (Vc)	266 (213-319)				266 (213-319)									
					RPM	8129	6503	5419	4645	4064	3613	3252	2956	2710	2323	2032	1626	1355	1016
					Fz	.0002	.0003	.0004	.0005	.0006	.0008	.0010	.0013	.0017	.0018	.0020	.0022	.0027	.0028
					Feed	5.12	7.17	9.39	9.88	10.24	11.66	12.80	15.83	18.35	17.01	16.00	14.34	14.72	11.20
S	**HIGH TEMPERATURE ALLOY** **INCONEL, HASTELLOY, RENE**	Side Cutting	1	0.25	SFM (Vc)	102 (82-122)				102 (82-122)									
					RPM	3117	2494	2078	1781	1559	1385	1247	1133	1039	891	779	623	520	390
					Fz	.0002	.0003	.0005	.0006	.0007	.0010	.0012	.0015	.0019	.0020	.0022	.0025	.0030	.0031
					Feed	2.45	2.75	3.93	4.21	4.42	5.35	6.09	6.96	7.69	7.15	6.75	6.28	6.30	4.85
		Slotting	0.5	1	SFM (Vc)	102 (82-122)				102 (82-122)									
					RPM	3117	2494	2078	1781	1559	1385	1247	1133	1039	891	779	623	520	390
					Fz	.0002	.0003	.0005	.0006	.0007	.0010	.0012	.0015	.0019	.0020	.0022	.0025	.0030	.0031
					Feed	2.45	2.75	3.93	4.21	4.42	5.35	6.09	6.96	7.69	7.15	6.75	6.28	6.30	4.85

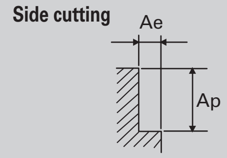
UGMG53, UGMG54 SERIES



RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

Speed and Feed Recommendations						Diameter (inch)										
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	1/8	3/16	13/64	1/4	5/16	3/8	1/2	5/8	11/16	3/4	1
P < 300	CARBON STEEL 10**, 11**, 12**, 12L**, 15**		1	0.5	SFM (Vc)	531 (425-637)										
					RPM	16227	10818	9986	8114	6491	5409	4057	3245	2950	2705	2028
					Fz	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0030	.0031	.0035	.0039
					Feed	63.89	46.00	47.18	51.11	61.33	55.37	44.72	38.33	37.17	38.33	31.62
P > 300 P < 380	ALLOY STEEL 41**, 43**, 51**, 86**		1	0.5	SFM (Vc)	371 (297-445)										
					RPM	11338	7559	6977	5669	4535	3779	2834	2268	2061	1890	1417
					Fz	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0029	.0031	.0035	.0039
					Feed	44.64	32.14	32.96	35.71	42.85	38.69	31.25	26.43	25.65	26.78	22.10
P < 380	TOOL STEEL A2, D2, H13, P20, T15		1	0.5	SFM (Vc)	223 (178-268)										
