益詮切削刀具

MADE IN TAIWAN NEWARRIVAL

ECHAINTOOL Cutting Tools

ECHAIN®

台灣精品 2008 TAIWAN EXCELLENCE

設計優良產品 GOOD DESIGN PRODUCT

住友電工 中國一級代理 Sumitomo Agent in China



鎢鋼端銑刀系列

CARBIDE END MILL SERIES

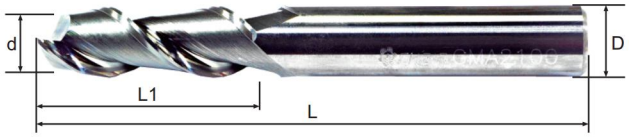
Our web

益詮精密股份有限公司 ECHAINTOOL PRECISION CO., LTD.

TEL:+886-4-22710856 FAX:+886-4-22710857
Skype：echaintool
E-mail：sales@echaintool.com
https：//www.echaintool.com
41154 台灣台中市太平區大里工業區工業18路3-1號
No.3-1, Gongye 18th Rd., Taiping Dist.,
Taichung City, 41154, Taiwan (Da-Li Industrial Park)

中国总部 Branch In China 企业ＱＱ：400-606-5118
National Free Call Number (In China)：400-606-5118
TEL：+86-0512-57005208 FAX：+86-0512-57005206
业务投诉专线：18020216088
广东 / 天津 / 重庆 / 武汉 均有办事处
Branch offices are located at Guangdong, Tainjin, Chongqing and Wuhan.

鋁合金專用銑刀 Aluminum

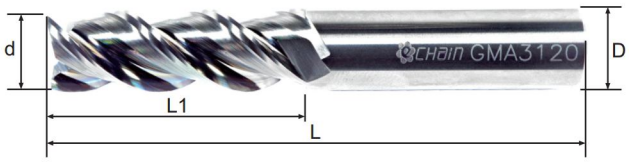


◆ 螺旋角採用45°設計 Helix angle 45°

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
GMA2060	6	18	6	50
GMA2080	8	24	8	60
GMA2100	10	30	10	75

GMA 3000 鋁合金專用3刃銑刀

For Aluminum Alloy 3 Flutes End Mill



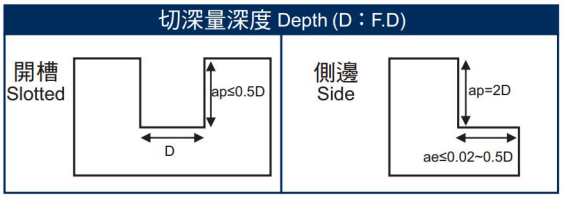
◆ 螺旋角採用45°設計 Helix angle 45°

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
GMA3010	1	3	4	50
GMA3015	1.5	4.5	4	50
GMA3020	2	6	4	50
GMA3025	2.5	7.5	4	50
GMA3030	3	9	4	50
GMA3030H	3	9	4	100
GMA3040	4	12	4	50
GMA3040H	4	12	4	100
GMA3040D6	4	12	6	50
GMA3050	5	15	6	50
GMA3050H	5	15	6	100
GAM3060	6	18	6	50
GMA3060H	6	18	6	100
GMA3080	8	24	8	60
GMA3080H	8	24	8	100
GMA3080M	8	24	8	150
GMA3100	10	30	10	75
GMA3100M	10	30	10	150
GMA3120	12	36	12	75
GMA3120H	12	36	12	100
GMA3120M	12	36	12	150
GMA3160	16	48	16	100
GMA3200	20	50	20	100

GMA 2000 鋁合金專用2刃銑刀

For Aluminum Alloy 2 Flutes End Mill

MG CO 12% M 500 45°



切削參數 The Cutting Data For GMA 2000 Series

進給速度 Vf (mm/min)

直徑 (mm)	轉速 (min)	開槽 Slotted	側邊 Side
6	10500	900	1400
8	8000	1000	1600
10	6400	1100	1700

MG CO 12% M 500 45°



適用材質：鋁
Material：Aluminum

切削參數 The Cutting Data For GMA 3000 Series

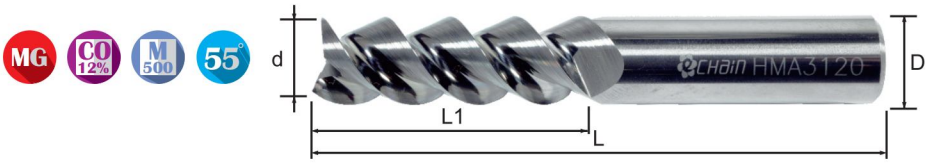
進給速度 Vf (mm/min)

直徑 (mm)	轉速 (min)	開槽 Slotted	側邊 Side
4	15500	800	1200
6	10500	900	1400
8	8000	1000	1600
10	6400	1100	1700
12	5400	950	1500
16	3900	950	1500
20	3200	900	1300

鋁合金專用銑刀 Aluminum

HMA 3000 鋁合金專用3刃銑刀

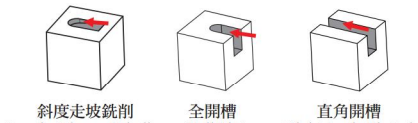
For Aluminum Alloy 3 Flutes End Mill



◆ 螺旋角採用55°設計 Helix angle 55°

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
HMA3010	1	3	4	50
HMA3015	1.5	4.5	4	50
HMA3020	2	6	4	50
HMA3025	2.5	7.5	4	50
HMA3030	3	9	4	50
HMA3040	4	12	4	50
HMA3050	5	15	6	50
HMA3060	6	18	6	50
HMA3070	7	21	8	60
HMA3080	8	24	8	60
HMA3090	9	27	10	75
HMA3100	10	30	10	75
HMA3110	11	33	12	75
HMA3120	12	36	12	75
HMA3160	16	48	16	100
HMA3200	20	60	20	100

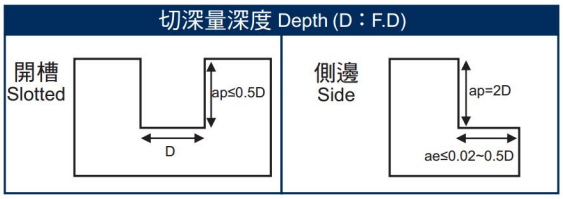




斜度走坡銑削 Angular Plunge Grinding　全開槽 Full Slot　直角開槽 Right Angle Slotted

適用材質：鋁
Material：Aluminum

切深量深度 Depth (D：F.D)

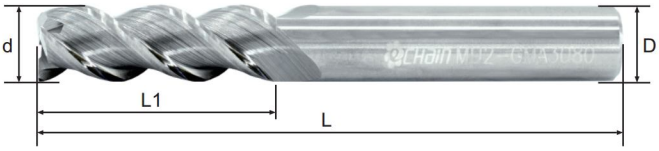


切削參數 The Cutting Data For HMA 3000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	15500	800	1200
6	10500	900	1400
8	8000	1000	1600
10	6400	1100	1700
12	5400	950	1500
16	3900	950	1500
20	3200	900	1300

鋁合金專用銑刀 Aluminum

MU2-GMA 3000
鋁合金專用3刃圓溝2離隙立銑刀
For Aluminum Alloy 3 Flutes Rounded Land Double Edge End Mill



MG | CO 12% | M 500 | 45°

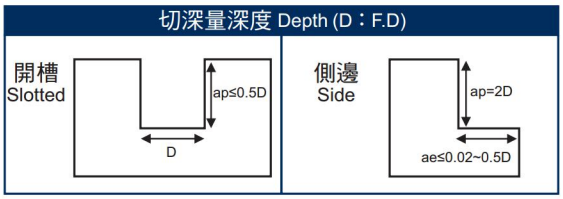
◆ 刃口採雙離隙研磨，提昇切削能力，減少因阻抗而產生的震動
The edge with double edge grinding and enhance the cutting efficiency also improving the processing vibration.

◆ 刃口拋光處理，排屑流暢，有更良好的加工面粗糙度
The edge with polishing treatment, Chip remove smoothly, update the surface processing effect.

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MU2-GMA3040	4	12	4	50
MU2-GMA3040D6	4	12	6	50
MU2-GMA3050	5	15	6	50
MU2-GMA3060	6	18	6	50
MU2-GMA3080	8	24	8	60
MU2-GMA3080E1	8	24	8	75
MU2-GMA3080H	8	24	8	100
MU2-GMA3080M	8	24	8	150
MU2-GMA3100	10	30	10	75
MU2-GMA3100M	10	30	10	150
MU2-GMA3120	12	36	12	75
MU2-GMA3120H	12	36	12	100
MU2-GMA3120M	12	36	12	150
MU2-GMA3160	16	48	16	100
MU2-GMA3200	20	60	20	100

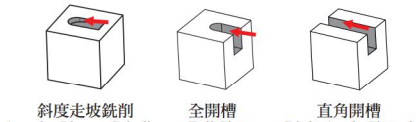


切深量深度 Depth (D：F.D)



切削參數 The Cutting Data For MU2-GMA 3000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	15500	800	1200
6	10500	900	1400
8	8000	1000	1600
10	6400	1100	1700
12	5400	950	1500
16	3900	950	1500
20	3200	900	1300



斜度走坡銑削 Angular Plunge Grinding　全開槽 Full Slot　直角開槽 Right Angle Slotted

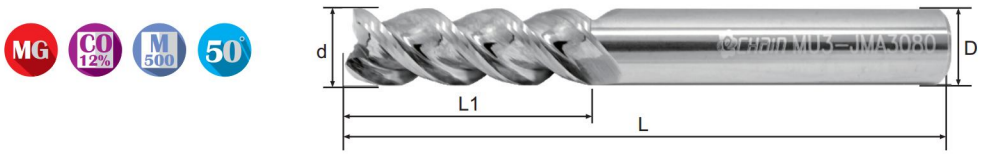
適用材質：鋁
Material：Aluminum

鋁合金專用銑刀 Aluminum

MU3-JMA 3000

3刃圓溝3離隙鋁合金專用銑刀

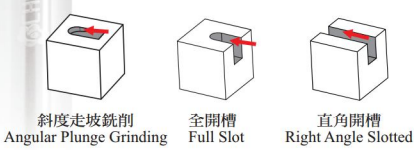
3 Flute round land and 3 Relief aluminum type



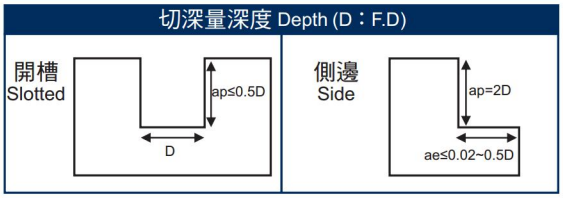
- ◆ 刃口採 3 離隙研磨，提升切削性能，有更良好的加工表面
  The cutting edge is triple embossed for improved cutting performance while also providing a superior machined surface.
- ◆ 圓溝全拋光處理，有效抑制加工產生熱能
  The fully polished round table surface effectively reduces the heat generated by the machining, smoothly removes the chips.
- ◆ 使斷屑穩定、排屑順暢，延長加工時間壽命
  And the stable chip breaking increases the service life of the tool.

