

MEP 不等距 雙心徑銑刀



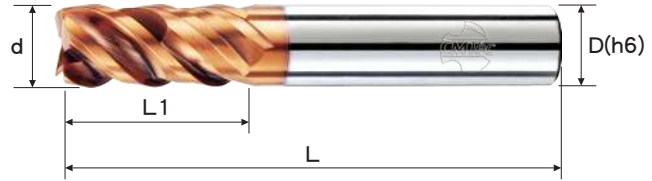
- ① P系列 / 力量的代表：P代表Power! 讓您輕鬆完成加工!
P Series / Power makes easy cutting.
 - 降低加工時, 刀具震動。
Decrease vibration during working.
 - 良好的排屑能力。
Great chip evacuation.
 - 適合重切削、粗、精加工。
Use for heavy cutting, roughing, finishing.
 - 應用於泛用鋼材($\leq 50^{\circ}$ HRC)加工。
For general steel($\leq 50^{\circ}$ HRC) machining.
- ② 刀底不等距設計, 可降低切削時震動。
Chattering is decreased with Variable Pitch.
- ③ 心徑「前小後大」設計, 讓排屑效果更佳。
Whole new center diameter design makes great chip evacuation.



M520 極細鎢鋼平銑刀- 不等距雙心徑型- 4刃

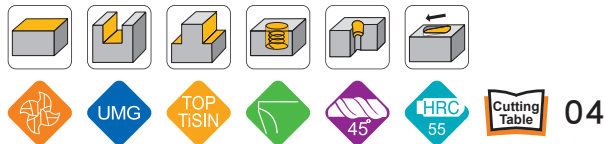
M520 ULTRA CARBIDE END MILLS- Square Type- Unequal Flute Spacing Angle- Duo Core Dia- 4F

· MEP40000A



刃徑 d	公差 Tolerance
$\phi < 3$	0 ~ -0.02
$3 \leq \phi \leq 10$	-0.01 ~ -0.03
$10 < \phi$	-0.01 ~ -0.04

超精銑 Bright Finishing	—
精銑 Finishing	◎
中銑 Semi Finishing	◎
粗銑 Roughing	◎



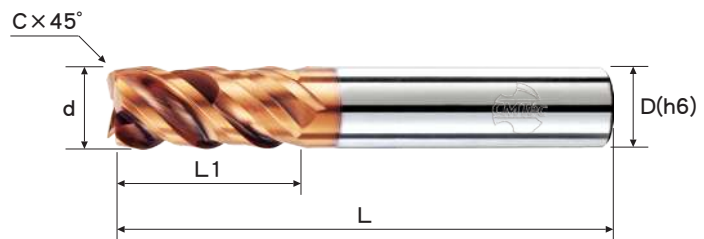
刃徑 d	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	10	50	6	4	MEP40400A
5.0	12	50	6	4	MEP40500A
6.0	14	50	6	4	MEP40600A
8.0	18	60	8	4	MEP40800A
10.0	22	75	10	4	MEP41000A
12.0	26	75	12	4	MEP41200A

→ 切削條件表 Cutting Condition P.536 → 技術資料 Technical Data P.622

M520 極細鎢鋼平銑刀- 不等距雙心徑倒角型- 4刃

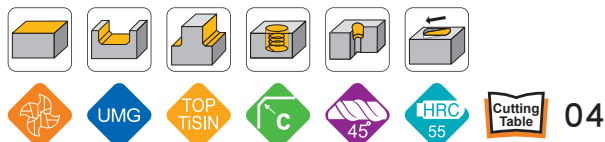
M520 ULTRA CARBIDE END MILLS- Square Type- Unequal Flute Spacing Angle- Duo Core Dia- Chamfering- 4F

· MEP40000-C0000A



刃徑 d	公差 Tolerance
$\phi < 3$	0 ~ -0.02
$3 \leq \phi \leq 10$	-0.01 ~ -0.03
$10 < \phi$	-0.01 ~ -0.04