					RPM	6815	4543	4194	3407	2726	2272	1704	1363	1239	1136	852
					Fz	.0007	.0007	.0008	.0011	.0017	.0018	.0019	.0020	.0022	.0025	.0028
					Feed	18.24	13.59	13.87	15.02	18.03	16.10	13.15	11.16	10.93	11.27	9.39
K < 260	CAST IRON Gray, Mallable, Ductile		1	0.5	SFM (Vc)	390 (312-468)										
					RPM	11918	7946	7334	5959	4767	3973	2980	2384	2167	1986	1490
					Fz	.0012	.0013	.0015	.0020	.0029	.0032	.0034	.0037	.0039	.0044	.0049
					Feed	58.18	41.29	42.74	46.92	55.56	50.68	40.82	34.91	33.78	35.04	29.09
M	STAINLESS STEELS 300 304, 316, 304L, 316LSUS316		1	0.5	SFM (Vc)	279 (223-335)										
					RPM	8526	5684	5247	4263	3410	2842	2132	1705	1550	1421	1066
					Fz	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027
					Feed	26.85	17.90	20.66	27.53	24.17	22.38	18.46	16.11	15.62	14.55	11.41
M	STAINLESS STEELS 400 416, 420F, 430F, 440F		1	0.5	SFM (Vc)	253 (202-304)										
					RPM	7732	5154	4758	3866	3093	2577	1933	1546	1406	1289	966
					Fz	.0006	.0006	.0010	.0012	.0016	.0018	.0020	.0021	.0023	.0023	.0023
					Feed	18.26	12.18	18.73	18.26	19.48	18.26	15.22	13.15	13.06	11.77	8.98
M	STAINLESS STEELS(PH) 17-4PH, 15-5PH, 13-8PH		1	0.5	SFM (Vc)	253 (202-304)										
					RPM	7732	5154	4758	3866	3093	2577	1933	1546	1406	1289	966
					Fz	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027
					Feed	24.35	16.23	18.73	24.96	21.92	20.29	16.74	14.61	14.17	13.19	10.35
M	TITANIUM Ti6Al4V, Ti5Al5V5Mo, Ti7Al4Mo		0.3	0.2	SFM (Vc)	154 (123-185)										
					RPM	4706	3137	2896	2353	1882	1569	1177	941	856	784	588
					Fz	.0007	.0007	.0009	.0015	.0016	.0018	.0019	.0021	.0023	.0023	.0024
					Feed	13.34	8.89	10.03	13.71	11.86	11.12	9.08	8.00	7.82	7.16	5.65
S	HIGH TEMPERATURE ALLOY INCONEL, HASTELLOY, RENE		0.3	0.2	SFM (Vc)	69 (55-83)										
					RPM	2109	1406	1298	1054	843	703	527	422	383	351	264
					Fz	.0006	.0006	.0007	.0011	.0012	.0014	.0015	.0017	.0018	.0018	.0019
					Feed	4.65	3.10	3.47	4.65	4.12	3.87	3.15	2.79	2.72	2.49	1.99