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MU3-JMA3040	4	12	4	50
MU3-JMA3050	5	15	6	50
MU3-JMA3060	6	18	6	50
MU3-JMA3060E1	6	18	6	75
MU3-JMA3080	8	24	8	60
MU3-JMA3080E1	8	24	8	75
MU3-JMA3100	10	30	10	75
MU3-JMA3100H	10	30	10	100
MU3-JMA3120	12	36	12	75
MU3-JMA3160	16	48	16	100
MU3-JMA3200	20	60	20	100





適用材質：鋁
Material：Aluminum



切削參數 The Cutting Data For MU3-JMA 3000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	15500	800	1200
6	10500	900	1400
8	8000	1000	1600
10	6400	1100	1700
12	5400	950	1500
16	3900	950	1500
20	3200	900	1300

球頭銑刀 Ball Nose

S-EMB 2000 微小徑鎢鋼2刃球頭立銑刀

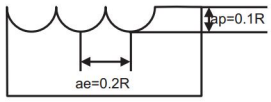
Micor Diamteter Carbide 2 Flutes Ball Nose End Mill



MG CO 12% HRC <55 M 500 35° Altin

◆ 可加工小型精密模具
It can process small precision molds.

切深量深度 Depth (R：半徑Radius)



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
S-EMB2003	0.3	0.15	0.6	4	50
S-EMB2004	0.4	0.20	0.8	4	50
S-EMB2005	0.5	0.25	1	4	50
S-EMB2006	0.6	0.30	1.2	4	50
S-EMB2007	0.7	0.35	1.4	4	50
S-EMB2008	0.8	0.40	1.6	4	50
S-EMB2009	0.9	0.45	1.8	4	50

切削參數 The Cutting Data For S-EMB 2000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
4	6400	235

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

EMB 2000L2 長頸型2刃鎢鋼球頭立銑刀

Long Neck Short Flute 2 Flutes Ball Nose End Mill



MG CO 12% HRC <55 M 500 35° Altin

◆ 螺旋角採用35°設計
Helix angle 35°

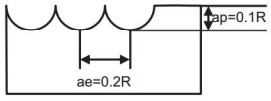
◆ 適用於高段差模具或曲面仿型加工
Suitable for high-step molds or workpiece surface profiling

◆ 尺寸穩定、精度高
with stable dimensions and high precision.



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	有效長 L1 Effective Length	柄徑 D Shank Dia	全長 L O.A.L
EMB2060L220	6	3	6	20	6	50
EMB2060L235HD8	6	3	6	35	8	100
EMB2060L240MD8	6	3	6	40	8	150

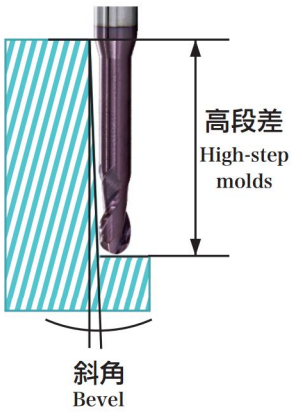
切深量深度 Depth (R：半徑Radius)



切削參數 The Cutting Data For EMB 2000L2 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
6	4300	245
8	3200	275

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast



EMB 2000 2刃鎢鋼球頭立銑刀

2 Flutes Carbide Ball Nose End Mill





- ◆ 採用全新進口棒材，加工工件硬度HRC55度以下
  Using the latest import carbide rod, it can process on hardness up to 55HRC.
- ◆ 採用國際公差標準h5，公差範圍控制在μ級精度
  International tolerance standard h5, tolerance range control at μ level accuracy.
- ◆ 採用圓形刃帶，大幅提高了耐震性和耐崩損性
  Using round flute improve the shock resistance and resistance to collapse.
- ◆ 通過減少切削阻力，實現了高速高進給加工
  By reducing cutting resistance to achieve high speed and feeding processing.



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMB2010	1	0.5	2	4	50
EMB2015	1.5	0.75	3	4	50
EMB2015D6	1.5	0.75	3	6	50
EMB2020	2	1	4	4	50
EMB2020D6	2	1	4	6	50
EMB2025	2.5	1.25	5	4	50
EMB2025D6	2.5	1.25	5	6	50
EMB2030	3	1.5	6	4	50
EMB2030D6	3	1.5	6	6	50
EMB2032	3.2	1.6	6.4	4	50
EMB2035	3.5	1.75	7	4	50
EMB2035D6	3.5	1.75	7	6	50
EMB2035E1	3.5	1.75	7	4	75
EMB2035E1D6	3.5	1.75	7	6	75
EMB2040	4	2	8	4	50
EMB2040D6	4	2	8	6	50
EMB2040E1	4	2	8	4	75
EMB2040E1D6	4	2	8	6	75
EMB2040H	4	2	8	4	100
EMB2040HD6	4	2	8	6	100
EMB2042	4.2	2.1	8.4	6	50
EMB2049	4.9	2.45	9.8	6	50
EMB2050	5	2.5	10	6	50
EMB2050E1	5	2.5	10	6	75
EMB2050H	5	2.5	10	6	100
EMB2060	6	3	12	6	50

※請接下頁 Continued on next page.

球頭銑刀 Ball Nose

EMB 2000 2刃鎢鋼球頭立銑刀
2 Flutes Carbide Ball Nose End Mill

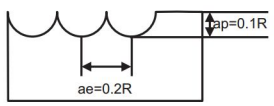


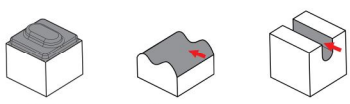
MG CO 12% HRC <55 M 500 35° Altin

產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMB2060E1	6	3	12	6	75
EMB2060H	6	3	12	6	100
EMB2060M	6	3	12	6	150
EMB2065	6.5	3.25	13	8	60
EMB2069	6.9	3.45	13.8	8	60
EMB2080	8	4	16	8	60
EMB2080E1	8	4	16	8	75
EMB2080H	8	4	16	8	100
EMB2080M	8	4	16	8	150
EMB2080R	8	4	16	8	200
EMB2100	10	5	20	10	75
EMB2100H	10	5	20	10	100
EMB2100M	10	5	20	10	150
EMB2100R	10	5	20	10	200
EMB2120	12	6	24	12	75
EMB2120H	12	6	24	12	100
EMB2120M	12	6	24	12	150
EMB2120R	12	6	24	12	200
EMB2160	16	8	32	16	100
EMB2160M	16	8	32	16	150
EMB2160R	16	8	32	16	200
EMB2200	20	10	40	20	100
EMB2200M	20	10	40	20	150
EMB2200R	20	10	40	20	200



切深量深度 Depth (R：半徑Radius)





仿型銑削 Profile Milling　曲面銑削 Surface Milling　R溝槽 R Slot

切削參數 The Cutting Data For EMB 2000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
4	6400	235
6	4300	245
8	3200	275
10	2600	275
12	2200	255
16	1600	230
20	1300	205

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

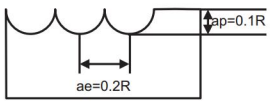
EMB 4000 4刃鎢鋼球頭立銑刀

4 Flutes Carbide Ball Nose End Mill





切深量深度 Depth (R：半徑Radius)



◆ 採用全新進口棒材，加工工件硬度HRC55度以下
Using the latest import carbide rod, it can process on hardness up to 55HRC.

◆ 採用國際公差標準h5，公差範圍控制在μ級精度
International tolerance standard h5, tolerance range control at μ level accuracy.

◆ 採用圓形刃帶，大幅提高了耐震性和耐崩損性
Using round flute improve the shock resistance and resistance to collapse.

◆ 通過減少切削阻力，實現了高速高進給加工
By reducing cutting resistance to achieve high speed and feeding processing.

切削參數 The Cutting Data For EMB 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
4	6400	235
6	4300	245
8	3200	275
10	2600	275
12	2200	255
16	1600	230
20	1300	205



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMB4010	1	0.5	2	4	50
EMB4015	1.5	0.75	3	4	50
EMB4020	2	1	4	4	50
EMB4030	3	1.5	6	4	50
EMB4035	3.5	1.75	7	4	50
EMB4040	4	2	8	4	50
EMB4050	5	2.5	10	6	50
EMB4060	6	3	12	6	50
EMB4060E1	6	3	12	6	75
EMB4060H	6	3	12	6	100
EMB4080	8	4	16	8	60
EMB4080E1	8	4	16	8	75
EMB4080H	8	4	16	8	100
EMB4100	10	5	20	10	75
EMB4100H	10	5	20	10	100
EMB4100M	10	5	20	10	150
EMB4120	12	6	24	12	75
EMB4120H	12	6	24	12	100
EMB4120M	12	6	24	12	150
EMB4160	16	8	32	16	100
EMB4160M	16	8	32	16	150
EMB4200	20	10	40	20	100



仿型銑削 Profile Milling　曲面銑削 Surface Milling　R溝槽 R Slot

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

倒角刀 Chamfer

DR-DMC 2000 2刃定位鑽

2 Flutes Positioning Drill

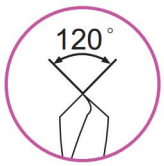


MG CO 12% M 500 30° Altin

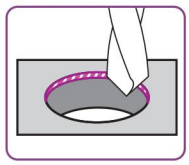
◆ 螺旋角採用30°設計
Helix angle 30°

◆ NC銑床專用定位鑽、倒角刀具
For NC milling machine position drill countersink.

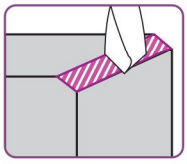
DR系列夾角120°
DR Series 120° angle



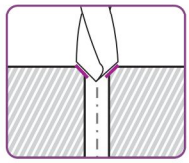
圓孔倒角加工
Large hole chamfering



倒角加工
Chamfering



孔倒角加工
Hole Chamfering



定心加工
Positioning processing

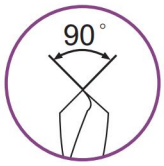
產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
DR-DMC2030	3	8	3	50
DR-DMC2040	4	12	4	50
DR-DMC2050	5	20	5	50
DR-DMC2060	6	20	6	60
DR-DMC2080	8	25	8	60
DR-DMC2100	10	25	10	75
DR-DMC2120	12	30	12	75
DR-DMC2160	16	35	16	100
DR-DMC2200	20	40	20	100

DC-DMC 2000 2刃定位鑽

MG CO 12% M 500 30° Altin

2 Flutes Positioning Drill



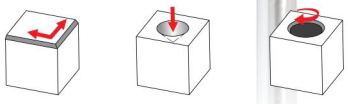


◆ 螺旋角採用30°設計
Helix angle 30°

◆ NC銑床專用定位鑽、倒角刀具
For NC milling machine position drill countersink.