超精銑 Bright Finishing	—
精銑 Finishing	◎
中銑 Semi Finishing	◎
粗銑 Roughing	◎



刃徑 d	倒C角 C(Max)	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	0.2	10	50	6	4	MEP40400-C0020A
5.0	0.2	12	50	6	4	MEP40500-C0020A
6.0	0.2	14	50	6	4	MEP40600-C0020A
8.0	0.3	18	60	8	4	MEP40800-C0030A
10.0	0.3	22	75	10	4	MEP41000-C0030A
12.0	0.4	26	75	12	4	MEP41200-C0040A

→ 切削條件表 Cutting Condition P.536 → 技術資料 Technical Data P.622

M520

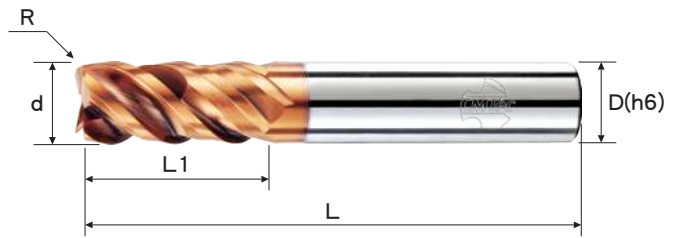
M520 Ultra Carbide End Mills

M520 極細鎢鋼銑刀系列

M520 極細鎢鋼平銑刀- 不等距雙心徑圓角型- 4刃

M520 ULTRA CARBIDE END MILLS- Square Type- Unequal Flute Spacing Angle- Duo Core Dia- Corner Radius- 4F

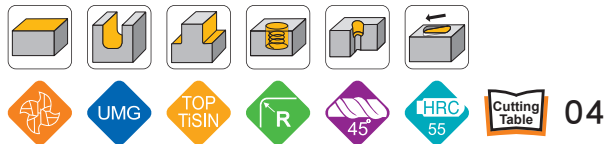
· MEP40000-R0000A



刃徑 d	公差 Tolerance
$\phi < 3$	0 ~ -0.02
$3 \leq \phi \leq 10$	-0.01 ~ -0.03
$10 < \phi$	-0.01 ~ -0.04

R角	公差 Tolerance
R	± 0.02

超精銑 Bright Finishing	—
精銑 Finishing	◎
中銑 Semi Finishing	◎
粗銑 Roughing	◎



刃徑 d	R角 R	刃長 L1	全長 L	柄徑 D	刃數 F	鍍膜訂購編號 Coated Order No.
4.0	0.2R	10	50	6	4	MEP40400-R0020A
5.0	0.2R	12	50	6	4	MEP40500-R0020A
6.0	0.2R	14	50	6	4	MEP40600-R0020A
8.0	0.5R	18	60	8	4	MEP40800-R0050A
10.0	0.5R	22	75	10	4	MEP41000-R0050A
12.0	0.5R	26	75	12	4	MEP41200-R0050A

→ 切削條件表 Cutting Condition P.536 → 技術資料 Technical Data P.622

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M520 Ultra Carbide End Mills

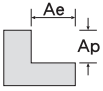
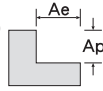
M520 極細鎢鋼銑刀系列

Table 04

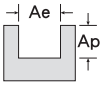
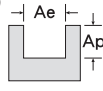
M520 極細鎢鋼不等距雙心徑型銑刀-4刃(鍍膜) 切削條件表