UGMG20, UGMG21, UGMG22, UGMG23 SERIES

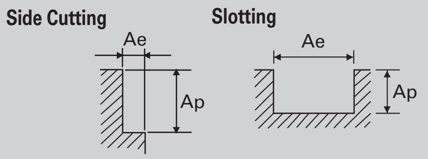


RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

Speed and Feed Recommendations						Diameter (mm)						
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	1/4	5/16	3/8	1/2	5/8	3/4	1
P < 300	CARBON STEEL 10**, 11**, 12**, 12L**, 15**	Side Cutting	2 (*)	0.05	SFM (Vc)	984 (787-1181)						
					RPM	15036	12028	10024	7518	6014	5012	3759
					Fz	.0027	.0046	.0057	.0068	.0080	.0089	.0091
					Feed	241.52	329.60	340.96	307.22	286.98	266.38	206.00
P > 300 P < 380	ALLOY STEEL 41**, 43**, 51**, 86**	Side Cutting	2 (*)	0.05	SFM (Vc)	666 (533-799)						
					RPM	10176	8141	6784	5088	4071	3392	2544
					Fz	.0020	.0033	.0042	.0050	.0059	.0066	.0069
					Feed	120.19	163.46	169.88	153.85	143.27	133.82	104.57
P < 380	TOOL STEEL A2, D2, H13, P20, T15	Side Cutting	2 (*)	0.05	SFM (Vc)	328 (262-394)						
					RPM	5012	4009	3341	2506	2005	1671	1253
					Fz	.0016	.0028	.0035	.0041	.0048	.0054	.0057
					Feed	48.54	67.25	69.46	62.15	58.25	54.06	42.62
M	STAINLESS STEELS 300 304, 316, 304L, 316LSUS316	Side Cutting	2 (*)	0.05	SFM (Vc)	482 (386-578)						
					RPM	7365	5892	4910	3682	2946	2455	1841
					Fz	.0016	.0028	.0035	.0041	.0048	.0054	.0056
					Feed	71.33	98.82	102.07	91.34	85.60	79.45	62.20
M	STAINLESS STEELS 400 416, 420F, 430F, 440F	Side Cutting	2 (*)	0.05	SFM (Vc)	699 (559-839)						
					RPM	10681	8545	7120	5340	4272	3560	2670
					Fz	.0019	.0033	.0041	.0049	.0057	.0064	.0066
					Feed	123.63	169.55	174.93	157.69	147.34	136.24	105.97
M	STAINLESS STEELS(PH) 17-4PH, 15-5PH, 13-8PH	Side Cutting	2 (*)	0.05	SFM (Vc)	440 (352-528)						
					RPM	6723	5379	4482	3362	2689	2241	1681
					Fz	.0016	.0028	.0035	.0041	.0048	.0054	.0056
					Feed	65.11	90.21	93.17	83.38	78.14	72.53	56.38
S	TITANIUM Ti6Al4V, Ti5Al5V5Mo, Ti7Al4Mo	Side Cutting	2 (*)	0.05	SFM (Vc)	381 (305-457)						
					RPM	5822	4657	3881	2911	2329	1941	1455
					Fz	.0013	.0022	.0028	.0033	.0038	.0044	.0046
					Feed	45.38	60.51	64.18	57.07	53.36	51.80	40.22
S	HIGH TEMPERATURE ALLOY INCONEL, HASTELLOY, RENE	Side Cutting	2 (*)	0.05	SFM (Vc)	108 (86-130)						
					RPM	1650	1320	1100	825	660	550	413
					Fz	.0013	.0022	.0028	.0032	.0038	.0044	.0045
					Feed	12.86	17.15	18.19	15.98	15.13	14.55	11.21

* ( ) : If product's Length of Cut(L.O.C) is below 2D, it must be applied L.O.C x 90%

GMF52, GMF53, GMF54, GMF55, GMF56, GMF57, GMF58, GMF59, GMF60, GMF61, GMF62, GMF63 SERIES



RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

Speed and Feed Recommendations						Diameter (mm)											
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	3	4	5	6	8	10	12	14	16	18	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMn 28) 1.0718(9 SMnPb 28)	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	499 (399-599)					551 (441-661)						
					RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139
					Fz	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0019	.0021	.0023	.0026	.0025
					Feed	12.70	15.24	16.76	20.32	25.72	32.00	32.98	29.47	27.90	27.60	27.37	21.56
		Slotting	1 (0.8)	1	SFM (Vc)	499 (399-599)					551 (441-661)						
					RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139
					Fz	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0019	.0021	.0023	.0026	.0025
					Feed	12.70	15.24	16.76	20.32	25.72	32.00	32.98	29.47	27.90	27.60	27.37	21.56
P > 300 P < 380	ALLOY STEEL 1.2330(35 CrMo 4) 1.6565(40NiCrMo6) 1.7033(34Cr4) 1.6523(21 NiCrMo2)	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	351 (281-421)					384 (307-461)						
					RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490
					Fz	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0019	.0021	.0023	.0026	.0025
					Feed	8.94	10.73	11.80	14.30	18.10	22.29	22.97	20.53	19.43	19.22	19.06	15.01
		Slotting	1 (0.8)	1	SFM (Vc)	351 (281-421)					384 (307-461)						
					RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490
					Fz	.0002	.0003	.0004	.0006	.0011	.0015	.0019	.0019	.0021	.0023	.0026	.0025
					Feed	8.94	10.73	11.80	14.30	18.10	22.29	22.97	20.53	19.43	19.22	19.06	15.01
P < 380	TOOL STEEL 1.2363(X100 CrMoV 5 1) 1.2379(X155 CrVMo 12 1) 1.2344(X40 CrMoV 5 1) 1.3243(S 6-5-2-5)	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	210 (168-252)					230 (184-276)						
					RPM	6791	5093	4074	3395	2546	2228	1857	1592	1393	1238	1114	891
					Fz	.0001	.0002	.0003	.0004	.0007	.0011	.0013	.0013	.0015	.0016	.0018	.0018
					Feed	3.21	4.81	5.13	5.88	7.62	9.47	9.36	8.52	8.11	7.99	7.90	6.32
		Slotting	1 (0.8)	1	SFM (Vc)	210 (168-252)					230 (184-276)						
					RPM	6791	5093	4074	3395	2546	2228	1857	1592	1393	1238	1114	891
					Fz	.0001	.0002	.0003	.0004	.0007	.0011	.0013	.0013	.0015	.0016	.0018	.0018
					Feed	3.21	4.81	5.13	5.88	7.62	9.47	9.36	8.52	8.11	7.99	7.90	6.32
K < 260	CAST IRON 0.6020(GG20) 0.8145(GTS-45-06) 0.7060(GGG-60)	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	367 (294-441)					404 (323-484)						
					RPM	11884	8913	7130	5942	4456	3915	3263	2797	2447	2175	1958	1566
					Fz	.0002	.0004	.0006	.0008	.0013	.0019	.0023	.0024	.0026	.0029	.0032	.0031
					Feed	11.23	14.04	15.72	18.71	23.86	29.60	29.80	26.86	25.05	25.01	24.97	19.48
		Slotting	1 (0.8)	1	SFM (Vc)	367 (294-441)					404 (323-484)						
					RPM	11884	8913	7130	5942	4456	3915	3263	2797	2447	2175	1958	1566
					Fz	.0002	.0004	.0006	.0008	.0013	.0019	.0023	.0024	.0026	.0029	.0032	.0031
					Feed	11.23	14.04	15.72	18.71	23.86	29.60	29.80	26.86	25.05	25.01	24.97	19.48