DC系列夾角90°
DC Series 90° angle





倒角加工 Chamfer Processing　定位加工 Position Processing　圓孔倒角 Chamfer Of Rounding Hole

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
DC-DMC2030	3	8	3	50
DC-DMC2040	4	12	4	50
DC-DMC2040E1	4	12	4	75
DC-DMC2050	5	20	5	50
DC-DMC2060	6	20	6	60
DC-DMC2080	8	25	8	60
DC-DMC2100	10	25	10	75
DC-DMC2120	12	30	12	75
DC-DMC2160	16	35	16	100
DC-DMC2200	20	40	20	100

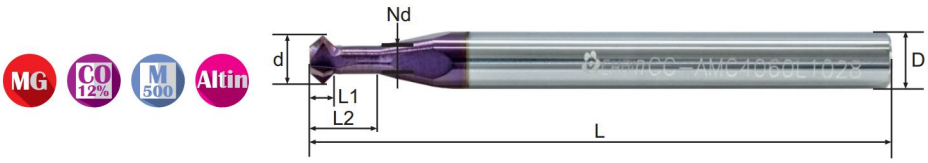
適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

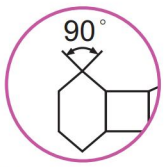
切削參數 The Cutting Data For DR-DMC 2000 DC-DMC 2000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
3	7400	300
4	5500	220
5	4400	180
6	3700	150
8	2800	120
10	2300	90
12	1900	80
16	1400	60
20	1100	45

CC-AMC V型鳩尾槽銑刀

V-Type Chamfer Cutter





CCR系列夾角90°
CC Series 90°angle

◆ 特殊倒角加工刀具，雙刃鳩尾設計
Special chamfering tool , double - edged and tailed design.

◆ 可滿足各種角度的倒角需求，有效減少加工時間及刀架成本
it can meet various angle chamfering requirements , effectively reducing machining time and tools costs.

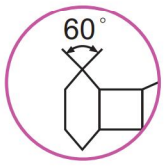
產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	頸長 L2 Length Of Neck	頸徑 Nd Neck Dia	柄徑 D Shank Dia	全長 L O.A.L	刃數 INO
CC-AMC4060L1028	6	2.8	7	2.8	6	60	4
CC-AMC6080L1038	8	3.8	9	3.8	8	60	6
CC-AMC6100L1048	10	4.8	11	4.8	10	75	6
CC-AMC6120L1058	12	5.8	13	5.8	12	75	6



CR-AMC V型鳩尾槽銑刀

V-Type Chamfer Cutter





CR系列夾角60°
CR Series 60°angle

◆ 特殊倒角加工刀具，雙刃鳩尾設計
Special chamfering tool , double - edged and tailed design.

◆ 可滿足各種角度的倒角需求，有效減少加工時間及刀架成本
It can meet various angle chamfering requirements , effectively reducing machining time and tools costs.

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	頸長 L2 Length Of Neck	頸徑 Nd Neck Dia	柄徑 D Shank Dia	全長 L O.A.L	刃數 INO
CR-AMC4060L1018	6	1.8	6	2.7	6	60	4
CR-AMC6080L1024	8	2.4	8	3.6	8	60	6
CR-AMC6100L1031	10	3.1	10	4.5	10	75	6
CR-AMC6120L1037	12	3.7	12	5.4	12	75	6


倒角加工 Chamfer Processing


定位加工 Position Processing


圓孔倒角 Chamfer Of Rounding Hole


側面倒角 Side Chamfering

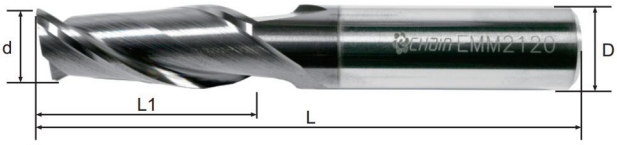

背面倒角 Back Chamfring


側面V槽 Side V Groove Processing

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

EMM 2000 2刃鎢鋼立銑刀

2 Flutes Carbide End Mill



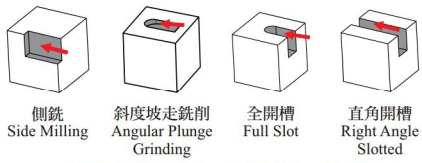
MG | CO 12% | HRC <55 | M 500 | 35° | Altin

◆ 全新鎢鋼刀，獨特刃體結構設計
The newest carbide end mills, unique blade structure design.

◆ 可側銑、可插槽
Can be side milling and slot

◆ 降低加工震動，提升刀具使用壽命，加強排屑效率
Reduce the vibration generated during processing, Improve tool life, enhance the effect of remove chip

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMM2010	1	2.5	4	50
EMM2011L1033	1.1	3.3	4	50
EMM2011L1033	1.1	3.3	4	50
EMM2012L1036	1.2	3.6	4	50
EMM2013L1039	1.3	3.9	4	50
EMM2014L1042	1.4	4.2	4	50
EMM2015	1.5	3.75	4	50
EMM2015L1045	1.5	4.5	4	50
EMM2016L1048	1.6	4.8	4	50
EMM2017L1051	1.7	5.1	4	50
EMM2018L1054	1.8	5.4	4	50
EMM2019L1057	1.9	5.7	4	50
EMM2020	2	5	4	50
EMM2020D6	2	5	6	50
EMM2020L106	2	6	4	50
EMM2021L1063	2.1	6.3	4	50
EMM2022L1066	2.2	6.6	4	50
EMM2023L1069	2.3	6.9	4	50
EMM2024L1072	2.4	7.2	4	50
EMM2025	2.5	6.25	4	50
EMM2025D6	2.5	12.5	6	50
EMM2030	3	7.5	4	50
EMM2030D6	3	7.5	6	50
EMM2035	3.5	8.75	4	50
EMM2035D6	3.5	8.75	6	50
EMM2036	3.6	9	4	50
EMM2038	3.8	9.5	4	50
EMM2040	4	10	4	50
EMM2040D6	4	10	6	50
EMM2040E1	4	10	4	75
EMM2045	4.5	11.25	6	50
EMM2047	4.7	11.75	6	50
EMM2050	5	12.5	6	50



適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

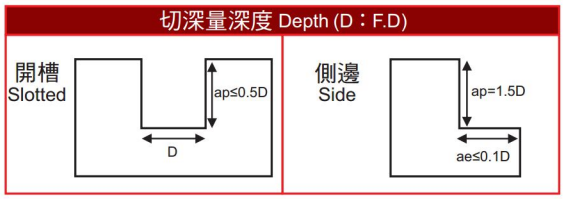


產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMM2050E1	5	12.5	6	75
EMM2050H	5	12.5	6	100
EMM2055	5.5	13.75	6	50
EMM2057	5.7	14.25	6	50
EMM2060	6	15	6	50
EMM2060E1	6	15	6	75
EMM2060H	6	15	6	100
EMM2064	6.4	16	8	60
EMM2068	6.8	17	8	60
EMM2070	7	17.5	8	60
EMM2071	7.1	17.75	8	60
EMM2073	7.3	18.25	8	60

※請接下頁 Continued on next page.

EMM 2000 2刃鎢鋼立銑刀
2 Flutes Carbide End Mill

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMM2075	7.5	18.75	8	60
EMM2080	8	20	8	60
EMM2080E1	8	20	8	75
EMM2080H	8	20	8	100
EMM2080M	8	20	8	150
EMM2080T030	8	20	8	60
EMM2090	9	22.5	10	75
EMM2100	10	25	10	75
EMM2100H	10	25	10	100
EMM2100L130	10	13	10	75
EMM2100M	10	25	10	150
EMM2120	12	30	12	75
EMM2120H	12	30	12	100
EMM2120M	12	30	12	150
EMM2140	14	35	16	100
EMM2160	16	48	16	100
EMM2160M	16	48	16	150
EMM2160R	16	48	16	200
EMM2200	20	50	20	100
EMM2200M	20	50	20	150
EMM2200R	20	50	20	200



切削參數 The Cutting Data For EMM 2000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	4800	135	475
6	3100	120	325
8	2300	120	375
10	1900	120	375
12	1600	120	275
16	1200	135	200
20	950	135	165

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast



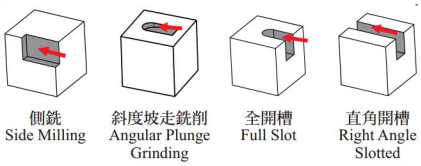


EMM 3000

EMM 3000 3刃鎢鋼立銑刀
3 Flutes Carbide End Mill



產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMM3050	5	12.5	6	50
EMM3055L1165	5.5	16.5	6	50
EMM3060	6	15	6	50
EMM3080	8	20	8	60
EMM3100	10	25	10	75



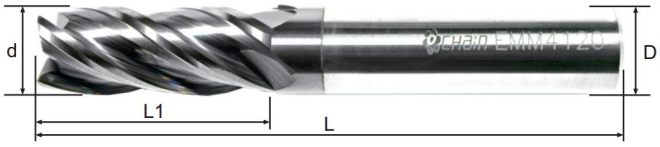
切削參數 The Cutting Data For EMM 3000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
5	3800	230	650
5.5	3500	230	650
6	3100	240	650
8	2300	240	750
10	1900	240	750

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

EMM 4000 4刃鎢鋼立銑刀

4 Flutes Carbide End Mill



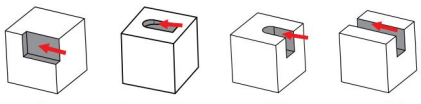


- ◆ 全新鎢鋼刀，獨特刃體結構設計
  The newest carbide end mills, unique blade structure design.
- ◆ 降低加工震動，提升刀具使用壽命，加強排屑效率
  Reduce the vibration generated during processing, Improve tool life, enhance the effect of remove chip
- ◆ 可側銑、可插槽
  Can be side milling and slot

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMM4010	1	2.5	4	50
EMM4010D6	1	2.5	6	50
EMM4015	1.5	3.75	4	50
EMM4015D6	1.5	3.75	6	50
EMM4020	2	5	4	50
EMM4020D6	2	5	6	50
EMM4025	2.5	6.25	4	50
EMM4030	3	7.5	4	50
EMM4030E1	3	7.5	4	75
EMM4030D6	3	7.5	6	50
EMM4030L109D6	3	9	6	50
EMM4035	3.5	8.75	4	50
EMM4035D6	3.5	8.75	6	50
EMM4040	4	10	4	50
EMM4040D6	4	10	6	50
EMM4040E1	4	10	4	75
EMM4040H	4	10	4	100
EMM4045	4.5	11.25	6	50
EMM4050	5	12.5	6	50
EMM4050E1	5	12.5	6	75
EMM4050H	5	12.5	6	100
EMM4055	5.5	13.75	6	50
EMM4060	6	15	6	50
EMM4060E1	6	15	6	75
EMM4060H	6	15	6	100
EMM4070	7	17.5	8	60
EMM4080	8	20	8	60
EMM4080E1	8	20	8	75
EMM4080H	8	20	8	100
EMM4080M	8	20	8	150
EMM4100	10	25	10	75