SOLID CARBIDE END MILLS- CUTTING CONDITION TABLE

側銑加工 Side Milling

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy Steels		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鎳基合金 Ni-Based Alloys	
	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		Ti-6Al-4V		Inconel 718	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30		HRC<30	
切削速度 Vc	130m/min		120m/min		110m/min		70m/min		60m/min		20m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	14,110	820	13,000	880	11,140	630	7,430	390	6,690	360	2,230	150
4mm	10,580	820	9,750	880	8,360	630	5,570	390	5,010	360	1,670	150
5mm	8,470	820	7,800	880	6,690	630	4,460	390	4,010	360	1,340	150
6mm	7,060	820	6,500	880	5,570	630	3,720	390	3,340	360	1,110	150
8mm	5,290	1,370	4,870	1,260	4,180	900	2,790	560	2,510	510	830	210
10mm	4,240	1,370	3,900	1,260	3,340	900	2,230	560	2,000	510	670	210
12mm	3,530	1,370	3,250	1,260	2,790	900	1,860	560	1,670	510	560	210
16mm	2,650	1,030	2,440	950	2,090	680	1,390	420	1,250	380	420	160
20mm	2,110	1,030	1,950	950	1,670	680	1,110	420	1,000	380	340	160
25mm	1,690	1,030	1,560	950	1,340	680	890	420	810	380	270	160
切削量 Cutting Amount (mm)	Ap=1D Ae=0.4D				Ap=1D Ae=0.4D				Ap=1D Ae=0.4D		Ap=0.5D Ae=0.15D	

溝銑加工 Slot Milling

加工材質 Material	碳素鋼 Carbon Steels		合金鋼 Alloy SteelsL		合金鋼 Alloy Steels		不銹鋼 Stainless Steels		鈦合金 Titanium Alloys		鎳基合金 Ni-Based Alloys	
	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
工件料號 Material Code	S35C,S45C,S50C		SCM,SKT,SKD		SCM,SKT,SKD		SUS304		Ti-6Al-4V		Inconel 718	
硬度 Hardness	HRC<20		HRC20~30		HRC30~45		—		HRC<30		HRC<30	
切削速度 Vc	110m/min		100m/min		80m/min		56m/min		60m/min		20m/min	
外徑 Diameter	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)	S (rpm)	F (mm/min)
3mm	11,140	340	10,400	320	8,910	230	5,940	200	5,200	150	1,860	40
4mm	8,360	340	7,800	320	6,690	230	4,460	200	3,900	150	1,390	40
5mm	6,690	340	6,240	320	5,350	230	3,560	200	3,120	150	1,110	40
6mm	5,570	340	5,200	320	4,460	230	2,970	200	2,600	150	930	40
8mm	4,180	480	3,900	450	3,340	320	2,230	290	1,950	250	690	70
10mm	3,340	480	3,120	450	2,670	320	1,790	290	1,560	250	560	70
12mm	2,790	480	2,600	450	2,230	320	1,480	290	1,300	250	460	70
16mm	2,090	360	2,080	340	1,670	240	1,110	220	970	190	350	50
20mm	1,670	360	1,560	340	1,340	240	890	220	780	190	280	50
25mm	1,340	360	1,250	340	1,070	240	710	220	620	190	220	50
切削量 Cutting Amount (mm)	Ap=1D				Ap=0.8D				Ap=1D		Ap=0.5D	

※ 切削公式 Cutting Formula : S(主軸轉速) = Vc(切削速度) × 1000 / D(外徑) / π (3.14) F(進給速度) = fz(每刃進給量) × Z(刃數) × S(主軸轉速)

- 當加工聲音尖銳時，請調降主軸轉速(S) (10~40%)。 When the sound is piercing, please lower the spindle speed(S) (10~40%).
- 當機台震動太大時，請調降進給速度(F) (10~40%)。 When the machine is vibrating, please decrease the feed rate(F) (10~40%).
- 當主軸負載太大時，請調降進給速度(F) (10~40%)。 When the spindle load is high, please decrease the feed rate(F) (10~40%).
- 以上數據為建議值，適當的條件仍需視機台狀況，夾治具品質，潤滑冷卻系統...等而改變。
These are recommended values which depend on the condition of the machine, fixture, lubricating & cooling systems... etc. They may have to be adapted.

CUTTING

Cutting Condition Table

切削條件表