* ( ) : Short length & Neck type
0.8 x D(Slotting), 1.2 x D(Side Cutting) Axial
* Cutting depth should be applied for Short length(GMF52, GMF53, GMF54, GMF55)
& Neck type(GMF60, GMF61, GMF62, GMF63) series diameter over 8mm

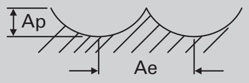
GMF52, GMF53, GMF54, GMF55, GMF56, GMF57, GMF58, GMF59, GMF60, GMF61, GMF62, GMF63 SERIES

RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

Speed and Feed Recommendations						Diameter (mm)											
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	3	4	5	6	8	10	12	14	16	18	20	25
M	STAINLESS STEELS 300 1.4301(X5 CrNi 18 10) 1.4436(X3 CrNiMo 17 13 3) 1.4306(X2 CrNi 19 11) 1.4435(X2 CrNiMo 18 14 3)	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	377 (302-453)											
					RPM	12202	9151	7321	6101	4576	3661	3050	2615	2288	2034	1830	1464
					Fz	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0024	.0025	.0028	.0030	.0031
					Feed	9.61	11.53	14.99	17.29	20.18	27.67	26.90	24.71	22.70	22.42	22.19	17.99
		Slotting	1 (0.8)	1	SFM (Vc)	377 (302-453)											
					RPM	12202	9151	7321	6101	4576	3661	3050	2615	2288	2034	1830	1464
					Fz	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0024	.0025	.0028	.0030	.0031
					Feed	9.61	11.53	14.99	17.29	20.18	27.67	26.90	24.71	22.70	22.42	22.19	17.99
M	STAINLESS STEELS 400 1.4005(X12 CrS 13) 1.4104(X14 CrMoS 17)	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	528 (423-634)											
					RPM	17083	12812	10250	8541	6406	5125	4271	3661	3203	2847	2562	2050
					Fz	.0002	.0002	.0004	.0005	.0009	.0013	.0016	.0017	.0018	.0020	.0022	.0022
					Feed	10.76	12.11	14.53	17.49	22.19	27.44	26.90	24.79	22.70	22.42	22.19	17.76
		Slotting	1 (0.8)	1	SFM (Vc)	528 (423-634)											
					RPM	17083	12812	10250	8541	6406	5125	4271	3661	3203	2847	2562	2050
					Fz	.0002	.0002	.0004	.0005	.0009	.0013	.0016	.0017	.0018	.0020	.0022	.0022
					Feed	10.76	12.11	14.53	17.49	22.19	27.44	26.90	24.79	22.70	22.42	22.19	17.76
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	Side Cutting	1.5 (1.2)	0.5	SFM (Vc)	341 (273-409)											
					RPM	11035	8276	6621	5517	4138	3310	2759	2365	2069	1839	1655	1324
					Fz	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0023	.0024	.0027	.0030	.0031
					Feed	8.69	10.43	13.55	15.64	18.25	25.02	23.89	21.97	20.20	19.98	20.07	16.27
		Slotting	1 (0.8)	1	SFM (Vc)	341 (273-409)											
					RPM	11035	8276	6621	5517	4138	3310	2759	2365	2069	1839	1655	1324
					Fz	.0002	.0003	.0005	.0007	.0011	.0019	.0022	.0023	.0024	.0027	.0030	.0031
					Feed	8.69	10.43	13.55	15.64	18.25	25.02	23.89	21.97	20.20	19.98	20.07	16.27
S	TITANIUM Ti6Al4V Ti5Al5V5Mo Ti7Al4Mo	Side Cutting	1	0.35	SFM (Vc)	266 (213-319)											
					RPM	8594	6446	5157	4297	3223	2578	2149	1842	1611	1432	1289	1031
					Fz	.0002	.0003	.0004	.0006	.0010	.0017	.0020	.0021	.0022	.0024	.0027	.0028
					Feed	5.41	7.11	8.93	10.83	12.69	17.46	16.92	15.37	14.21	13.99	14.01	11.37
		Slotting	0.5	1	SFM (Vc)	266 (213-319)											
					RPM	8594	6446	5157	4297	3223	2578	2149	1842	1611	1432	1289	1031
					Fz	.0002	.0003	.0004	.0006	.0010	.0017	.0020	.0021	.0022	.0024	.0027	.0028
					Feed	5.41	7.11	8.93	10.83	12.69	17.46	16.92	15.37	14.21	13.99	14.01	11.37
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY RENE	Side Cutting	1	0.25	SFM (Vc)	102 (81-122)											
					RPM	3289	2467	1974	1645	1233	987	822	705	617	548	493	395
					Fz	.0002	.0003	.0005	.0007	.0012	.0019	.0022	.0024	.0025	.0027	.0030	.0031
					Feed	2.59	2.72	3.73	4.66	6.02	7.30	7.12	6.77	6.22	5.96	5.98	4.91
		Slotting	0.5	1	SFM (Vc)	102 (81-122)											
					RPM	3289	2467	1974	1645	1233	987	822	705	617	548	493	395
					Fz	.0002	.0003	.0005	.0007	.0012	.0019	.0022	.0024	.0025	.0027	.0030	.0031
					Feed	2.59	2.72	3.73	4.66	6.02	7.30	7.12	6.77	6.22	5.96	5.98	4.91

* ( ) : Short length & Neck type
0.8 x D(Slotting), 1.2 x D(Side Cutting) Axial
* Cutting depth should be applied for Short length(GMF52, GMF53, GMF54, GMF55)
& Neck type(GMF60, GMF61, GMF62, GMF63) series diameter over 8mm