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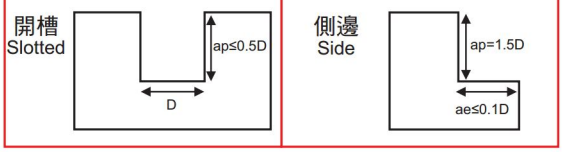
適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

EMM 4000 4刃鎢鋼立銑刀

4 Flutes Carbide End Mill

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMM4100H	10	25	10	100
EMM4100L130	10	30	10	75
EMM4100L140H	10	40	10	100
EMM4100M	10	25	10	150
EMM4120	12	30	12	75
EMM4120H	12	30	12	100
EMM4120L136	12	36	12	75
EMM4120M	12	30	12	150
EMM4130L139	13	39	16	100
EMM4140	14	35	16	100
EMM4140L142	14	42	16	100
EMM4160	16	48	16	100
EMM4160M	16	48	16	150
EMM4160R	16	48	16	200
EMM4200	20	50	20	100
EMM4200M	20	50	20	150
EMM4200R	20	50	20	200

切深量深度 Depth (D：F.D)



切削參數 The Cutting Data For EMM 4000 Series

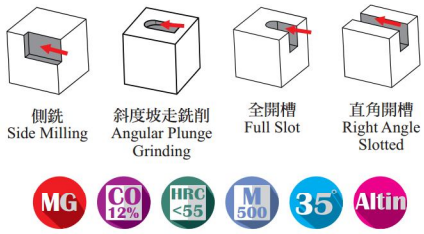
進給速度 Vf (mm/min)

直徑 (mm)	轉速 (min)	開槽 Slotted	側邊 Side
4	4800	270	950
6	3100	240	650
8	2300	240	750
10	1900	240	750
12	1600	240	550
16	1200	270	400
20	950	270	320

適用材質：鋼、不鏽鋼、鑄鐵

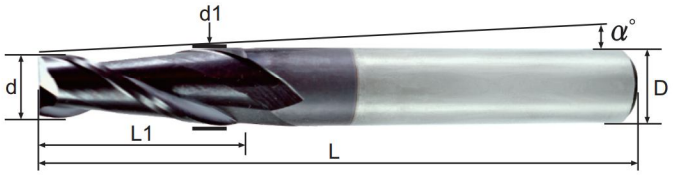
Material：Steel、Stainless steel、Iro cast





EMM 2000T00 2刃斜度鎢鋼立銑刀

2 Flutes Tapered Carbied End Mill



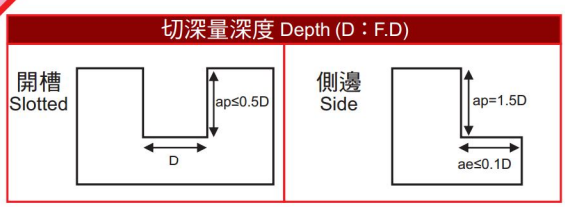
產品型號 Model No	刃斜角 α° Taper Angle	直徑 d Diameter	粗端徑 d1 Processing diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
EMM 2025T030	3°	2.5	3.34	8	4	50
EMM 2040T030	3°	4.0	5.57	15	6	50
EMM 2060T030	3°	6.0	7.89	18	8	60
EMM 2080T030	3°	8.0	10.62	25	12	75
EMM 2100T030	3°	10.0	13.67	35	16	100

切削參數 The Cutting Data For EMM 2000T00 Series

進給速度 Vf (mm/min)

直徑 (mm)	轉速 (min)	開槽 Slotted	側邊 Side
4	4800	135	475
6	3100	120	325
8	2300	120	375
10	1900	120	375
12	1600	120	275
16	1200	120	275

切深量深度 Depth (D：F.D)



適用材質：鋼、不鏽鋼、鑄鐵

Material：Steel、Stainless steel、Iro cast

GMM 4000 4刃鎢鋼立銑刀

4 Flutes Carbide End Mill





◆ 全新鎢鋼刀，獨特刃體結構設計
The newest carbide end mills, unique blade structure design.

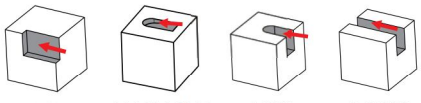
◆ 降低加工震動，提升刀具使用壽命，加強排屑效率
Reduce the vibration generated during processing, Improve tool life, enhance the effect of remove chip

◆ 可側銑、可插槽
Can be side milling and slot

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
GMM4010	1	2.5	4	50
GMM4010L103	1	3	4	50
GMM4015	1.5	3.75	4	50
GMM4015L104	1.5	4	4	50
GMM4020	2	5	4	50
GMM4020L106	2	6	4	50
GMM4025	2.5	6.25	4	50
GMM4025L107	2.5	7	4	50
GMM4025L1075	2.5	7.5	4	50
GMM4030	3	7.5	4	50
GMM4030L112D6	3	12	6	50
GMM4030L18	3	8	4	50
GMM4035	3.5	8.75	4	50
GMM4040	4	10	4	50
GMM4040L112	4	12	4	50
GMM4045	4.5	11.25	6	50
GMM4050	5	12.5	6	50
GMM4050L115	5	15	6	50
GMM4055	5.5	13.75	6	50
GMM4060	6	15	6	50
GMM4065	6.5	16.25	8	60
GMM4070	7	17.5	8	60
GMM4075	7.5	18.75	8	60
GMM4080	8	20	8	60
GMM4085	8.5	21.25	10	75
GMM4090	9	22.5	10	75
GMM4095	9.5	23.75	10	75
GMM4100	10	25	10	75
GMM4105	10.5	26.25	12	75
GMM4110	11	27.5	12	75

※請接下頁 Continued on next page.





側銑 Side Milling　斜度坡走銑削 Angular Plunge Grinding　全開槽 Full Slot　直角開槽 Right Angle Slotted

GMM 4000 4刃鎢鋼立銑刀

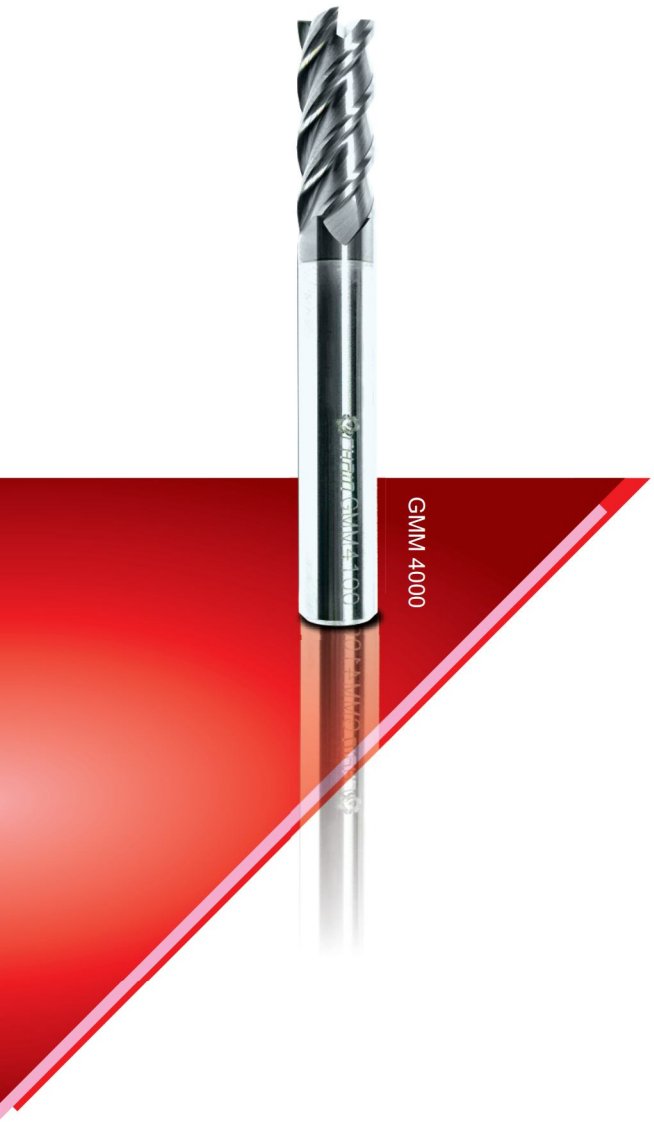
4 Flutes Carbide End Mill



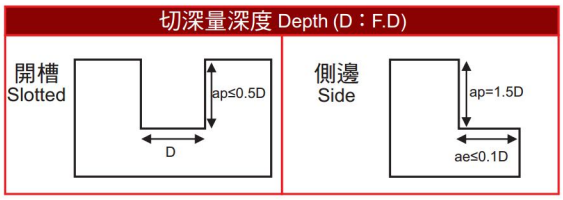
MG　CO 12%　HRC <55　M 500　45°　Altin

- ◆ 全新鎢鋼刀，獨特刃體結構設計
  The newest carbide end mills, unique blade structure design.
- ◆ 降低加工震動，提升刀具使用壽命，加強排屑效率
  Reduce the vibration generated during processing, Improve tool life, enhance the effect of remove chip
- ◆ 可側銑、可插槽
  Can be side milling and slot

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
GMM4115	11.5	28.75	12	75
GMM4120	12	30	12	100
GMM4130	13	32.5	16	100
GMM4140	14	35	16	100
GMM4150	15	37.5	16	100
GMM4160	16	48	16	100
GMM4170	17	42.5	20	100
GMM4180	18	45	20	100
GMM4190	19	47.5	20	100
GMM4200	20	50	20	100
GMM4220	22	55	25	100
GMM4250	25	62.5	25	100



切深量深度 Depth (D：F.D)



切削參數 The Cutting Data For GMM 4000 Series

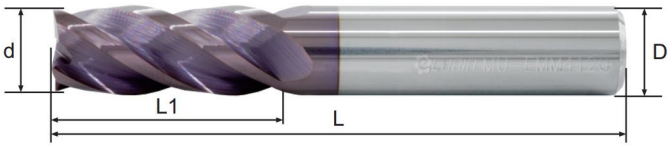
直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	4800	270	950
6	3100	240	650
8	2300	240	750
10	1900	240	750
12	1600	240	550
16	1200	270	400
20	950	270	320
25	800	230	320

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast

圓溝銑刀 Rounded Land End Mill

MU-EMM 4000 4刃圓溝鎢鋼立銑刀

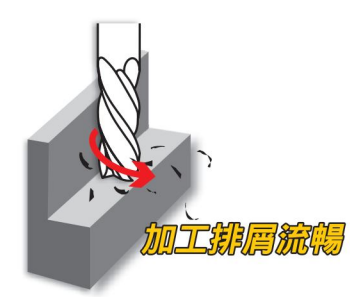
4 Flutes Rounded Land Carbide End Mill

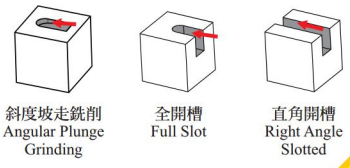


MG | CO 12% | HRC <55 | M 500 | 35° | Altin

- ◆ 特殊U型圓溝刃設計，適用於高速粗精銑削
  Special design of U type round land and it can process on high speed roughing, finishing cutting.
- ◆ 採用螺旋角35°
  Helix angle 45°
- ◆ 刃口強度提升，提升加工切削排屑流暢，增加穩定度
  Enhance hardnessof edge, enhance chip removal effect and increase the stability.

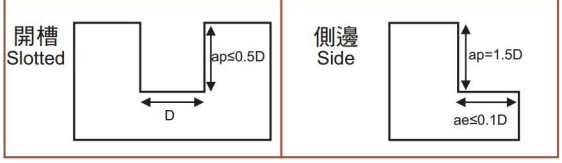
產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MU-EMM4030	3	7.5	4	50
MU-EMM4030L109D6	3	9	6	50
MU-EMM4030D6	3	7.5	6	50
MU-EMM4040	4	10	4	50
MU-EMM4040D6	4	10	6	50
MU-EMM4040L112	4	12	4	50
MU-EMM4040L112D6	4	12	6	50
MU-EMM4050	5	12.5	6	50
MU-EMM4050L115	5	15	6	50
MU-EMM4060	6	15	6	50
MU-EMM4060L118	6	18	6	50
MU-EMM4060E1	6	15	6	75
MU-EMM4070	7	17.5	8	60
MU-EMM4070L121	7	21	8	60
MU-EMM4080	8	20	8	60
MU-EMM4080L124	8	24	8	60
MU-EMM4090	9	22.5	10	75
MU-EMM4090L127	9	27	10	75
MU-EMM4100	10	25	10	75
MU-EMM4100L130	10	30	10	75
MU-EMM4120	12	30	12	75
MU-EMM4120L136	12	36	12	75
MU-EMM4140	14	35	16	100
MU-EMM4160	16	40	16	100
MU-EMM4160L160M	16	60	16	150
MU-EMM4200	20	50	20	100







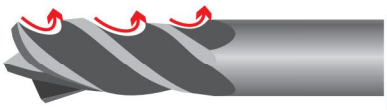
切深量深度 Depth (D：F.D)



切削參數 The Cutting Data For MU-EMM 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	4800	270	950
6	3100	240	650
8	2300	240	750
10	1900	240	750
12	1600	240	550
16	1200	270	400
20	950	270	320

特殊U型圓溝刃槽設計
有利排屑順暢



適用材質：合金鋼、不鏽鋼、鑄鐵
Material：Alloy steel、Stainless steel、Iro cast

圓溝銑刀 Rounded Land End Mill

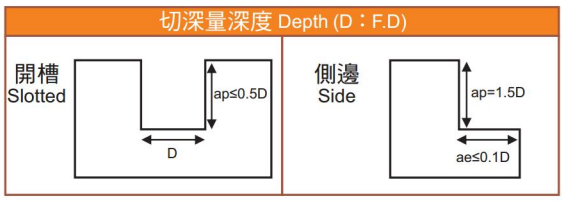
MU-GMM 4000 4刃圓溝鎢鋼立銑刀

4 Flutes Rounded Land Carbide End Mill





- ◆ 採用全新進口棒材，加工工件硬度HRC55度以下
  Using the latest import carbide rod, it can process on hardness up to 55HRC.
- ◆ 採用國際公差標準h5，公差範圍控制在 μ 級精度
  International tolerance standard h5, tolerance range control at μ level accuracy.
- ◆ 採用圓形刃帶，大幅提高了耐震性和耐崩損性
  Using round flute improve the shock resistance and resistance to collapse.
- ◆ 通過減少切削阻力，實現了高速高進給加工
  By reducing cutting resistance to achieve high speed and feeding processing.





MU-GMM 4000

切削參數 The Cutting Data For MU-GMM 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	4800	270	950
6	3100	240	650
8	2300	240	750
10	1900	240	750
12	1600	240	550
16	1200	270	400
20	950	270	320

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MU-GMM4020	2	5	4	50
MU-GMM4030	3	7.5	4	50
MU-GMM4030L109	3	9	4	50
MU-GMM4030D6	3	7.5	6	50
MU-GMM4031L1093	3.1	9.3	4	50
MU-GMM4032L1096	3.2	9.6	4	50
MU-GMM4033L1099	3.3	9.9	4	50
MU-GMM4034L1102	3.4	10.2	4	50
MU-GMM4035L1105	3.5	10.5	4	50
MU-GMM4036L1108	3.6	10.8	4	50
MU-GMM4037L1111	3.7	11.1	4	50
MU-GMM4038L1114	3.8	11.4	4	50
MU-GMM4039L1117	3.9	11.7	4	50
MU-GMM4040	4	10	4	50
MU-GMM4040D6	4	10	6	50
MU-GMM4040L112	4	12	4	50
MU-GMM4040L112D6	4	12	6	50
MU-GMM4041L1123	4.1	12.3	6	50
MU-GMM4042L1126	4.2	12.6	6	50
MU-GMM4043L1129	4.3	12.9	6	50
MU-GMM4044L1132	4.4	13.2	6	50
MU-GMM4045L1135	4.5	13.5	6	50
MU-GMM4046L1138	4.6	13.8	6	50
MU-GMM4047L1141	4.7	14.1	6	50
MU-GMM4048L1144	4.8	14.4	6	50
MU-GMM4049L1147	4.9	14.7	6	50
MU-GMM4050	5	12.5	6	50
MU-GMM4050L115	5	15	6	50

※請接下頁 Continued on next page.

圓溝銑刀 Rounded Land End Mill

MU-GMM 4000 4刃圓溝鎢鋼立銑刀

4 Flutes Rounded Land Carbide End Mill



斜度坡走銑削 Angular Plunge Grinding



全開槽 Full Slot



直角開槽 Right Angle Slotted

適用材質：合金鋼、不鏽鋼、鑄鐵

Material：Alloy steel、Stainless steel、Iro cast

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MU-GMM4050L120H	5	20	6	100
MU-GMM4051L1153	5.1	15.3	6	50
MU-GMM4052L1156	5.2	15.6	6	50
MU-GMM4053L1159	5.3	15.9	6	50
MU-GMM4054L1162	5.4	16.2	6	50
MU-GMM4055	5.5	13.75	6	50
MU-GMM4055L1165	5.5	16.5	6	50
MU-GMM4056L1168	5.6	16.8	6	50
MU-GMM4057L1171	5.7	17.1	6	50
MU-GMM4058L1174	5.8	17.4	6	50
MU-GMM4059L1177	5.9	17.7	6	50
MU-GMM4060	6	15	6	50
MU-GMM4060L118	6	18	6	50
MU-GMM4060E1	6	15	6	75
MU-GMM4061L1183	6.1	18.3	8	60
MU-GMM4062L1186	6.2	18.6	8	60
MU-GMM4063L1189	6.3	18.9	8	60
MU-GMM4064L1191	6.4	19.1	8	60
MU-GMM4064L1192	6.4	19.2	8	60
MU-GMM4065	6.5	16.25	8	60
MU-GMM4065L1195	6.5	19.5	8	60
MU-GMM4066L1198	6.6	19.8	8	60
MU-GMM4067L1201	6.7	20.1	8	60
MU-GMM4068L1204	6.8	20.4	8	60
MU-GMM4069L1207	6.9	20.7	8	60
MU-GMM4070	7	17.5	8	60
MU-GMM4070L121	7	21.0	8	60
MU-GMM4071L1213	7.1	21.3	8	60
MU-GMM4072L1216	7.2	21.6	8	60
MU-GMM4073L1219	7.3	21.9	8	60
MU-GMM4074L1222	7.4	22.2	8	60
MU-GMM4075	7.5	18.75	8	60
MU-GMM4075L1225	7.5	22.5	8	60
MU-GMM4076L1228	7.6	22.8	8	60
MU-GMM4077L1231	7.7	23.1	8	60
MU-GMM4078L1234	7.8	23.4	8	60
MU-GMM4079L1237	7.9	23.7	8	60
MU-GMM4080	8	20	8	60
MU-GMM4080E1	8	20	8	75
MU-GMM4080H	8	20	8	100
MU-GMM4080M	8	20	8	150

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MU-GMM4080L124	8	24	8	60
MU-GMM4081L1243	8.1	24.3	10	75
MU-GMM4082L1246	8.2	24.6	10	75
MU-GMM4083L1249	8.3	24.9	10	75
MU-GMM4084L1252	8.4	25.2	10	75
MU-GMM4085L1255	8.5	25.5	10	75
MU-GMM4086L1258	8.6	25.8	10	75
MU-GMM4087L1261	8.7	26.1	10	75
MU-GMM4088L1264	8.8	26.4	10	75
MU-GMM4089L1267	8.9	26.7	10	75
MU-GMM4090	9	22.5	10	75
MU-GMM4090L127	9	27	10	75
MU-GMM4091L1273	9.1	27.3	10	75
MU-GMM4092L1276	9.2	27.6	10	75
MU-GMM4093L1279	9.3	27.9	10	75
MU-GMM4094L130	9.4	30	10	75
MU-GMM4094L1282	9.4	28.2	10	75
MU-GMM4095L1285	9.5	28.5	10	75
MU-GMM4096L1288	9.6	28.8	10	75
MU-GMM4097L1291	9.7	29.1	10	75
MU-GMM4098L1294	9.8	29.4	10	75
MU-GMM4099L1297	9.9	29.7	10	75
MU-GMM4100	10	25	10	75
MU-GMM4100H	10	25	10	100
MU-GMM4100L130	10	30	10	75
MU-GMM4100L130H	10	30	10	100
MU-GMM4110	11	27.5	12	75
MU-GMM4120	12	30	12	75
MU-GMM4120L136	12	36	12	75
MU-GMM4120H	12	30	12	100
MU-GMM4120L155H	12	55	12	100
MU-GMM4140	14	35	16	100
MU-GMM4160	16	48	16	100
MU-GMM4160M	16	48	16	150
MU-GMM4200	20	50	20	100

圓溝不等分割銑刀
Rounded Land Irregular Pitch End Mill

MUH-GMM 4000 不等分割4刃鎢鋼立銑刀
4 Flutes Unequal Division Carbide End Mill



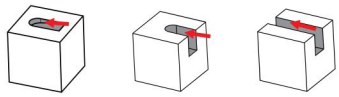


- ◆ 螺旋角採用45°設計
  Helix angle 45°
- ◆ 透過刀刃的分割比例，有效控制削屑排出頻率
  By blades split evenly ratio, it can control chip removal with excellent effect.
- ◆ 加強抑制加工中的細微振動，增加加工表面光滑度
  Strengthen the suppression of fine vibration when carbide end mill processing, Improve the processing smoothly of the surface.
- ◆ 特殊U型圓溝刃設計，適用於高速粗精銑削
  Special design of round land U type, suit to process on high speed roughing and finishing.