GMG55, GMG56 SERIES

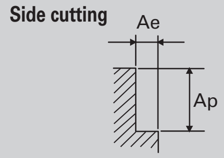


RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

Speed and Feed Recommendations						Diameter (mm)										
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	3	4	5	6	8	10	12	16	18	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMn 28) 1.0718(9 SMnPb 28)		1	0.5	SFM (Vc)	531 (425-638)										
					RPM	17189	12892	10313	8594	6446	5157	4297	3223	2865	2578	2063
					Fz	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0030	.0031	.0035	.0039
					Feed	67.67	54.81	48.72	54.14	60.90	52.78	47.37	38.07	36.09	36.54	32.16
P > 300 P < 380	ALLOY STEEL 1.2330(35 CrMo 4) 1.6565(40NiCrMo6) 1.7033(34Cr4) 1.6523(21 NiCrMo2)		1	0.5	SFM (Vc)	371 (297-445)										
					RPM	11990	8992	7194	5995	4496	3597	2997	2248	1998	1798	1439
					Fz	.0010	.0011	.0012	.0016	.0024	.0026	.0028	.0029	.0031	.0035	.0039
					Feed	47.20	38.23	33.99	37.76	42.48	36.82	33.04	26.20	24.86	25.49	22.43
P < 380	TOOL STEEL 1.2363(X100 CrMoV 5 1) 1.2379(X155 CrVMo 12 1) 1.2344(X40 CrMoV 5 1) 1.3243(S 6-5-2-5)		1	0.5	SFM (Vc)	223 (178-268)										
					RPM	7215	5411	4329	3608	2706	2165	1804	1353	1203	1082	866
					Fz	.0007	.0007	.0008	.0011	.0017	.0018	.0019	.0020	.0022	.0025	.0028
					Feed	19.32	16.19	14.32	15.91	17.90	15.34	13.92	11.08	10.60	10.74	9.54
K < 260	CAST IRON 0.6020(GG20) 0.8145(GTS-45-06) 0.7060(GGG-60)		1	0.5	SFM (Vc)	390 (312-469)										
					RPM	12626	9470	7576	6313	4735	3788	3157	2367	2104	1894	1515
					Fz	.0012	.0013	.0015	.0020	.0029	.0032	.0034	.0037	.0039	.0044	.0049
					Feed	61.64	49.21	44.14	49.71	55.18	48.32	43.25	34.67	32.81	33.40	29.59
M	STAINLESS STEELS 300 1.4301(X5 CrNi 18 10) 1.4436(X3 CrNiMo 17 13 3) 1.4306(X2 CrNi 19 11) 1.4435(X2 CrNiMo 18 14 3)		1	0.5	SFM (Vc)	279 (223-335)										
					RPM	9019	6764	5411	4509	3382	2706	2255	1691	1503	1353	1082
					Fz	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027
					SFM (Vc)	28.41	21.30	21.30	29.12	23.97	21.30	19.53	15.98	15.15	13.85	11.59
M	STAINLESS STEELS 400 1.4005(X12 CrS 13) 1.4104(X14 CrMoS 17)		1	0.5	SFM (Vc)	253 (202-303)										
					RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980
					Fz	.0006	.0006	.0010	.0012	.0016	.0018	.0020	.0021	.0023	.0023	.0023
					Feed	19.30	14.47	19.30	19.30	19.30	17.37	16.08	13.03	12.65	11.19	9.11
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)		1	0.5	SFM (Vc)	253 (202-303)										
					RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980
					Fz	.0008	.0008	.0010	.0016	.0018	.0020	.0022	.0024	.0025	.0026	.0027
					Feed	25.73	19.30	19.30	26.38	21.71	19.30	17.69	14.47	13.72	12.54	10.50
M	TITANIUM Ti6Al4V Ti5Al5V5Mo Ti7Al4Mo		0.3	0.2	SFM (Vc)	154 (123-185)										
					RPM	4987	3740	2992	2493	1870	1496	1247	935	831	748	598
					Fz	.0007	.0007	.0009	.0015	.0016	.0018	.0019	.0021	.0023	.0023	.0024
					Feed	14.14	10.60	10.37	14.53	11.78	10.60	9.62	7.95	7.59	6.83	5.75
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE		0.3	0.2	SFM (Vc)	69 (55-83)										
					RPM	2228	1671	1337	1114	836	668	557	418	371	334	267
					Fz	.0006	.0006	.0007	.0011	.0012	.0014	.0015	.0017	.0018	.0018	.0019
					Feed	4.91	3.68	3.58	4.91	4.08	3.68	3.33	2.76	2.63	2.37	2.02

CUTTING CONDITION

GMG12, GMG13, GMG14, GMG15, GMG16, GMG17, GMG18, GMG19 SERIES



RPM = rev./min.
FEED = inch/min.
SFM = ft/min.
Fz = inch/tooth

Speed and Feed Recommendations						Diameter (mm)						
ISO Hardness (Brinell)	Work Materials	Type of cut	Ap x D1	Ae x D1	Parameters	6	8	10	12	16	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMn 28) 1.0718(9 SMnPb 28)	Side Cutting	2 (*)	0.05	SFM (Vc)	984 (787-1181)						
					RPM	15915	11937	9549	7958	5968	4775	3820
					Fz	.0027	.0046	.0057	.0068	.0080	.0089	.0091
					Feed	255.65	327.08	324.83	325.20	284.79	253.77	209.33
P > 300 P < 380	ALLOY STEEL 1.2330(35 CrMo 4) 1.6565(40NiCrMo6) 1.7033(34Cr4) 1.6523(21 NiCrMo2)	Side Cutting	2 (*)	0.05	SFM (Vc)	666 (533-799)						
					RPM	10769	8077	6462	5385	4039	3231	2585
					Fz	.0020	.0033	.0042	.0050	.0059	.0066	.0069
					Feed	127.20	162.18	161.80	162.81	142.14	127.45	106.24
P < 380	TOOL STEEL 1.2363(X100 CrMoV 5 1) 1.2379(X155 CrVMo 12 1) 1.2344(X40 CrMoV 5 1) 1.3243(S 6-5-2-5)	Side Cutting	2 (*)	0.05	SFM (Vc)	328 (262-394)						
					RPM	5305	3979	3183	2653	1989	1592	1273
					Fz	.0016	.0028	.0035	.0041	.0048	.0054	.0057
					Feed	51.38	66.73	66.17	65.79	57.80	51.51	43.31
M	STAINLESS STEELS 300 1.4301(X5 CrNi 18 10) 1.4436(X3 CrNiMo 17 13 3) 1.4306(X2 CrNi 19 11) 1.4435(X2 CrNiMo 18 14 3)	Side Cutting	2 (*)	0.05	SFM (Vc)	482 (386-579)						
					RPM	7799	5849	4679	3899	2924	2340	1872
					Fz	.0016	.0028	.0035	.0041	.0048	.0054	.0056
					Feed	75.53	98.10	97.27	96.71	84.97	75.71	63.22
M	STAINLESS STEELS 400 1.4005(X12 CrS 13) 1.4104(X14 CrMoS 17)	Side Cutting	2 (*)	0.05	SFM (Vc)	699 (559-839)						
					RPM	11300	8475	6780	5650	4238	3390	2712
					Fz	.0019	.0033	.0041	.0049	.0057	.0064	.0066
					Feed	130.80	168.17	166.56	166.83	146.14	129.73	107.63
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	Side Cutting	2 (*)	0.05	SFM (Vc)	440 (352-528)						
					RPM	7109	5332	4265	3554	2666	2133	1706
					Fz	.0016	.0028	.0035	.0041	.0048	.0054	.0056
					Feed	68.85	89.42	88.67	88.16	77.46	69.02	57.23
S	TITANIUM Ti6Al4V Ti5Al5V5Mo Ti7Al4Mo	Side Cutting	2 (*)	0.05	SFM (Vc)	699 (559-839)						
					RPM	6154	4615	3692	3077	2308	1846	1477
					Fz	.0013	.0022	.0028	.0033	.0038	.0044	.0046
					Feed	47.97	59.97	61.06	60.33	52.88	49.28	40.82
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	Side Cutting	2 (*)	0.05	SFM (Vc)	440 (352-528)						
					RPM	1751	1313	1050	875	657	525	420
					Fz	.0013	.0022	.0028	.0032	.0038	.0044	.0045
					Feed	13.65	17.06	17.37	16.96	15.04	13.90	11.41

* ( ) : If product's Length of Cut(L.O.C) is below 2D, it must be applied L.O.C x 90%