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MUH-GMM4040	4	10	4	50
MUH-GMM4060	6	15	6	50
MUH-GMM4070	7	17.5	8	60
MUH-GMM4080	8	20	8	60
MUH-GMM4080L124	8	24	8	60
MUH-GMM4100	10	25	10	75
MUH-GMM4100L130	10	30	10	75
MUH-GMM4100H	10	25	10	100
MUH-GMM4120	12	30	12	75
MUH-GMM4120L136	12	36	12	75
MUH-GMM4160	16	48	16	100
MUH-GMM4200	20	50	20	100

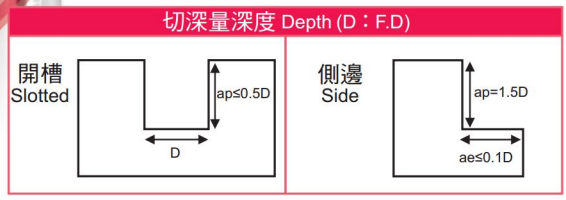


不等分割
Unequal division
B1° ≠ B2°



斜度坡走銑削 Angular Plunge Grinding　全開槽 Full Slot　直角開槽 Right Angle Slotted

適用材質：合金鋼、不鏽鋼、鑄鐵
Material：Alloy steel、Stainless steel、Iro cast



切削參數 The Cutting Data For MUH-GMM 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	6000	420	1100
6	4000	420	800
8	2900	420	950
10	2400	420	750
12	1900	420	500
16	1500	420	480
20	1200	420	400

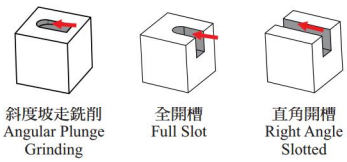
圓溝不等分割銑刀
Rounded Land Irregular Pitch End Mill

MUH-IMM 4000
不等分割不等螺旋4刃鎢鋼立銑刀
4 Flutes Unequal Spiral & Unequal Division Carbide End Mill

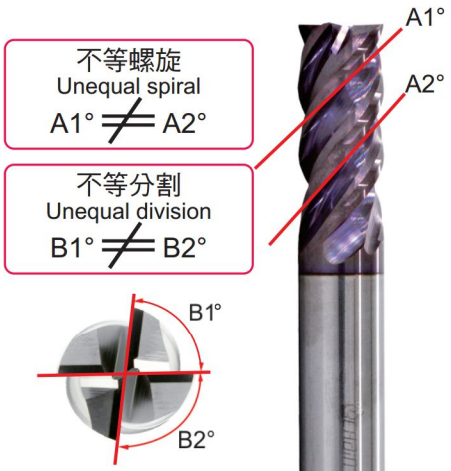




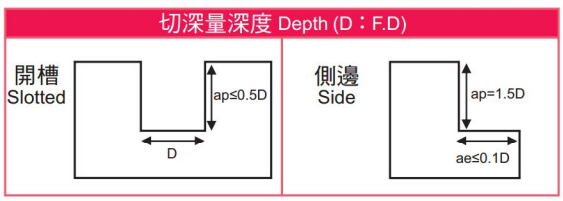
- ◆ 不等角分割利於高速進給加工抗震性
  Unequal division is beneficial to enhance seismic performance of high speed feed.
- ◆ 不等螺旋角利於高速加工抗崩裂性
  Unequal helix angle prevents tipping of high speed processing.
- ◆ 刀刃採用分割角及螺旋角不相等
  The flute edge with unequal spiral and unequal division.
- ◆ 改變每刃進給量，使每刃的銑削波形不再相同
  Changing the processing feed so that milling waveform isn't same anymore.
- ◆ 可有效降低或避免刀具進行側銑時的切削震動紋路
  It can reduce or avoid the cutting vibration pattern effectively when the tool is processing on side milling.
- ◆ 有利於獲得高質量的加工表面和提高刀具壽命
  Conducive to high quality machining surfaces and improved tool life.
- ◆ 特殊U型溝槽設計，利於插銑加工時排屑優良，減少工件產生端口毛刺
  Special U-shaped groove design, which is good for chip removal during plunge milling and reduces port burr on workpiece.



產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MUH-IMM4040L112D6	4	12	6	50
MUH-IMM4060	6	15	6	50
MUH-IMM4060L118	6	18	6	50
MUH-IMM4070L121	7	21	8	60
MUH-IMM4080	8	20	8	60
MUH-IMM4080L124	8	24	8	60
MUH-IMM4100	10	25	10	75
MUH-IMM4100L130	10	30	10	75
MUH-IMM4120	12	30	12	75
MUH-IMM4120L136	12	36	12	75
MUH-IMM4120L145H	12	45	12	100
MUH-IMM4120L155H	12	55	12	100
MUH-IMM4140	14	35	16	100
MUH-IMM4150	15	37.5	16	100
MUH-IMM4160	16	48	16	100
MUH-IMM4200	20	50	20	100



切削參數 The Cutting Data For MUH-IMM 4000 Series



適用材質：合金鋼、不鏽鋼、鑄鐵
Material：Alloy steel、Stainless steel、Iro cast

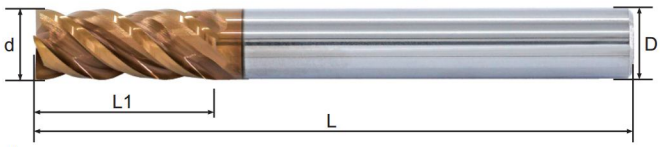
進給速度 Vf (mm/min)

直徑 (mm)	轉速 (min)	開槽 Slotted	側邊 Side
6	4000	420	800
8	2900	420	950
10	2400	420	750
12	1900	420	500
16	1500	420	480
20	1200	420	400

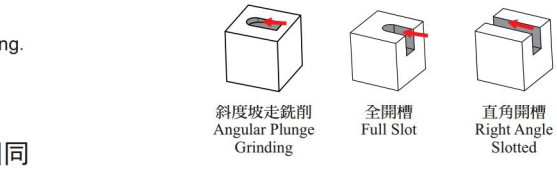
圓溝不等分割銑刀
Rounded Land Irregular Pitch End Mill

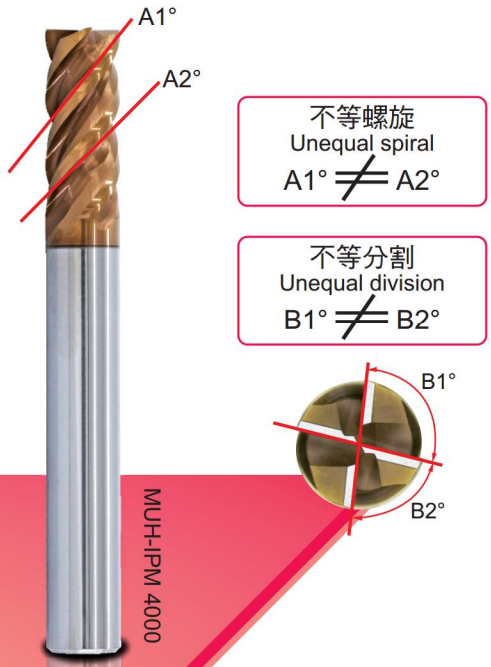
MUH-IPM 4000
不等分割不等螺旋4刃鎢鋼立銑刀
4 Flutes Unequal Spiral & Unequal Division Carbide End Mill





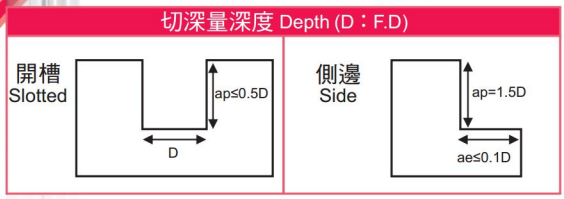
- ◆ 合金鋼及碳鋼專用特殊塗層
  Special coating for alloy steel and carbon steel.
- ◆ 不等角分割利於高速進給加工抗震性
  Unequal division is beneficial to enhance seismic performance of high speed feed.
- ◆ 不等螺旋角利於高速加工抗崩裂性
  Unequal helix angle prevents tipping of high speed processing.
- ◆ 刀刃採用分割角及螺旋角不相等
  The flute edge with unequal spiral and unequal division.
- ◆ 改變每刃進給量，使每刃的銑削波形不再相同
  Changing the processing feed so that milling waveform isn't same anymore.
- ◆ 可有效降低或避免刀具進行側銑時的切削震動紋路
  It can reduce or avoid the cutting vibration pattern effectively when the tool is processing on side milling.
- ◆ 有利於獲得高質量的加工表面和提高刀具壽命
  Conducive to high quality machining surfaces and improved tool life.
- ◆ 特殊U型溝槽設計，利於插銑加工時排屑優良，減少工件產生端口毛刺
  Special U-shaped groove design, which is good for chip removal during plunge milling and reduces port burr on workpiece.





產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MUH-IPM4040	4	10	4	50
MUH-IPM4060	6	15	6	50
MUH-IPM4060L118	6	18	6	50
MUH-IPM4080	8	20	8	60
MUH-IPM4080L124	8	24	8	60
MUH-IPM4090	9	22.5	10	75
MUH-IPM4100	10	25	10	75
MUH-IPM4100L130	10	30	10	75
MUH-IPM4120	12	30	12	75
MUH-IPM4120L136	12	36	12	75
MUH-IPM4160	16	48	16	100
MUH-IPM4160L155	16	55	16	100
MUH-IPM4200	20	50	20	100
MUH-IPM4200L160M	20	60	20	150
MUH-IPM4200L170M	20	70	20	150
MUH-IPM4200L180M	20	80	20	150

切削參數 The Cutting Data For MUH-IPM 4000 Series



適用材質：合金鋼、碳鋼
Material：Alloy steel、Carbon steel

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
4	6000	480	720
6	4000	350	640
8	2900	350	580
10	2400	300	580
12	1900	300	580
16	1500	300	480
20	1200	300	400

圓溝不等分割銑刀
Rounded Land Irregular Pitch End Mill

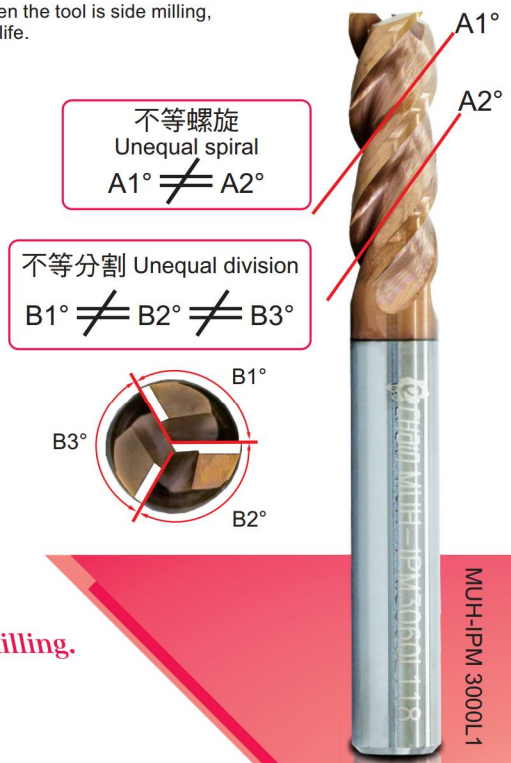
MUH-IPM 3000L1
不等分割不等螺旋3刃抗震鎢鋼銑刀
3 Flutes Unequal Spiral & Unequal Division Seismic Performance Carbide End Mill



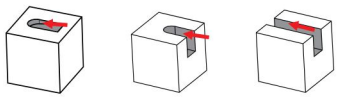


- ◆ 合金鋼、碳鋼專用特殊塗層
  Special coating for alloy steel and carbon steel.
- ◆ 不等角分割利於高速進給加工抗震性
  Unequal division facilitates high-speed feed machining shock resistance.
- ◆ 不等螺旋角利於高速加工抗崩裂性
  Unequal helix angle facilitates high speed machining resistance to chipping.
- ◆ 特殊U型溝槽設計，刀刃採用分割角及螺旋角不相等
  Special U-shaped groove design, the cutting edge adopts the division angle andthe spiral angle are not equal.
- ◆ 改變每刃進給量，使每刃的銑削波形不再相同
  Change the feed per edge so that the milling waveform for each edge is no longer the same.
- ◆ 可有效抗震獲得高質量的加工表面，插銑加工時排屑優良並延長刀具加工壽命
  It can effectively reduce or avoid the cutting vibration pattern when the tool is side milling, conducive to high quality machining surfaces and improved tool life.

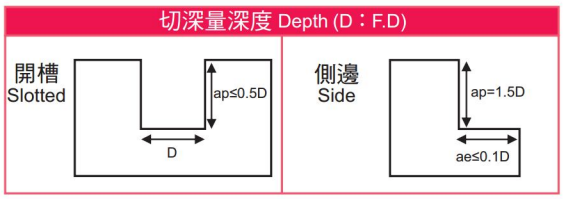
產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MUH-IPM3040L112	4	12	4	50
MUH-IPM3040L112D6	4	12	6	50
MUH-IPM3050L115	5	15	6	50
MUH-IPM3060L118	6	18	6	50
MUH-IPM3080L124	8	24	8	60
MUH-IPM3100L130	10	30	10	75
MUH-IPM3120L136	12	36	12	75
MUH-IPM3160L148	16	48	16	100



加大容屑槽於銑削加工時排屑更優良
Which is good for chip removal during plunge milling.



切削參數 The Cutting Data For MUH-IPM 3000L1 Series



適用材質：合金鋼、碳鋼
Material：Alloy steel、Carbon steel

進給速度 Vf (mm/min)

直徑 (mm)	轉速 (min)	開槽 Slotted	側邊 Side
4	6000	360	540
6	4000	360	480
8	2900	300	480
10	2400	300	480
12	1900	280	400
16	1500	230	400
20	1200	230	400

圓溝不等分割銑刀
Rounded Land Irregular Pitch End Mill

MUH-FPM 4000
圓溝不等分割不等螺旋4刃鎢鋼立銑刀
Round Land Unequal Spiral & Unequal Division 4 Flutes Carbide End Mill



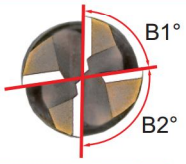


- ◆ 合金鋼及碳鋼專用特殊塗層
  Special coating for alloy steel and carbon steel.
- ◆ 螺旋角採用35˚/38˚設計
  Helix angle 35°/38˚
- ◆ 不等角分割利於高速進給加工抗震性
  Unequal division to improve seismic resistance of high-speed feed machining.
- ◆ 不等螺旋角利於高速加工抗崩裂性
  Unequal helix angle to improve high tree processing resistance to chipping.
- ◆ 刀刃採用分割角及螺旋角不相等，改變每刃進給量，使每刃的銑削波形不再相同
  Cutting edge Inconsistent with the helix angle, the feed amount per blade is changed so that the milling waveform of each edge is no longer the same.
- ◆ 可有效降低或避免刀具進行側銑時的切削震動紋路，有利於獲得高質量的加工表面和提高刀具壽命
  It can effectively reduce and avoid the vibration mode generated during the side milling process, conducive to high quality machining surfaces and improved tool life
- ◆ 特殊U型溝槽設計，利於插銑加工時排屑優良，減少工件產生端口毛刺
  Special U-shaped groove design Makes the commissioner with excellent chip removal effect during the plunge milling process reduce workpiece generation port burrs.



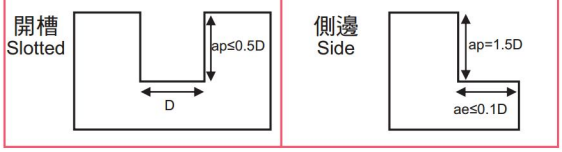
不等螺旋
Unequal spiral
A1° ≠ A2°

不等分割
Unequal division
B1° ≠ B2°



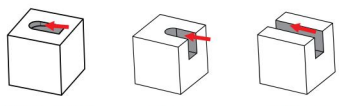
產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
MUH-FPM4060	6	15	6	50
MUH-FPM4080	8	20	8	60
MUH-FPM4100	10	25	10	75
MUH-FPM4120	12	30	12	75
MUH-FPM4160	16	40	16	100
MUH-FPM4200	20	50	20	100

切深量深度 Depth (D：F.D)



切削參數 The Cutting Data For MUH-FPM 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
6	4000	420	800
8	2900	420	950
10	2400	420	750
12	1900	420	500
16	1500	420	480
20	1200	420	400



適用材質：合金鋼、碳鋼
Material：Alloy steel、Carbon steel

精加工粗銑刀
Fine Pitch & Roughing End Mill

FM-CMM 4000 4刃鎢鋼精加工粗銑刀
4 Flutes Carbide Fine Pitch & Finshing Roughing End Mill



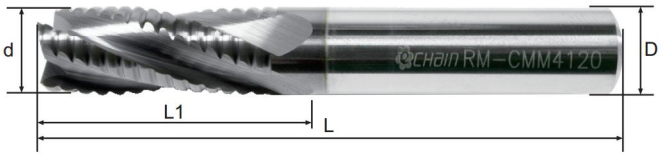
MG CO 12% HRC <55 M 500 25° Altin

- ◆ 粗鋸齒狀設計 Waveform sawtooth design.
- ◆ 高耐磨塗層，可減少磨損 Wear-resistant coating reduce wear.
- ◆ 極細微粒碳化鎢鋼刀身，採用含鈷量為12% Tungsten carbide rod, 12% cobalt content.
- ◆ 採用螺旋角25°，排屑穩定，流暢 Helix angle 25° with ideal chip flow.
- ◆ 適合粗糙表面粗加工，效果極佳 Processing on roughing with remarkable effect.

產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
FM-CMM4060	6	15	6	50
FM-CMM4080	8	20	8	60
FM-CMM4100	10	25	10	75
FM-CMM4120	12	30	12	75
FM-CMM4120L136	12	36	12	75
FM-CMM4160	16	48	16	100

RM-CMM 4000 4刃鎢鋼精加工粗銑刀
4 Flutes Carbide Fine Pitch & Finshing Roughing End Mill

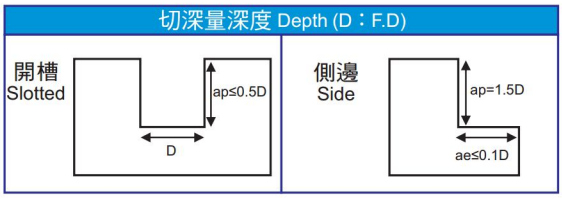
MG CO 12% HRC <55 M 500 25° Altin



產品型號 Model No	直徑 d Diameter	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
RM-CMM4050	5	12.5	6	50
RM-CMM4060	6	15	6	50
RM-CMM4080	8	20	8	60
RM-CMM4100	10	25	10	75
RM-CMM4120	12	30	12	75
RM-CMM4120L136	12	36	12	75
RM-CMM4160	16	48	16	100



適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iro cast



切削參數 The Cutting Data For FM-CMM 4000 RM-CMM 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min) 開槽 Slotted	側邊 Side
6	3100	120	325
8	2300	120	375
10	1900	120	375
12	1600	120	275
16	1200	135	200

圓鼻銑刀 Corner Radius

DMR 2000 圓鼻2刃鎢鋼立銑刀
2 Flutes Corner Redius Carbide End Mill





- ◆ 採用全新進口棒材，加工工件硬度HRC55度以下
  Using the latest import carbide rod, it can process on hardness up to 55HRC.
- ◆ 採用國際公差標準h5，公差範圍控制在μ級精度
  International tolerance standard h5, tolerance range control at μ level accuracy.
- ◆ 採用圓形刃帶，大幅提高了耐震性和耐崩損性
  Using round flute improve the shock resistance and resistance to collapse.
- ◆ 通過減少切削阻力，實現了高速高進給加工
  By reducing cutting resistance to achieve high speed and feeding processing.



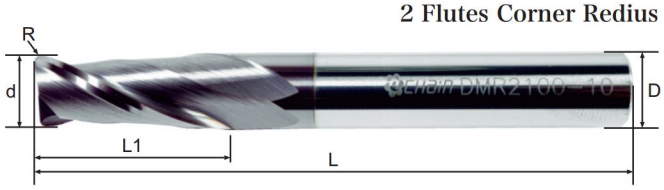
產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
DMR2010R02	1	0.2	2.5	4	50
DMR2015R02	1.5	0.2	3.75	4	50
DMR2020R02	2	0.2	5	4	50
DMR2020R05	2	0.5	5	4	50
DMR2025R02	2.5	0.2	6.25	4	50
DMR2030R02	3	0.2	7.5	4	50
DMR2030R02E1	3	0.2	7.5	4	75
DMR2030R05	3	0.5	7.5	4	50
DMR2030R05E1	3	0.5	7.5	4	75
DMR2030R10	3	1	7.5	4	50
DMR2030R10E1	3	1	7.5	4	75
DMR2040R02	4	0.2	10	4	50
DMR2040R02E1	4	0.2	10	4	75
DMR2040R02H	4	0.2	10	4	100
DMR2040R05	4	0.5	10	4	50
DMR2040R05E1	4	0.5	10	4	75
DMR2040R05H	4	0.5	10	4	100
DMR2040R10	4	1	10	4	50
DMR2040R10E1	4	1	10	4	75
DMR2040R10H	4	1	10	4	100
DMR2060R02	6	0.2	15	6	50
DMR2060R02E1	6	0.2	15	6	75
DMR2060R02H	6	0.2	15	6	100
DMR2060R05	6	0.5	15	6	50
DMR2060R05E1	6	0.5	15	6	75
DMR2060R05H	6	0.5	15	6	100
DMR2060R10	6	1	15	6	50

※請接下頁 Continued on next page.

圓鼻銑刀 Corner Radius

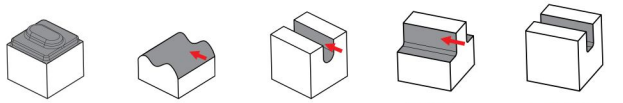
DMR 2000 圓鼻2刃鎢鋼立銑刀

2 Flutes Corner Redius Carbide End Mill



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
DMR2060R10E1	6	1	15	6	75
DMR2060R10H	6	1	15	6	100
DMR2080R05	8	0.5	20	8	60
DMR2080R05E1	8	0.5	20	8	75
DMR2080R05H	8	0.5	20	8	100
DMR2080R10	8	1	20	8	60
DMR2080R10E1	8	1	20	8	75
DMR2080R10H	8	1	20	8	100
DMR2100R05	10	0.5	25	10	75
DMR2100R05H	10	0.5	25	10	100
DMR2100R10	10	1	25	10	75
DMR2100R10H	10	1	25	10	100
DMR2120R05	12	0.5	30	12	75
DMR2120R05H	12	0.5	30	12	100
DMR2120R10	12	1	30	12	75
DMR2120R10H	12	1	30	12	100





仿型銑削 Profile Milling　曲面銑削 Surface Milling　R溝槽 R Slot　R角側銑 R Corner Side Milling　R角開槽 R Corner Slotced

適用材質：鋼、不鏽鋼、鑄鐵

Material：Steel、Stainless steel、Iron cast

切削參數 The Cutting Data For DMR 2000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
4	6400	260
6	4300	280
8	3200	285
10	2600	270
12	2200	270

圓鼻銑刀 Corner Radius

DMR 4000 圓鼻4刃鎢鋼立銑刀
4 Flutes Corner Redius Carbide End Mill





- ◆ 採用全新進口棒材，加工工件硬度HRC55度以下
  Using the latest import carbide rod, it can process on hardness up to 55HRC.
- ◆ 採用國際公差標準h5，公差範圍控制在μ級精度
  International tolerance standard h5, tolerance range control at μ level accuracy.
- ◆ 採用圓形刃帶，大幅提高了耐震性和耐崩損性
  Using round flute improve the shock resistance and resistance to collapse.
- ◆ 通過減少切削阻力，實現了高速高進給加工
  By reducing cutting resistance to achieve high speed and feeding processing.



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
DMR4010R02	1	0.2	2.5	4	50
DMR4010R02L103	1	0.2	3	4	50
DMR4015R02	1.5	0.2	3.75	4	50
DMR4015R02L104	1.5	0.2	4	4	50
DMR4020R02	2	0.2	5	4	50
DMR4020R02L106	2	0.2	6	4	50
DMR4020R05	2	0.5	5	4	50
DMR4020R05L106	2	0.5	6	4	50
DMR4025R02	2.5	0.2	6.25	4	50
DMR4030R02	3	0.2	7.5	4	50
DMR4030R02L106	3	0.2	6	4	50
DMR4030R02L108	3	0.2	8	4	50
DMR4030R02E1	3	0.2	7.5	4	75
DMR4030R05	3	0.5	7.5	4	50
DMR4030R05E1	3	0.5	7.5	4	75
DMR4030R05L108	3	0.5	8	4	50
DMR4030R10	3	1	7.5	4	50
DMR4030R10E1	3	1	8	4	75
DMR4030R10D6	3	1	7.5	6	50
DMR4040R02	4	0.2	7.5	4	50
DMR4040R02E1	4	0.2	10	4	75
DMR4040R02H	4	0.2	10	4	100
DMR4040R05	4	0.5	10	4	50
DMR4040R05E1	4	0.5	10	4	75
DMR4040R05H	4	0.5	10	4	100
DMR4040R10	4	1	10	4	50
DMR4040R10E1	4	1	10	4	75

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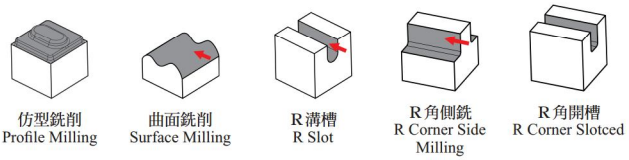
圓鼻銑刀 Corner Radius

DMR 4000 圓鼻4刃鎢鋼立銑刀

4 Flutes Corner Redius Carbide End Mill



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
DMR4040R10H	4	1	10	4	100
DMR4040R15	4	1.5	10	4	50
DMR4050R05	5	0.5	12.5	6	50
DMR4060R02	6	0.2	15	6	50
DMR4060R02E1	6	0.2	15	6	75
DMR4060R02H	6	0.2	15	6	100
DMR4060R05	6	0.5	15	6	50
DMR4060R05E1	6	0.5	15	6	75
DMR4060R05H	6	0.5	15	6	100
DMR4060R10	6	1	15	6	50
DMR4060R10E1	6	1	15	6	75
DMR4060R10H	6	1	15	6	100
DMR4060R20	6	2	15	6	50
DMR4080R05	8	0.5	20	8	60
DMR4080R05E1	8	0.5	20	8	75
DMR4080R05H	8	0.5	20	8	100
DMR4080R10	8	1	20	8	60
DMR4080R10E1	8	1	20	8	75
DMR4080R10H	8	1	20	8	100
DMR4080R15	8	1.5	20	8	60
DMR4100R05	10	0.5	25	10	75
DMR4100R05H	10	0.5	25	10	100
DMR4100R10	10	1	25	10	75
DMR4100R10H	10	1	25	10	100
DMR4100R15	10	1.5	25	10	75
DMR4100R20	10	2	25	10	75
DMR4120R05	12	0.5	30	12	75
DMR4120R05H	12	0.5	30	12	100
DMR4120R10	12	1	30	12	75
DMR4120R10H	12	1	30	12	100
DMR4120R15	12	1.5	30	12	75
DMR4120R20	12	2	30	12	75



仿型銑削 Profile Milling　曲面銑削 Surface Milling　R溝槽 R Slot　R角側銑 R Corner Side Milling　R角開槽 R Corner Slotced



切削參數 The Cutting Data For DMR 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
4	6400	520
6	4300	560
8	3200	570
10	2600	540
12	2200	540

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iron cast

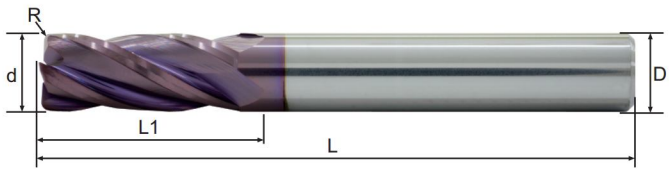
圓鼻銑刀 Corner Radius

PH-FMR 4000

不等分割不等螺旋非圓溝圓鼻4刃鎢鋼立銑刀

4 Flutes Unequal Division Unequal Helix Non-Round Land Design Corner Redius End Mill





- ◆ 可有效抑制加工所產生的震動
  The design of unequal flute division end mill can improve vibration generated during processing.
- ◆ 減少刀具因震動的崩損
  It also reduce the damage of vibration.
- ◆ 更有優良的加工表面
  The PH-FMR series corner redius end mills make the material with excellent surface.
- ◆ 提升刀具使用時間壽命
  Enhance the end mills life.



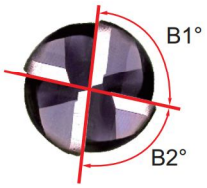
特殊設計 Special design

可保護圓鼻刀刀尖 It can protect the top of Radius tip



不等螺旋
Unequal spiral
A1° ≠ A2°

不等分割
Unequal division
B1° ≠ B2°



產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
PH-FMR4040R05	4	0.5	10	4	50
PH-FMR4040R10	4	1	10	4	50
PH-FMR4060R05	6	0.5	15	6	50
PH-FMR4060R10	6	1	15	6	50
PH-FMR4080R05	8	0.5	20	8	60
PH-FMR4080R10	8	1	20	8	60
PH-FMR4100R05	10	0.5	25	10	75
PH-FMR4100R10	10	1	25	10	75
PH-FPR4100R10L130	10	1	30	10	75
PH-FMR4120R05	12	0.5	30	12	75
PH-FMR4120R10	12	1	30	12	75


仿型銑削
Profile Milling


曲面銑削
Surface Milling


R角側銑
R Corner Side Milling


R角開槽
R Corner Slotced

切削參數 The Cutting Data For PH-FMR 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
4	6400	520
6	4300	560
8	3200	570
10	2600	540
12	2200	540
16	1600	510
18	1400	410
20	1300	370

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iron cast

圓鼻銑刀 Corner Radius

PH-FPR 4000

不等分割不等螺旋非圓溝圓鼻4刃鎢鋼立銑刀

4 Flutes Unequal Division Unequal Helix Non-Round Land Design Corner Redius End Mill



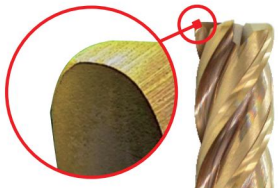


- ◆ 合金鋼及碳鋼專用特殊塗層
  For the particular coating with Alloy steel and Carbon steel.
- ◆ 不等刃分割、不等螺旋圓鼻銑刀，可有效抑制加工所產生的震動
  It can avoid the cutting vibration pattern effectively and reduce crumbling on workpiece due to vibration.
- ◆ 減少刀具因震動的崩損，更有優良的加工表面，提升刀具使用時間壽命
  There is high quality machining surfaces and enhance tool life.

特殊設計 Special design

可保護圓鼻刀刀尖

It can protect the top of Radius tip





產品型號 Model No	直徑 d Diameter	半徑 R Radius(1/2d)	刃長 L1 Flute Length	柄徑 D Shank Dia	全長 L O.A.L
PH-FPR4040R05	4	0.5	10	4	50
PH-FPR4040R10	4	1	10	4	50
PH-FPR4060R05	6	0.5	15	6	50
PH-FPR4060R10	6	1	15	6	50
PH-FPR4080R05	8	0.5	20	8	60
PH-FPR4080R10	8	1	20	8	60
PH-FPR4100R05	10	0.5	25	10	75
PH-FPR4100R10	10	1	25	10	75
PH-FPR4100R10L130	10	1	30	10	75
PH-FPR4120R30L136	12	3	36	12	75
PH-FPR4120R05	12	0.5	30	12	75
PH-FPR4120R10	12	1	30	12	75

切削參數 The Cutting Data For PH-FPR 4000 Series

直徑 (mm)	轉速 (min)	進給速度 Vf (mm/min)
4	6400	520
6	4300	560
8	3200	570
10	2600	540
12	2200	540

適用材質：鋼、不鏽鋼、鑄鐵
Material：Steel、Stainless steel、Iron cast

